

THE FORMICIDAE OF AUSTRALIA

VOLUME I

THE FORMICIDAE OF AUSTRALIA

By
John Clark

Volume I
Subfamily MYRMECIINAE



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FOREWORD

In Australia ants occupy an unusually prominent position among the insect fauna, in number of species, abundance of individuals, and the variety of situations they occupy. They are also of exceptional interest, for we have in this country the most primitive ants in the world. Because of their ubiquity and their incessant and varied activity, they occupy a conspicuous and often a dominating place in the ecological picture of most habitats. They present innumerable biological problems of outstanding interest, particularly those associated with the development and interplay of social communities. In addition, some of the species are serious pests themselves, while others are indirectly of economic importance because of the protection they give to pest species of plant-sucking insects. In spite of all this, relatively little attention has been given to the study of ants in Australia, and such information as has been published is to be found only in articles scattered through large numbers of scientific journals. The need for a monographic account of the family has long been felt not only by entomologists but also by other biologists, particularly those engaged in the study of ecology.

Mr. John Clark has long been the outstanding authority on Australian ants, to the study of which he has devoted a large part of his life. After his retirement from the National Museum, Melbourne, it became possible for him to consider devoting the whole of his time to a monographic revision of the Australian Formicidae. The Commonwealth Scientific and Industrial Research Organization, fully realizing the importance of such a work to Australian science and the uniqueness of this opportunity, has given Mr. Clark the necessary financial assistance to enable him to prepare and to publish this monograph.

The present volume deals with the subfamily Myrmeciinae. Other volumes will follow in due course.

PREFACE

It is the aim of the present work to supply a complete and simple classification of the known Australian ants, including those which have been introduced from other countries and have become firmly established here. At least thirty species have been accidentally introduced from abroad and they constitute our major ant pests. Very few native species are known to give any serious trouble.

The enormous number of species and the great variety in size and habits of the Australian ants has always appealed to amateur naturalists as well as to the trained entomologist, but the almost complete lack of literature on the subject has been a serious handicap to those desiring to pursue the study of ants. It is hoped that this work will supply that need.

One important point which must always be borne in mind when identifying single specimens of any species of ant is the great variation which occurs amongst the workers of many species of each genus. The members of any one nest frequently show considerable difference in size, and this is particularly noticeable during the early summer. At this period it is not uncommon to find a number of very small workers, often little more than half the size of the normal forms, which rarely leave the nest but are found in or near the bottom or in brood chambers. Although small in size they are very similar to the large workers but usually the head is more rounded behind, the sculpture finer, and frequently the colour lighter. In some groups the striation of the pronotum varies from transversely to longitudinally arched. This is most common, for instance, in *Myrmecia forficata*, where it is not unusual to find several examples with longitudinally striate pronotum in a single nest, all the rest having the typical transversely arched striation. The range of variation has been indicated in the following descriptions wherever it is known.

Figure 1 was prepared to assist those not familiar with the terminology used in describing ants, and to illustrate the method of measurement used in this work.

The length of the mandible is a straight line from the centre of base to apex. The width of the head is at the widest point immediately behind but not including the eyes; the length of the head is from the front edge of the clypeus to the occipital border. All other segments are measured at their greatest dimensions; the neck is not included in the length of the pronotum. In describing the segments of the pedicel and gaster the following system has been adopted. In the subfamilies where the petiole is distinctly two-segmented (Pseudomyrminae, Leptanillinae, Dorylinae, Myrmeciinae, Myrmicinae) or where there is one distinct segment, the node, with a more or less pronounced constriction behind the next segment (Cerapachyinae, Ponerinae, Amblyoponinae), the second segment of the petiole is always called the postpetiole and the following segment the first segment of the gaster. In the remaining subfamilies (Dolichoderinae, Formicinae), where the petiole is distinctly one-segmented without any

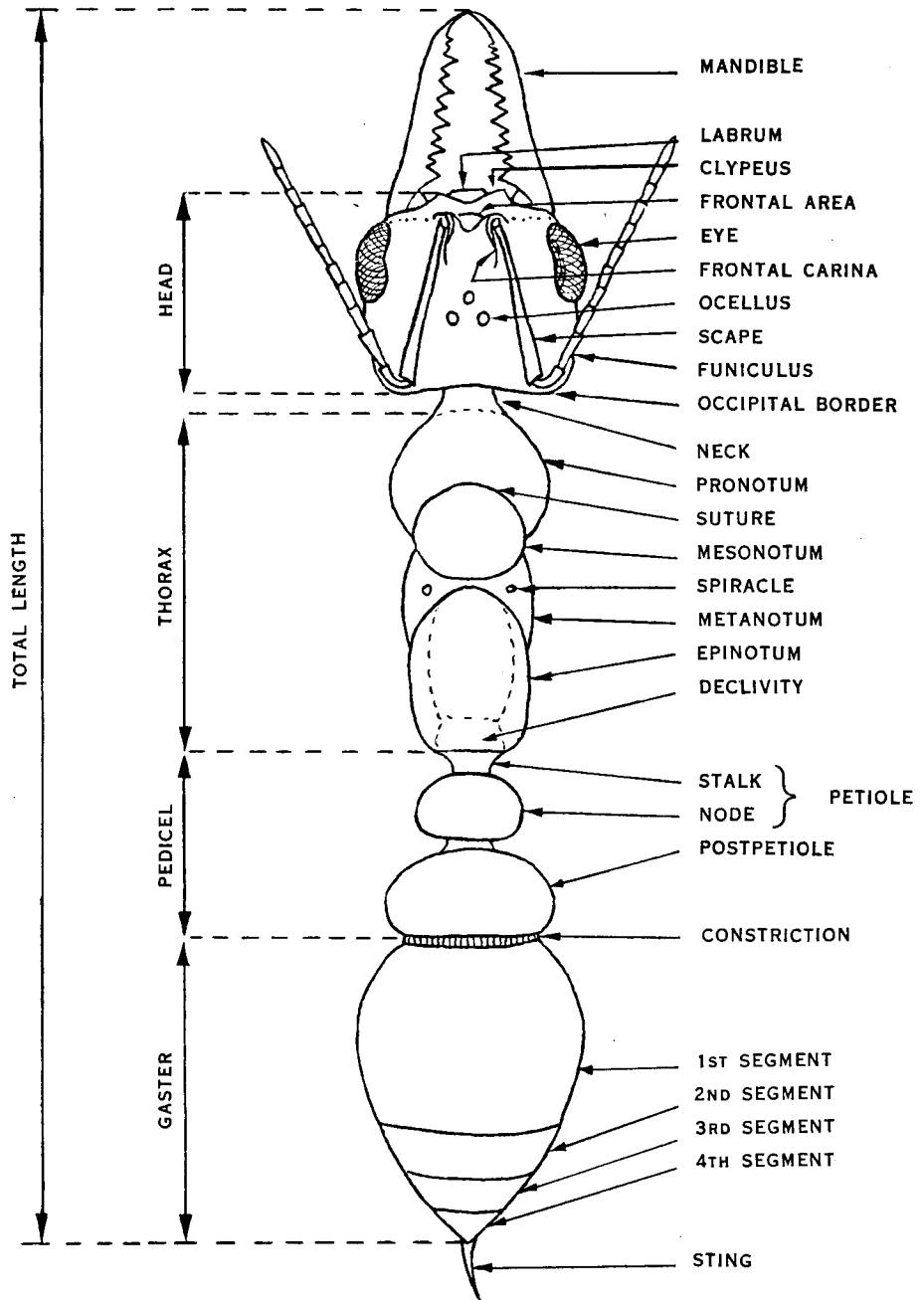


Fig. 1.—Dorsal view of worker ant (*Promyrmecia chasei* (Forel)) illustrating the terminology and method of measurement used in the present work.

or only a slight trace of constriction behind the next segment, the segment following the node is called the first segment of the gaster since it is indistinguishable from the gaster.

As the terms used to define sculpture are applied differently by different authors, the terms used throughout this work are defined as follows:

Carina — a raised line or ridge.

Fovea — a large pit or hollow.

Punctate — with small pits.

Punctate-rugose — rugae interspersed with punctures.

Coarsely punctate — thimble-like punctures.

Reticulate — a network of fine lines or grooves.

Reticulate-punctate — a reticulate surface interspersed with punctures.

Reticulate-rugose — rugae broken up into a net-like pattern.

Rugae — raised lines, irregular, broken.

Rugulose — very fine wavy lines.

Striate — raised lines, parallel and continuous.

Striate-rugose — straight but broken lines.

Sulcus — a groove or impressed line.

Mayrian furrows — Y-shaped grooves on mesonotum of males and females.

Meso-epinotal constriction — actually the metanotum.

The various forms of the female are defined as follows:

Dealated — a fertile female which has cast off her wings after the nuptial flight.

Brachypterous — with short or abbreviated wings.

Subapterous — wingless or with only rudiments of wings.

Ergatoid — worker-like, wing sclerites not developed.

As it is almost impossible for Australian entomologists to have access to the types of species described by overseas workers, particularly European entomologists, and since the types of many of the older species cannot be traced, the collection upon which the present monograph is based may be regarded more or less as a type collection of Australian ants. Each specimen used for description in this work has been labelled to indicate the actual example of each caste described and figured. Wherever possible the cotypes received from overseas workers or specimens identified by the author of the species have been used and almost all the specimens described are from the original type locality, but in the many instances where the original locality was given simply as Australia or New Holland the most typical example has been selected.

J. CLARK

Family FORMICIDAE

FORMICARIAE Latreille, 1809, *Genera Crust. et Insect.* 4: 124.

FORMICARIDES Leach, 1815, in Brewster, *Edinburgh Encycl.* 9.

HETEROGYNIDES Lepeletier, 1836, *Hist. Nat. Insect., Hymn.* 1: 97.

FORMICIDAE Wheeler, 1920, *Psyche* 27: 52.

The family Formicidae contains the large group of fossorial Hymenoptera characterized by the presence of neuters or workers in addition to males and females. The workers and females have geniculate antennae, the first segment (or scape) being almost as long as the remaining segments combined; the thorax and gaster are separated by a pedicel consisting of one or two segments. In the majority of species the males and females are winged.

The arrangement of the various large sections of the family has always been difficult, particularly so as most of the leading myrmecologists in the past rarely agreed on the extent or division of even the commonest groups. A great amount of work has been done and much published on this subject, but probably the most significant advances were made by the late Dr. W. M. Wheeler. For a considerable period the family comprised only five subfamilies and for some inscrutable reason all ants had to fit into one of the five, an untenable classification. Wheeler in 1920 overhauled the then existing arrangement and increased the number of subfamilies to seven. Later (in 1930) C. C. and W. G. Wheeler added another subfamily, bringing the total to eight.

During the work on this monograph it has been obvious that even the new arrangement by Wheeler did not go far enough. Even with all the keys to subfamilies, etc., at present available, most myrmecologists are left with numerous genera and species which do not fit into any of the recognized subfamilies without numerous "exceptions", all of which are difficult for the experienced myrmecologist to follow and exasperating to the average entomologist. The author considers that Wheeler should have gone further with his reclassification and division of the family.

The classification of ants is based on the characters of the worker, this being the form most commonly found and on which the great majority of species have been erected. Although the males and females are of undoubted importance they are in so many instances unknown, or very rarely seen, that the author considers the construction of all subfamilies, tribes, genera, and species should primarily be based on the worker and all keys for rapid determination of the species should be so constructed that even the novice should be able to say with some degree of certainty that his specimen belongs to a particular genus.

The author has endeavoured to form keys to subfamilies, tribes, genera, and species without recourse to couplets containing exceptions by placing these "exceptions" where in his opinion they belong. As a result various tribes and genera have been rearranged and some of the tribes raised to subfamily rank.

Few of the alterations are new, most having been proposed during the middle of last century but more or less discarded by later myrmecologists who based their conclusions mainly on the study of the larvae and pupae in conjunction with the workers. Although the larvae and pupae are important, it will be shown under the respective subfamilies that many of the earlier observations are not completely valid.

The five tribes raised herein to subfamily rank bring the total of subfamilies at present definitely recognized to 14, although it is obvious that additional subfamilies will need to be added in the future as our knowledge increases.

In the present volume the former tribe Myrmeciini is raised to subfamily rank. The actual position of the genus *Myrmecia* has always been in doubt because it includes characters which allow it to be placed only with equal doubts in either of the two subfamilies Ponerinae or Myrmeciinae to which it has usually been attached.

In dealing with the genus *Myrmecia*, F. Smith (1858), Mayr (1864), and Emery (1877) all included the genus in the family Myrmicidae, the present-day subfamily Myrmeciinae. Mayr (1870), observing that Lowne (1865) described the pupae as contained in cocoons, considered the genus should therefore be placed in the subfamily Ponerinae and the pedicel should be regarded as consisting of only one segment. Emery (1877) declined to accept this view and retained the genus in Myrmeciinae; later, however, he adopted Mayr's suggestion. Ashmead (1905) regarded the subfamily Ponerinae as constituting a family with three subfamilies: Ponerinae, Pachycondylinae, and Myrmeciinae. The author prefers to regard the former tribe Myrmeciinae as constituting an independent subfamily distinct from either Ponerinae or Myrmicinae.

In the new arrangement the subfamilies may be separated by the following key which, like all the keys in this work, has been compiled to ensure simple and rapid identification of any species and therefore does not give any indication of the actual systematic order of the subfamilies, genera, or species. In the text, however, the systematic position is followed. Since the Myrmeciinae are considered to be the prototypes of all present-day ants, it is fitting that a monograph on Australian ants should commence with this primitive subfamily and continue upwards through the evolutionary scale to the highest ants.

KEY TO SUBFAMILIES OF FORMICIDAE

Workers

1. Pygidium (dorsal surface of last exposed gastric segment) margined laterally and posteriorly with a row of large or small but always distinct spines; antennal fossa entirely encircled by lateral carina of cheek, carina rarely obsolete; thoracic sutures absent or very feeble; sting well developed; node free, articulation with postpetiole more or less slender 2
- Pygidium without a spinose margin; antennal fossa not entirely encircled by a carina 3

2. Gaster with every segment separated by very clearly marked constrictions; usually without eyes or ocelli EUSPHINCTINAE
 Gaster constricted only between postpetiole and first segment of gaster; eyes usually well developed, ocelli sometimes present CERAPACHYINAE
3. Petiole without a free node, usually stalkless and without a distinct posterior face, articulated over entire posterior surface with postpetiole, postpetiole large, usually almost equalling first segment of gaster in width and depth; sting well developed 4
 Petiole usually with a distinctly free node, with or without a stalk, node either with a distinct posterior face articulated more or less slenderly with postpetiole, or postpetiole very small in comparison with first segment of gaster and articulated more or less slenderly with gaster 5
4. Thoracic sutures always well defined; gaster straight, never reflexed; antennal insertions at least partly covered; frontal carinae not fused with clypeus or projecting over jaws AMBLYOPONINAE
 Thoracic sutures obsolete or entirely absent; terminal segments of gaster directed anteriorly, postpetiole and first segment large, dorsal surface of first segment long and strongly convex, ventral surface extremely short causing characteristic curvature of gaster; antennal insertions exposed; frontal carinae fused together and with clypeus, projecting forward and more or less concealing mandibles from above DISCOTHRINAE
5. Petiole distinctly one-segmented; postpetiole distinctly forming part of gaster, with posterior of postpetiole as wide as anterior of gaster 6
 Petiole more or less distinctly two-segmented; postpetiole forming part of petiole, either as a small nodiform segment approximately equal in size with node, its articulation with gaster narrow compared with width of gaster, or postpetiole approximately twice as large as node, rather broadly articulated with gaster but not as wide as gaster 10
6. Mandibles articulated at or near antero-lateral angle of head, bases more or less widely separated, mandibles when fully open lying at an angle to each other and to anterior margin of head 7
 Mandibles articulated close to middle of anterior margin of head, bases approximate, mandibles when fully open lying parallel with anterior margin of head; postpetiolar construction absent or more or less feebly defined; sting well developed ODONTOMACHINAE
7. Postpetiole not at all constricted; sting usually absent or vestigial 8
 Postpetiole always distinctly constricted; sting well developed PONERINAE
8. Sting absent or vestigial; node without a long stalk in front; gaster often compressed 9
 Sting well developed; node with a long, slender stalk in front; gaster never compressed; mandibles large, almost as long as head, broad

- and elongate triangular, meeting and toothed along entire inner margin NOTHOMYRMECINAE*
9. Cloacal orifice slit-shaped, usually ventral, and without a characteristic fringe of hair DOLICHODERINAE
- Cloacal orifice round, terminal, surrounded by a conspicuous fringe of hair FORMICINAE
10. Postpetiolar articulation narrow compared with width of gaster; petiole usually with two small nodiform segments of approximately equal size; spurs of middle and hind tibiae simple or absent; ocelli rarely present; eyes rarely very large, often small, sometimes vestigial or absent, when present usually placed near middle of sides of head, rarely towards anterior margin 11
- Postpetiole broadly articulated with gaster; petiole with a small node and a conspicuously larger postpetiole; middle and hind tibiae each with median spur pectinate; ocelli almost always present; eyes very large 13
11. Frontal carinae very close together, sometimes fused, not covering antennal insertions; clypeus not continued back between frontal carinae; epinotum unarmed; eyes absent or vestigial 12
- Frontal carinae distinctly separated; clypeus usually prolonged back between frontal carinae; epinotum almost always armed with a pair of spines or tubercles, rarely bare; eyes usually present although sometimes vestigial MYRMICINAE
12. Promesonotal suture distinct; labial palpi one-segmented, maxillary palpi one- or two-segmented LEPTANILLINAE
- Promesonotal suture absent or very feeble; labial and maxillary palpi two- or three-segmented DORYLINAE†
13. Jaws long, elongate, almost as long as head; clypeus prolonged back between frontal carinae; eyes placed near anterior angle of head . . MYRMECINAE
- Jaws very short, broadly triangular, usually less than one-fourth length of head; clypeus not prolonged back between frontal carinae; eyes placed near middle of sides of head PSEUDOMYRMINAE

* The much-disputed genus *Aneuretus*, from Ceylon, keys with ease to the first three characters in this subfamily, although the jaws and other characters distinguish it therefrom. As the author has not been able to examine specimens of *Aneuretus*, he refrains from passing a final opinion on its position, but nevertheless considers that since the Baltic Amber genera *Protaneuretus* and *Paraneuretus* also show all the distinguishing characters of *Aneuretus*, the subfamily rank Aneuretinae is fully warranted.

† Some African species of Dorylinae have only one segment in the petiole, but all Australian species have two.

Subfamily MYRMECIINAE Emery

Subfamily Myrmicidae, subdivision 7, Genus 7 *Myrmecia* Smith, 1858, Cat. Hym. Brit. Mus. **6**: 143.

Subfamily Myrmicidae genus *Myrmecia* Mayr, 1864, Reise Novara **2**: 18.

Subfamily Myrmicidae group Myrmeciidae Emery, 1877, Boll. Soc. Ent. Ital. **9**: 73.

Subfamily Poneridae genus *Myrmecia* Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 723; 1870, Verh. zool.-bot. Ges. Wien **20**: 968.

Subfamily Ponerinae tribe Myrmecii Forel, 1893, Ann. Soc. Ent. Belg. **37**: 162; Emery, 1895, Zool. Jahrb. **8**: 766.

Family Poneridae subfamily Myrmeciinae Ashmead, 1905, Canad. Ent. **37**: 382.

Subfamily Ponerinae tribe Myrmeciini Emery, 1911, Genera Insect. **118**: 4, 16, 17. Wheeler, 1922, Bull. Amer. Mus. Nat. Hist. **45**: 636.

Worker

Almost always monomorphic. Head more or less square; mandibles long, porrect, inner border with numerous unequal teeth; maxillary palpi six-segmented, labial palpi four-segmented; clypeus short, projecting and deeply excised in front, prolonged backward between frontal carinae; frontal area small; frontal carinae widely separated, erect, not covering antennal insertions in front; antennae twelve-segmented, funiculus filiform, second segment longest; eyes large and convex, situated near anterior angles of head; three large, prominent ocelli always present.

Thorax narrow, elongate; metanotum often distinct. Pedicel two-segmented, petiole with a large node, postpetiole strongly constricted, often bell-shaped. Gaster large, sting long and stout. Legs long, claws with a large sharp tooth near middle; first pair of tibiae with one very broad pectinate spur, second pair with two slender spurs, either bristle-like or pectinate, third pair with one broad pectinate spur and one slender spur either pectinate or plain.

Female

Colour and sculpture similar to worker, size usually larger; winged or ergatoid, wings with two cubital cells and one discoidal cell; mesonotum with mayrian and parapsidal furrows.

Male

Head small and rounded; mandibles short, triangular, with very few teeth; clypeus short, produced and rounded in front; antennae thirteen-segmented; scapes short, first segment of funiculus very short; eyes large, occupying half side of head; ocelli large. Thorax, node, postpetiole, and gaster very similar to female; pygidium rounded. Genitalia: stipes arched below with a median dorsal appendage, styliform; volsella and lacina present; cerci developed.

Pupae

Enclosed in strong, dark cocoons.

This subfamily at present contains two genera, *Myrmecia* and *Promyrmecia*, but it seems evident that when larger collections of these ants are available for

study considerable changes will be made in the arrangement of species and genera. Both Emery (1911) and Wheeler (1922) endeavoured to clarify the position of certain species by erecting new subgenera, but, as the author has pointed out in the past (1925, 1934), if their methods of subgeneric division were followed a fantastic number of subgenera would be required and a highly artificial division of species would result. Until such time as we can obtain the males and females as well as large series of workers of each species, from a much wider locality range than those now available, the author prefers to recognize only the two main genera.

Although the two genera are almost always monomorphic, in at least one species the workers are distinctly polymorphic. This species is *Myrmecia gigas* Forel, the workers of which vary in length from 13 to 37 mm. It has long been known that in the nests of most species of *Myrmecia* and *Promyrmecia* two forms of worker are found, but the slight differences do not warrant separating them as polymorphic forms. As a rule in such cases the small size of the workers is due to lack of food during the winter months and they are found most commonly in new or incipient nests.

The species of this subfamily are regarded as the most primitive of all ants and the last relict of a fauna long extinct in other parts of the world. The popular and appropriate name of "bull dog ants" was given to them in allusion to the vicious way they attack and the tenacity with which their huge jaws hang on to their victim. All the workers and females are provided with a large sting with which they inflict a severe and painful wound. A burning sensation accompanied by redness and swelling may be felt at the wound some time afterwards and may last several days.

The popular name of "jumpers" is given to some species of *Promyrmecia* in allusion to the peculiar manner in which they advance in a series of short jumps. Their sting is just as severe as that of the larger *Myrmecia*.

Although it is well known that both winged and ergatoid females occur in *Myrmecia* and *Promyrmecia*, further interest may be added by giving in more detail some remarks on the development of the females.

A study of the females of the known species indicates that they fall readily into four more or less distinct types, arranged according to the formation of the thoracic segments; these types can be enumerated as follows:

- (1) *Ergatoid females*. Distinguished from workers only by larger size and traces of scutellum, remainder of thorax identical with worker, e.g., *M. esuriens*, *P. aberrans*.
- (2) *Subapterous females*. Thoracic segments present, sometimes faintly indicated but more usually well developed, with or without wing buds, e.g., *M. tricolor*, *P. rectidens*.
- (3) *Brachypterous females*. Wings very small, never fully developed, usually one-fourth but sometimes one-half normal length, e.g., *M. tarsata*.
- (4) *Dealated females*. Wings fully developed before nuptial flight, then broken off leaving fragments of wings at base, e.g., *M. forficata*, *P. pilosula*.

In the species with ergatoid females, as typified by *M. esuriens* and *P. aberrans*, only ergatoid females are known. Although numerous nests of some species have been excavated completely, no differentiated female has ever been found. The ergatoid female is easily overlooked, particularly when several occur in one nest. Usually she is slightly larger than the worker, with the head larger and broader. A small scutellum is present, although frequently only feebly indicated and rarely more than one-third the length of the mesonotum; sometimes the metanotum is indicated by a sharp, transverse ridge. In other respects the thorax is identical with that of the worker.

The subapterous females, as typified by *M. tricolor* and *P. rectidens*, have the thoracic segments more or less developed, although sometimes merely indicated, without trace of wing buds. This form is well represented in both genera and occurs also along with types (3) and (4). Actually it appears to be a more fixed form than type (3) but probably the two should be combined since the differences are not great.

The brachypterous females are readily noticed because the wings are developed to only one-third or less of their normal length. Even when the wings are broken off, the brachypterous may be distinguished from the dealated female by the poor development of the thorax.

The dealated females, with thorax and wings fully developed, are comparatively rare in both genera. In nests of some species, particularly *M. forcicata*, *M. pyriformis*, *M. gigas*, *P. pilosula*, and *P. michaelsoni*, examples of three forms of females are found but the dealated female is always quite conspicuous. She may be accompanied by two or three wingless forms and sometimes by ergatoids. The wingless females also can be detected easily but the ergatoid forms, occasionally found hunting singly or with the workers on the ground and on trees, are so much like the large workers that they are easily overlooked. Consequently these forms are somewhat rare or little known in museum collections.

The winged females are found in the nests during January and February, but they are never numerous, usually not more than twenty and often less than that number, although males are much more abundant. Nuptial flights are neither usual nor common except in a very few species. Frequently there is not a flight that can be observed, as very often the females leave the nest singly at various intervals. At other times three or perhaps four winged females may leave the nest at the same time. The habits and methods of the virgin females in leaving the nest are so diverse that a general account will not apply to all species. This is one of the many problems of which no systematic investigation has been made. Two instances may be given as examples of the mating of the sexes.

On March 21, 1939, an exceptionally large flight of *M. forcicata* took place at Fern Tree Gully, Victoria. Several males were noticed flying and alighting on bushes early in the morning and at 10.30 a.m. females were observed leaving the nest. Most of them climbed up on tree trunks and shrubs and then launched off into the air, although some took off from the ground in a rather cumbersome

manner. The flight lasted until about 5 p.m., and on this occasion both sexes were from several large nests in the vicinity. Many of the females flew to a height of thirty feet but generally long before a female reached that height she was pursued and surrounded by numerous males who pounced on her, their combined weight immediately bringing the large cluster of winged forms to the ground with a discernible thud, the struggling mass resembling a free fight more than anything else. Eventually, one male having secured the female, the others departed on another quest. Large clusters of the struggling forms could be seen on the ground, bushes, and trees, and although dozens were flying and many clusters frequently alighting, the clusters containing the female could be handled with immunity. During the day following such a flight it is almost impossible to find a trace of a male and the females too are rarely seen afterwards.

In at least one species (*M. pulchra*) the male meets the ergatoid female out in the open close to the nest, but the female has not been seen to re-enter the old nest. A similar mating has been observed with the male and ergatoid female of *P. nobilis*.

KEY TO GENERA, SUBFAMILY MYRMECINAE

Workers

- Scapes long, exceeding occipital border by at least one-fourth their length; metanotum distinct, more or less wide and deep; usually long, slender species (11-36 mm.) MYRMECIA
- Scapes shorter, seldom reaching occipital border and never exceeding border by more than twice their thickness; metanotum not distinct; usually short, thickset species (4-15 mm.) PROMYRMECIA

Genus MYRMECIA Fabricius

Myrmecia (in part) Fabricius, 1804, Syst. Piez.: 423.

Myrmecia Fabr., Smith, 1858, Cat. Hym. Brit. Mus. **6**: 143.

Eciton (in part) Latreille, 1805, Hist. Nat. Crust. Ins. **13**: 258.

Ponera (in part) Illiger, 1807, Mag. Insekenk.: 194.

Formica (in part) Fabricius, Latreille, etc.

Myrmecia subgen. *Myrmecia* Emery, 1911, Genera Insect. **118**: 17, 19. Clark, 1925, Vict.

Nat. **42**: 139. Wheeler, 1933, Colony-founding among Ants, p. 16.

Myrmecia (in part) Viehmeyer, 1924, Ent. Mitt. **13**: 220.

Worker

Length: 11-36 mm.

Head short and broad; clypeus prolonged between frontal carinae, frontal carinae separated from each other behind; mandibles very long, narrow, sharp, ordinarily without a basal border distinct from a masticatory border, inner border with teeth throughout its length; maxillary palps with six segments, labial palps with four segments; antennae slender, twelve-segmented, not clubbed; eyes large, usually occupying anterior third of sides of head. Thorax with distinct sutures, metanotum forming a distinct segment on top of thorax, spiracles prominent on top, epinotum without spines. Petiole with a thick node, anterior stalk often long, postpetiole strongly reduced behind and distinctly narrower than following segment. Middle and posterior tibiae with two more or less broadly pectinate spurs.

Female

Closely resembling worker, but usually larger and sometimes winged.

Male

Clypeus with a transverse furrow separating portion prolonged between frontal carinae (frontal area). Mandibles shorter and broader, masticatory border with some large teeth behind curved point. Antennae thirteen-segmented, scapes short, first segment of funiculus very small. Mesonotum with mayrian furrows.

Genotype MYRMECIA GULOSA Fabricius

With the exception of one species recorded from New Caledonia the genus is confined to Australia and the coastal islands. Prior to this monograph 28 species, 2 subspecies, and 14 varieties had been described, making a total of 45 known forms. It has been found necessary to eliminate 9 of those forms, leaving 37 of the originals. In the present work 22 new species are described, bringing the total now known to 59. Undoubtedly many more species await description, as collecting has been spasmodic and only in a few scattered areas; little, if any, systematic collecting has been done.

Many species such as *M. forficata* are more or less confined to the heavily forested country of the mountains in Tasmania, Victoria, and New South Wales.

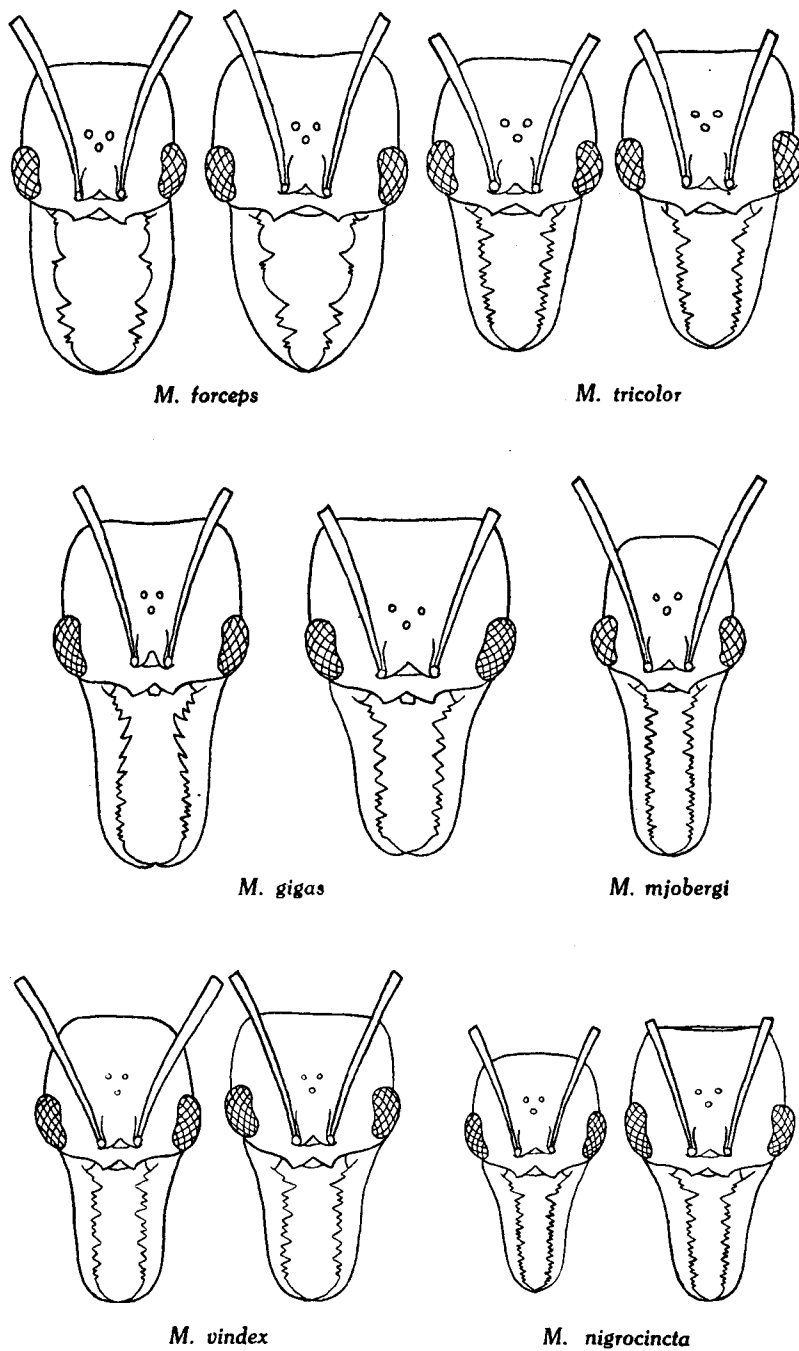


Fig. 2.—Head of worker and female typical of each group of *Myrmecia*.

In most cases the nests are large, frequently constructed in rotten logs lying on the ground. In places where the ants cannot gain access to the interior of the log the nest is formed in the ground under the log or under a large stone. Occasionally a mound nest is discovered. Although confined to the heavily timbered country the ants and their nests are found only in the more open sections where the sun has free access to the ground.

Others such as *M. gigas* prefer the open woodland country and as a rule construct a large mound over the nest, the mound consisting of the soil excavated from below. Often the mound is heavily covered with debris such as twigs, leaves, pieces of charcoal, etc. Frequently there is only one entrance or exit, at the summit of the mound, but many mounds are found which contain several smaller exits scattered over the sides.

Still others, e.g., *M. vindex*, prefer very open, clear areas such as the warm dry sandplains or so-called desert country, but are found also on open, very lightly timbered areas, particularly where there is an abundance of heath or heath-like shrubs. Practically all the nests are of the mound type, but a few may be found under large stones. The species with the widest distribution are found in this group. One, *M. nigriceps*, ranges from Perth, Western Australia, round the coastal area of the south to Rockhampton, Queensland, and extends inland probably one hundred miles. A second species, *M. nigriscapa*, has the same range round the southern coast but does not extend inland more than twenty miles, being restricted to the coastal plains. *M. desertorum*, also in this group, is confined to the hot, dry interior, and so far is the only species which has been found north of Perth in Western Australia and north of Port Augusta in South Australia; it ranges from the western coast almost to the eastern coast in Queensland, and from a little north of Port Augusta to Tennant's Creek, Northern Territory.

The genus has been divided into six groups. Although the groups are artificial they have been found convenient for the rapid identification of species. Figure 2 illustrates the head of a worker and female typical of each group.

KEY TO GROUPS, GENUS MYRMECIA

Workers

1. Mandibles with outer border straight or concave, never convex, inner border with 10 or more closely set teeth 2
 Mandibles with outer border strongly convex, inner border with less than 10 teeth, some widely spaced (19-24 mm.) FORCEPS group, p. 24
2. Mandibles widest near basal fourth or fifth, outer border concave, inner border forming a triangle with a more or less distinct angle near basal fourth or fifth 3
 Mandibles of almost uniform width from base to near apex, outer border straight or feebly concave, inner border almost straight, with 10 to 18 teeth (13-28 mm.) TRICOLOR group, p. 27

3. Head and thorax with sculpture well defined 4
 Head and thorax with sculpture more or less obsolete; mandibles with 13 to 16 teeth (11-17 mm.) NIGROCINCTA group, p. 110
4. Head and mandibles usually almost square in general appearance, combined length always less than one-third total length of body; head as broad as or broader than long, occipital border variable; mandibles always with less than 20 teeth 5
 Head and mandibles conspicuously elongated in general appearance, combined length more than one-third total length of body; head at least one-tenth longer than broad, posterior margin narrow, occipital angles rounded making posterior half of head almost semicircular; mandibles almost always with more than 20 teeth, usually 24 to 27 (11-27 mm.) MJOBERGI group, p. 101
5. Mandibles with all teeth erect (13-26 mm.) VINDEK group, p. 57
 Mandibles with some teeth directed backwards (13-36 mm.) GIGAS group, p. 104

KEY TO SPECIES, FORCEPS GROUP

Workers

1. Head and thorax red, gaster black with apical margins of all segments reddish *M. forceps*
 Head and thorax blackish brown, gaster entirely black *M. singularis*

MYRMECIA FORCEPS Roger

Figs. 3, 4

Myrmecia forceps Roger, 1860, Ent. Z. 5: 34, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien 12: 724, ♀.

Myrmecia (Myrmecia) forceps Roger, Emery, 1911, Genera Insect. 118: 20, ♀. Wheeler, 1933, Colony-founding among Ants, p. 47, ♀.

Myrmecia (Myrmecia) forceps Roger var. *obscuriceps* Viehmeyer, 1921, Ent. Mitt. 13: 222, ♀.

Worker

Length: 19-24 mm.

Head, thorax, node, and postpetiole red, head darker in many examples, mandibles yellow on basal half, darker to apex, clypeus, antennae, and legs reddish yellow, gaster black, first segment sometimes reddish at base, apical margin of all segments reddish.

Head finely striate-rugose longitudinally, densely reticulate between striae. Pronotum longitudinally arched striate, mesonotum very finely striate transversely, epinotum coarsely striate transversely. Node irregularly rugose, almost circularly rugose on some examples. Postpetiole and gaster smooth.

Hair yellow, erect, long and abundant on head, thorax, node, and postpetiole, longer and more abundant on gaster, particularly at apex, short and suberect on legs and apical half of scapes. Pubescence white, very fine and adpressed, forming a thin covering on postpetiole and gaster but not hiding sculpture.

Head as long as broad, square, occipital angles rounded. Mandibles fully one-tenth longer than head, outer border very strongly arched convex, inner border concave, with eight teeth, third, fifth, and sixth much larger and broader than others, fifth longest and placed at middle of border, sixth slightly smaller, placed midway between centre and base, two very small teeth at base. Scapes

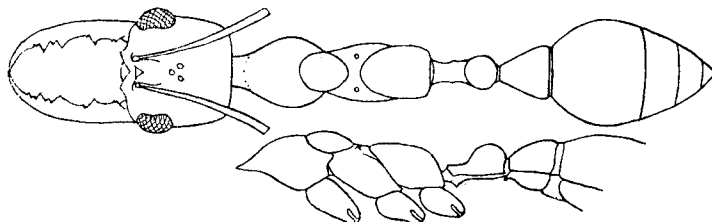


Fig. 3.—*Myrmecia forceps* Roger. Dorsal and lateral view of worker.

exceed occipital border by fully one-third, second segment of funiculus barely twice as long as first, third one-fourth shorter than second. Thorax three times longer than broad; pronotum one-sixth broader than long, mesonotum one-third longer than broad, broadest in front, constriction wide, epinotum one-third longer than broad. Node as broad as long, circular, as long as stalk in front; in profile as high as long, dome-shaped, ventral spine short, broad, and sharp. Postpetiole a fraction broader behind than long, sides almost straight to posterior fourth, constriction deep and narrow. First segment of gaster broader than long, sides strongly convex.

Female (Dealated)

Length: 25 mm.

Colour darker than on worker, more brownish; sculpture similar but coarser, pronotum transversely striate; pilosity more abundant.

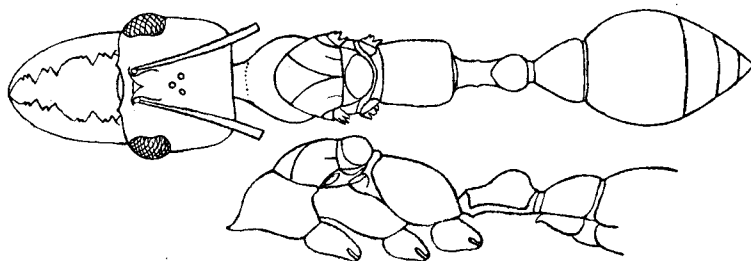


Fig. 4.—*Myrmecia forceps* Roger. Dorsal and lateral view of dealated female.

Head almost one-fifth broader than long. Mandibles as long as head, broader and stronger than in worker. Scapes exceed occipital border by fully one-fourth their length. Mayrian furrows very feebly indicated. Node, postpetiole, and gaster larger.

Male

Unknown.

Neuholland (type locality).

New South Wales: Sydney, Hornsby, Como, Liverpool, Heathcote. *Queensland*: Toowoomba, Stanthorpe, Fletcher. Type in Roger Collection.

MYRMECIA SINGULARIS n.sp.

Fig. 5

Worker

Length: 22 mm.

Head and thorax dark brown; femora lighter brown, gaster black; mandibles, antennae, tibiae, and tarsi yellow or reddish yellow; dorsal centre of pronotum and mesonotum, apex of epinotum, node, and postpetiole red or yellowish red.

Head finely punctate-rugose, feebly striate-rugose, longitudinally in front. Pronotum striate-rugose, striae transversely arched-in front, almost longitudinally arched in middle behind; mesonotum transversely striate-rugose, striae almost effaced in middle; epinotum finely and regularly striate transversely. Node irregularly striate-rugose. Postpetiole and gaster smooth and shining.

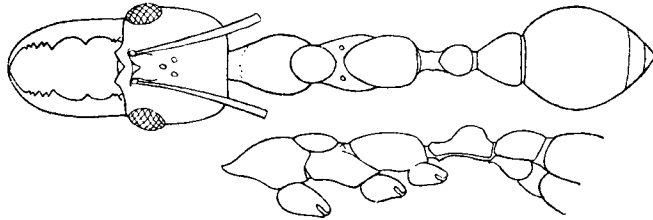


Fig. 5.—*Myrmecia singularis* n.sp. Dorsal and lateral view of worker.

Hair yellow, short and erect, abundant throughout, much longer on apical half of gaster, very short and suberect on legs. Pubescence white, very fine and adpressed, apparent only on clypeus.

Head a fraction broader than long, sides and occipital border feebly convex, angles broadly rounded. Mandibles longer than head, outer border strongly convex from base to apex, inner border concave, with eight teeth, third, fifth, and sixth large and broad, fifth placed just in front of middle, sixth half-way between fifth and base, between sixth and base a small double-pointed tooth. Scapes exceed occipital border by one-third their length, second segment of funiculus one-third longer than first, third one-sixth longer than first. Thorax fully three times longer than broad, pronotum one-sixth broader than long, mesonotum one-sixth longer than broad, constriction wide, epinotum one-third longer than broad. Node as long as broad, circular, slightly longer than stalk in front; in profile as high as long, almost dome-shaped, ventral spine short, broad, and sharp. Postpetiole one-sixth broader than long, constriction narrow and shallow. First segment of gaster as long as broad, strongly convex.

Female

Unknown.

Male

Unknown.

South Australia: Kangaroo Island.

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

The head and mandibles are almost identical with those of *M. forceps* Roger, but the colour is almost entirely that of *M. rufinodis* Smith.

KEY TO SPECIES, TRICOLOR GROUP

Workers

1. Head black, thorax black, black and red, or entirely yellowish 2
 Head and thorax reddish, varying from light reddish to dark reddish brown 10
2. Thorax black or black and red 3
 Thorax, node, postpetiole, legs, mandibles, and antennae yellowish, gaster black *M. princeps*
3. Thorax entirely black 4
 Thorax bicoloured 7
4. Gaster entirely black; node slightly longer than stalk 5
 Gaster with two apical segments and posterior margin of first and second segments reddish yellow, rest black or bluish black; node almost three times as long as stalk *M. tarsata*
5. Femora black, middle and posterior tibiae black or brown 6
 Femora brown, tibiae reddish yellow; pronotum transversely arched striate in front, longitudinally arched striate posteriorly *M. crudelis*
6. Anterior tibiae black or brownish black; pronotum longitudinally arched striate *M. rogeri*
 Anterior tibiae red; pronotum transversely arched striate-rugose . *M. rubripes*
7. Gaster and postpetiole smooth and shining, without pubescence; epinotum entirely black or black with basal area reddish 8
 Gaster and postpetiole densely covered with greenish-gold pubescence; epinotum and node entirely dark red; pronotum and mesonotum black *M. auriventris*
8. Node black, postpetiole black with a reddish area on middle 9
 Node and postpetiole entirely yellowish, pronotum black *M. rufinodis*
9. Pronotum entirely blackish brown, middle and posterior tibiae reddish brown *M. arnoldi*
 Pronotum reddish yellow in middle, middle and posterior tibiae reddish yellow *M. gracilis*

10. Gaster entirely black 11
 Gaster bicoloured 14
11. Head unicolourous; pronotum longitudinally arched striate or striate-rugose
 in middle 12
 Head dark reddish brown across eyes, yellowish red behind, in front, and
 between frontal carinae; pronotum transversely arched striate in
 middle *M. picticeps*
12. Postpetiole and first segment of gaster smooth and shining, apical segments
 of gaster more or less densely pubescent; node almost twice as long as
 stalk 13
 Postpetiole and gaster densely covered with yellowish pubescence; node
 almost five times as long as stalk *M. comata*
13. Pronotum and mesonotum marked with black or brownish black, rest of
 thorax dark reddish brown *M. tricolor*
 Thorax entirely dark reddish brown *M. tricolor nigriventris*
14. Gaster with first segment reddish 15
 Gaster with first segment black, two apical segments reddish 16
15. Scapes yellowish red; gaster with three apical segments black or brownish
 black *M. gulosa*
 Scapes black; gaster with apical segment red, second and third segments
 black *M. nigriscapa*
16. Gaster smooth and shining, very sparsely pubescent; anterior half of second
 segment yellowish red *M. analis*
 Gaster densely covered with bright golden yellow pubescence; second seg-
 ment entirely black *M. midas*

MYRMECIA TARSATA F. Smith

Figs. 6-9

Myrmecia tarsata F. Smith, 1858, Cat. Hym. Brit. Mus. 5: 145, ♂. Roger, 1861, Ent. Z. 5: 33, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien 12: 726, ♂; 1876, J. Mus. Godeffroy 12: 96, ♀. Froggatt, 1905, Agric. Gaz. N.S.W. (Sept. 4), ♀♀♂.

Myrmecia ?gulosa var. Guerin, 1830, in Duperry, Voy. Coquille 2: 207.

Myrmecia (Myrmecia) tarsata Smith, Emery, 1911, Genera Insect. 118: 20, ♂♀. Clark, 1927, Vict. Nat. 44: 33, ♀. Wheeler, 1933, Colony-founding among Ants, p. 46, ♀.

Worker

Length: 14-23 mm.

Head, thorax, and node bluish black, antennae, tarsi, two apical segments of gaster and posterior margins of first and second segments reddish yellow, mandibles yellow, darker at apex.

Head coarsely striate-rugose, diverging outward behind. Pronotum longitudinally arched striate-rugose, finer than on head, transversely arched in front, mesonotum transversely striate, epinotum coarsely rugose transversely. Node circularly striate-rugose, postpetiole and gaster smooth and shining.

Hair yellow, long, erect, and abundant, shorter and suberect on antennae and legs. Pubescence fine, sparse on body, more apparent on apical segments of gaster.

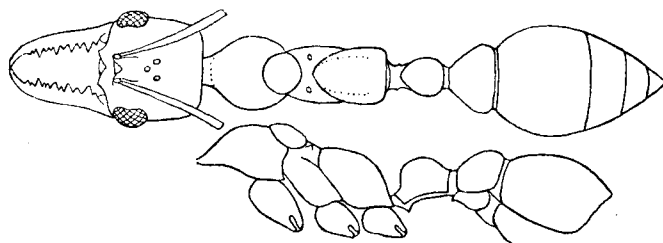


Fig. 6.—*Myrmecia tarsata* F. Smith. Dorsal and lateral view of worker.

Head as long as broad, occipital border straight, sides convex, broadly rounded behind. Mandibles as long as head, outer border feebly concave, inner border with eleven teeth, third, fifth, seventh, and ninth long, broad, and erect. Scapes exceed occipital border by one-fourth their length, first and third segments of funiculus equal, one-third shorter than second. Thorax two and one-third times longer than broad; pronotum one-third broader than long, mesonotum circular, meso-epinotal constriction deep and wide, epinotum one-fourth longer than broad. Node very slightly longer than broad, broadest at middle; in profile as high as long, four times as long as stalk in front, anterior face straight, vertical, posterior face short and convex, both faces rounded into feebly convex dorsum, ventral spine long and sharp. Postpetiole one-third broader than long. First segment of gaster very slightly broader than long.

Female (Brachypterous)

Length: 22-24 mm.

Colour, sculpture, and pilosity as on worker but pubescence more abundant on gaster and postpetiole. Head similar, mandibles shorter and broader, scapes

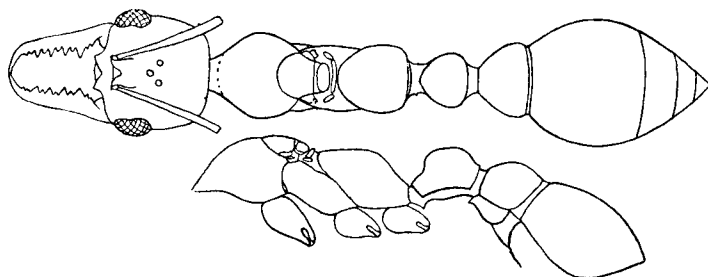


Fig. 7.—*Myrmecia tarsata* F. Smith. Dorsal and lateral view of brachypterous female.

shorter. Pronotum one-fourth broader than long, mesonotum very slightly broader than long, scutellum fully twice as broad as long, anterior wing insertions with traces of wing buds, posterior wing insertions indicated but not developed,

epinotum almost as broad as long. Node slightly broader than long, broadest at middle. Postpetiole fully one-third broader than long.

Female (Ergatoid)

Length: 20-21 mm.

Colour, sculpture, and pilosity as on worker. Differs as follows: thorax almost two and two-thirds longer than broad, pronotum one-third broader than long, mesonotum as long as broad, broadest at middle, without traces of wing sclerites

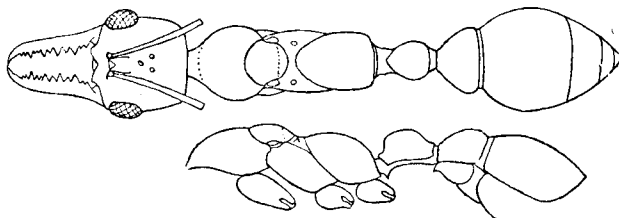


Fig. 8.—*Myrmecia tarsata* F. Smith. Dorsal and lateral view of ergatoid female.

but with a small, very rudimentary wing bud at each side. Scutellum feebly indicated forming posterior border of mesonotum, no traces of posterior wings. Epinotum one-fourth longer than broad.

Male

Length: 18-19 mm.

Colour as on worker.

Head, pronotum, scutellum, epinotum, and node coarsely and irregularly rugose, mesonotum more punctate, rugae obsolete. Postpetiole and gaster microscopically punctate.

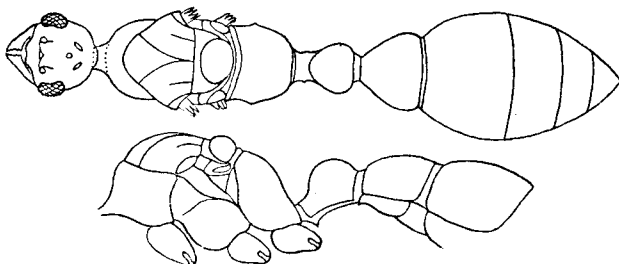


Fig. 9.—*Myrmecia tarsata* F. Smith. Dorsal and lateral view of male.

Hair erect, long, and abundant, shorter and suberect on legs, much shorter on scapes. Pubescence yellow, very fine and adpressed, abundant on body but longer and more abundant on postpetiole and gaster, forming a distinct but thin covering.

Head as long as broad behind eyes, sides and occipital border convex, base of occiput strongly projecting, convex. Mandibles with three teeth behind middle of inner border. Scapes twice as long as first segment of funiculus, second segment five times longer than first. Thorax twice as long as broad; pronotum narrow, crescent-like, mesonotum one-fourth broader than long, mayrian and parapsidal furrows deeply impressed, scutellum one-sixth broader than long, strongly convex in all directions, wings hyaline with a brownish tinge. Epinotum one-third broader than long. Node almost as long as broad, broadest behind middle; in profile as high as long, dome-shaped but higher in front than behind, four times longer than stalk in front, ventral spine long, slender, and sharp. Postpetiole one-sixth broader than long, sides straight to basal third, constriction deep and wide. First segment of gaster one-third broader than long.

New South Wales: Hunter River (type locality), Sydney, Como, Oatley, National Park, Hornsby, Narrabeen, Mittagong, Lake Durras, Nerriga, Crookwell, Ebor, Dorrigo. *Queensland*: Brisbane. *Victoria*: Cann River, Mt. Drummer, Mallacoota. *Australian Capital Territory*: Brindabella Range, Mt. Uriarra.

Type in British Museum.

Wheeler recorded specimens from Mallacoota, South Australia, but I am certain the locality mentioned should be Mallacoota, Victoria. It is not uncommon in that district and extends southward to the Cann River, the most southerly area from which specimens have been seen.

In life this species is bright blue with the apex of the gaster yellow. In death the colour fades to black or brownish black with traces of blue, particularly on the gaster.

The sculpture shows a great deal of variation, on some specimens the node is longitudinally striate but on the majority it is more or less circularly striate-rugose. The pilosity is also rather variable, some almost glabrous specimens are found together with specimens having an abundance of hair and pubescence.

The development of the thorax of the females shows little variation although some females may possess very small rudimentary wings less than one-half the length normally found on other species of the genus. Occasionally females are found having only the anterior wings partially developed and the posterior wings scarcely indicated, or with small protuberances having little or no resemblance to wings. Sometimes all four wings are in this very rudimentary condition. All these females have the mesonotum, scutellum, and wing sclerites equally developed. There is, however, a stage still less advanced and little removed from the large workers for which they are readily mistaken, the only distinguishing features being the slightly elongated mesonotum bearing on its posterior a well-defined although obsolete scutellum and the very small vestigial wing buds at the sides of the mesonotum. Usually in this stage only the anterior wings are indicated, the remainder of the thorax being identical with that of the large worker. This stage is more obsolete than the somewhat similar stage in *M. vindex*.

wherein the posterior wings, although vestigial, have the same development as the anterior wings.

MYRMECIA TARSATA F. Smith subsp. MALANDENSIS Forel

Myrmecia tarsata Sm. r. *malandensis* Forel, 1915, Ark. Zool. 9 (16): 9, ♀ ♂. Wheeler, 1933, Colony-founding among Ants, p. 46, ♀.

(After Forel.)

Worker

Length: 13.5-17.2 mm.

"Viel kleiner als der Arttypus und als die r. *Rowlandi*. Sie unterscheidet sich ausserdem von beiden durch das Ende des Hinterleibes, das nicht gelb sondern höchstens bräunlich gefärbt und etwas pubescenter ist. Der bläuliche Metallganz des Arttypus fehlt wie bei der r. *Rowlandi* ganz und gar. Die mesoepinotale Ausrandung ist viel seichter und breiter als bei beiden andern Rassen und das Mesonotum viel weniger konvex. Der Vorderstiel des Petiolus ist auch länger als bei beiden, aber der Knoten viel kürzer als bei der r. *Rowlandi*. Der Fühlerschaft ist länger und übersteigt gut den Kopfhinterrand um 1/5. Der Kopf ist hinten stärker verschmälert, konvexer und mit mehr undeutlichem Hinterrand als bei den beiden andern Rassen. Skulptur und Behaarung sind wie bei der r. *Rowlandi*, letztere jedoch etwas schwächer; Fühlerschaft fast kahl. Kiefer hellgelb; Fühler und Ende der Tarsen rötlichgelb; Beine und Kieferzähne bräunlich; das Übrige schwarz."

Male (?)

Length: 13-15.5 mm.

"Farbe ganz genau wie beim ♀. Flügel bräunlich gefärbt, sehr schön grün und rot irisierend. Skulptur seichter als beim ♀, sonst ähnlich. Es ist zweifelhaft, ob dieses ♂ zum ♀ gehört.

"Malanda (Queensland). Ausserdem je ein ♂ aus Cedar Creek und Atherton (Queensland). Als Typus betrachte ich den ♀. Diese Form erinnert an *petiolata* Em. ist aber viel grösser und hat eine ganz andere Skulptur."

Type in Natural History Museum, Stockholm.

MYRMECIA ROGERI Emery

Figs. 10, 11

Myrmecia tricolor Mayr var. *rogeri* Emery, 1914, Boll. Lab. Zool. Portici 8: 181, ♀. Viehmeyer, 1924, Ent. Mitt. 13: 222, ♀. Wheeler, 1933, Colony-founding among Ants, p. 44, ♀.

Myrmecia (*Myrmecia*) *tricolor* Mayr (in part) Emery, 1911, Genera Insect. 118: 20.

Myrmecia simillima Roger (not Smith), 1861, Ent. Mitt. 5: 34, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien 12: 726; 1876, J. Mus. Godeffroy 12: 96, ♀. Forel, 1907, Fauna Sudwest. Austral. 1: 265, ♀.

Worker

Length: 16-24 mm.

Mandibles, antennae, and tarsi yellowish red, tibiae brown, remainder entirely black.

Head divergingly striate-rugose. Pronotum longitudinally striate, mesonotum finely, epinotum coarsely striate transversely. Node transversely striate-rugose. Postpetiole and gaster smooth and shining.

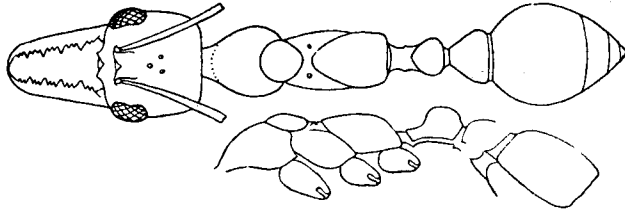


Fig. 10.—*Myrmecia rogeri* Emery. Dorsal and lateral view of worker.

Hair yellow, erect, rather long and abundant throughout, shorter and suberect on legs, very short on scapes. Pubescence very fine and adpressed, apparent only on clypeus and apex of gaster.

Head a fraction broader than long, sides and occipital border feebly convex, angles broadly rounded. Mandibles as long as head, outer border straight, inner border with ten erect teeth, third, fifth, seventh, and ninth long and broad. Scapes exceed occipital border by one-fourth their length, first and third segments of funiculus equal length, one-third shorter than second. Thorax two and one-half times longer than broad; pronotum one-third broader than long, mesonotum very slightly longer than broad, epinotum one-fifth longer than broad. Node a fraction longer than broad, broadest behind middle; in profile slightly higher than long, twice as long as stalk, anterior face vertical, as long as stalk in front, posterior face short, rounded into convex dorsum, anterior spine slender and sharp. Postpetiole one-third broader than long, sides convex. First segment of gaster slightly broader than long.

Female (Subapterous)

Length: 25 mm.

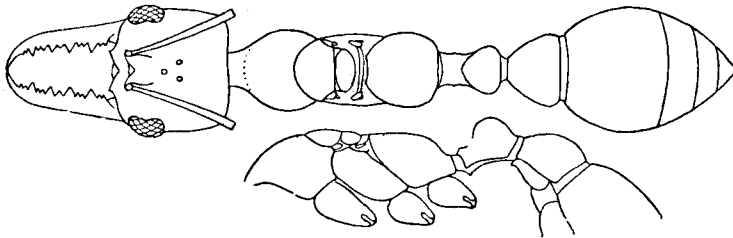


Fig. 11.—*Myrmecia rogeri* Emery. Dorsal and lateral view of subapterous female.

Colour as on worker. Sculpture somewhat similar but coarser, striation of pronotum more transversely arched. Hair longer and more abundant.

Head broader than long, posterior angles broadly rounded. Mandibles slightly shorter than head. Scapes exceed occipital border by one-sixth their length. Pronotum one-third broader than long. Mesonotum shorter than pronotum, one-sixth broader than long, scutellum twice as broad as long. Wing insertions present but not developed, epinotum as long as broad. Node very slightly broader than long, broadest behind. Postpetiole one-sixth broader than long. First segment of gaster one-sixth broader than long.

Male

Unknown.

New South Wales: Sydney, Como, Liverpool, Mittagong, Nerriga, Manar, Glen Innes.

Type in Emery collection, Natural History Museum, Genoa.

MYRMECIA RUBRIPES n.sp.

Fig. 12

Worker

Length: 19-21 mm.

Head, thorax, node, postpetiole, gaster, and femora black; antennae, anterior tibiae, and all tarsi red; middle and posterior tibiae brown; mandibles yellow.

Head irregularly rugose, rugae more or less longitudinal. Pronotum transversely arched striate-rugose rather coarsely, mesonotum with obsolete transverse rugae, epinotum transversely striate-rugose. Node punctate-rugose, almost smooth. Postpetiole and gaster microscopically punctate.

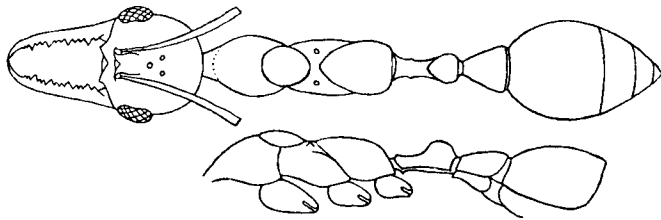


Fig. 12.—*Myrmecia rubripes* n.sp. Dorsal and lateral view of worker.

Hair yellow, short and erect on head, thorax, and node, longer on postpetiole and gaster, very short and suberect on legs. Pubescence white, very fine and adpressed on head, thorax, and node, not apparent on postpetiole and gaster.

Head as long as broad, convex behind eyes. Mandibles slightly longer than head, outer border feebly concave, inner border with thirteen teeth, third, sixth, ninth, and twelfth largest. Scapes exceed occipital border by almost one-third their length, first and third segments of funiculus equal length, one-third shorter than second segment. Thorax three times longer than broad; pronotum one-fifth broader than long, mesonotum one-sixth longer than broad, epinotum one-fourth

longer than broad. Node very slightly longer than broad, broadest just behind middle; in profile as high as long and as long as stalk in front, dome-shaped but slightly higher in front, ventral spine very short and sharp. Postpetiole as long as broad, sides straight to basal fourth. First segment of gaster slightly broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Ongerup (T. Greaves, November 4, 1947).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA CRUDELIS F. Smith

Fig. 13

Myrmecia crudelis F. Smith, 1858, Cat. Hym. Brit. Mus. 6: 147, ♀♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien 12: 725; 1876, J. Mus. Godeffroy 12: 96, ♂. Forel, 1910, Rev. Suisse Zool. 18: 3, ♂.

Myrmecia (Myrmecia) crudelis Smith, Emery, 1911, Genera Insect. 118: 19. Clark, 1934, Mem. Nat. Mus. Melbourne 8: 51, ♀.

Worker

Length: 16-19 mm.

Black, mandibles yellow, clypeus, antennae, tibiae, and tarsi reddish yellow, femora brown.

Head finely striate-rugose longitudinally, diverging outward behind. Pronotum strongly arched striate in front, longitudinally arched behind, mesonotum and epinotum more strongly striate transversely. Node feebly rugose on top, rugae more or less transverse. Postpetiole and gaster smooth and shining.

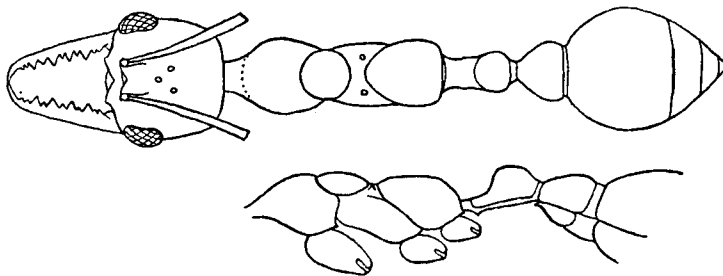


Fig. 13.—*Myrmecia crudelis* F. Smith. Dorsal and lateral view of worker.

Hair white, erect, fine and abundant throughout, very short and suberect on scapes and legs. Pubescence white, very fine and adpressed, abundant but not hiding sculpture.

Head as long as broad, strongly convex behind, occipital border short. Mandibles as long as head, outer border straight to apical fourth, inner border with ten teeth, third, fifth, seventh, and ninth much larger and broader than others. Scapes exceed occipital border by one-fourth their length, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax three times longer than broad; pronotum one-fifth broader than long, mesonotum as long as broad, circular, constriction wide, epinotum one-fourth longer than broad. Node as long as broad, almost circular but broader behind than in front, one-third longer than stalk in front; in profile as high as long, anterior and posterior faces erect, both rounded into convex dorsum, ventral spine short and slender. Postpetiole one-sixth broader than long, sides strongly convex, constriction deep. First segment of gaster one-sixth broader than long, strongly convex.

Female

(After Smith.)

"This sex only differs in the usual sexual characters, the thorax being elongate-ovate, and not strangulated in the middle."

Male

Unknown.

South Australia: Adelaide, Yorke Peninsula. *Victoria*: Gellibrand, Grampians. Type in British Museum.

MYRMECIA ARNOLDI n.sp.

Fig. 14

Worker

Length: 18-20 mm.

Head and gaster black, thorax, node, postpetiole, and femora brown, mandibles yellow, antennae, tibiae, and tarsi reddish yellow, tibiae on some examples darker.

Head longitudinally striate-rugose. Pronotum transversely arched striate-rugose, coarser than on head, mesonotum coarsely and somewhat irregularly striate-rugose, epinotum evenly striate transversely. Node punctate-rugose. Postpetiole and gaster smooth and shining.

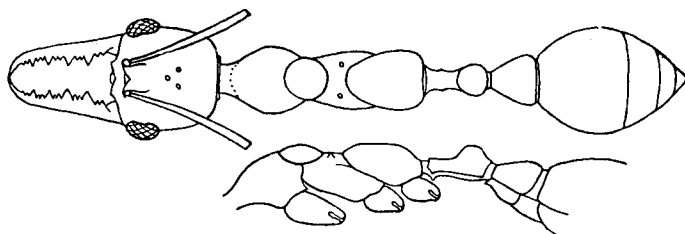


Fig. 14.—*Myrmecia arnoldi* n.sp. Dorsal and lateral view of worker.

Hair white, long, erect, abundant throughout, longest on apical segments of gaster, shorter and suberect on legs, none on antennae. Pubescence white, very fine and adpressed, most abundant on clypeus and apical segments of gaster.

Head a fraction longer than broad, hemispherical behind eyes, occipital border very short and straight. Mandibles longer than head, with fourteen teeth, third, sixth, ninth, and twelfth large and broad. Scapes exceed occipital border by fully one-third their length, second segment of funiculus one-third longer than first, third one-sixth longer than first. Thorax three times longer than broad; pronotum one-fourth broader than long, mesonotum one-twelfth longer than broad, constriction deep and wide, epinotum one-fourth longer than broad. Node as long as broad, circular, stalk in front one-fourth longer than node; in profile higher than long and highest in front, ventral spine long and sharp. Postpetiole a fraction broader than long, constriction deep. First segment of gaster one-fifth broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Emu Rock (A. Arnold, May 1926), Ravensthorpe (T. Greaves, Dec. 1947).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

In general appearance much like *M. rufinodis* but distinguished by the colour and the formation of the mandibles, scapes, node, and postpetiole.

MYRMECIA RUFINODIS F. Smith

Fig. 15

Myrmecia rufinodis F. Smith, 1858, Cat. Hym. Brit. Mus. **6**: 145, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 727, ♀; 1876, J. Mus. Godeffroy **12**: 96, ♀.

Myrmecia (Myrmecia) rufinodis Smith, Emery, 1911, Genera Insect. **118**: 20, ♀.

Worker

Length: 16-20 mm.

Head, thorax, and gaster black or blackish brown, mandibles, antennae, and tarsi yellow, tibiae of anterior legs, node, and postpetiole reddish yellow, middle and posterior tibiae and all femora brown or blackish brown; on many examples a reddish patch on dorsum of pronotum and epinotal declivity.

Head longitudinally striate-rugose in front, irregularly rugose behind. Pronotum, mesonotum, and epinotum transversely striate-rugose, striae transversely arched on front of pronotum. Node smooth on top, with a few scattered punctures, some traces of striae at front edge and anterior face. Postpetiole and gaster smooth and shining.

Hair yellowish, erect, long and abundant throughout, short and suberect on legs, none on antennae. Pubescence white, very fine and adpressed, not abundant except on clypeus.

Head as long as broad, sides and occipital border convex, almost hemispherical behind eyes. Mandibles as long as head, outer border feebly concave, inner

border with thirteen teeth, third, sixth, eighth, and eleventh larger and broader than others. Scapes exceed occipital border by one-third their length, first and third segments of funiculus equal length, second one-sixth longer. Thorax two

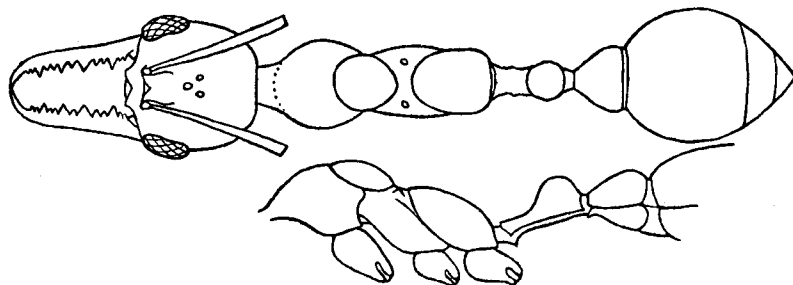


Fig. 15.—*Myrmecia rufinodis* F. Smith. Dorsal and lateral view of worker.

and three-fourths longer than broad; pronotum one-third broader than long, mesonotum one-sixth longer than broad, meso-epinotal constriction deep and wide, epinotum one-fourth longer than broad. Node as long as broad, circular, as long as stalk in front; in profile slightly higher than long, dome-shaped, ventral spine short and sharp. Postpetiole one-fourth broader than long, constriction deep. First segment of gaster one-twelfth broader than long.

Female

Length: 22-24 mm.

Similar to worker but larger and more robust. Head broader behind. Sculpture coarser and pilosity more abundant. Wings hyaline. Stigma very small.

Male

Length: 17-19 mm.

Black, antennae, node, and postpetiole red, apex of mandibles, tibiae, and tarsi brownish red.

Head and thorax finely and irregularly rugose, epinotum transversely striate-rugose. Node irregularly rugose. Postpetiole and gaster microscopically punctate.

Hair yellow, long and erect, abundant throughout. Pubescence very fine and adpressed.

Terminal border of mandibles with a large tooth at apex and base. Mesonotum with mayrian furrows deeply impressed, parapsidal furrows feebly defined. Scutellum high and convex. Node as long as broad.

South Australia: Adelaide (type locality), Kingscote, Port Lincoln. *Victoria*: Kiata, Nhill.

Type in British Museum.

MYRMECIA GRACILIS Emery

Fig. 16

Myrmecia gracilis Emery, 1898, Rend. Acc. Bologna: 232, ♀. Clark, 1938, Proc. Roy. Soc. Vict. 50 (2): 357, ♀♀♂.

Myrmecia (Myrmecia) crudelis Smith var. *gracilis* Emery, 1911, Genera Insect. 118: 19.

Worker

Length: 20-22 mm.

Black, mandibles yellow, antennae, tibiae, tarsi, apex of femora, neck and disk of pronotum and a spot on middle of postpetiole reddish yellow.

Head punctate-rugose, almost striate-rugose in front. Pronotum transversely arched striate-rugose; mesonotum irregularly punctate-rugose; epinotum transversely striate; node smooth above, with traces of rugae. Postpetiole and gaster smooth and shining.

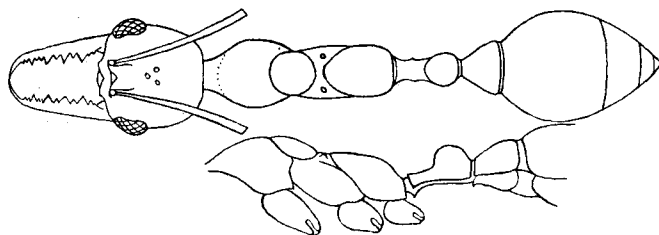


Fig. 16.—*Myrmecia gracilis* Emery. Dorsal and lateral view of worker.

Hair yellow, long and erect, abundant throughout, shorter and suberect on legs and apex of scapes. Pubescence white, very fine and adpressed, hardly apparent on gaster.

Head as long as broad, convex behind eyes, occipital border very short. Mandibles as long as head, outer border straight or very feebly concave, inner border with eleven teeth, third, sixth, eighth, and tenth large and broad. Scapes exceed occipital border by one-third their length, second segment of funiculus one-third longer than first, third one-sixth longer than first. Thorax fully three times longer than broad; pronotum one-fourth broader than long; mesonotum very slightly longer than broad, constriction deep and wide, epinotum one-third longer than broad. Node as long as broad, circular, as long as stalk in front; in profile slightly higher than long, anterior face straight and vertical, posterior face convex, continuous with dorsum, ventral spine very slender. Postpetiole one-fifth broader than long, sides straight to posterior third, then strongly convex. First segment of gaster slightly broader than long, strongly convex.

Female (Dealated)

Length: 24.5-26 mm.

Similar to worker, but more robust. Colour darker and sculpture coarser. Head almost square and more truncate behind. Mayrian and parapsidal

furrows strongly impressed; a deep, narrow impression between metanotum and epinotum. Legs more robust.

Male

Length: 18-19 mm.

Colour and pilosity as on worker. Sculpture finer, more punctate-reticulate, punctures large and shallow.

Head, across eyes, one-fourth broader than long, strongly convex behind. Mandibles short, triangular, edentate. Clypeus flatly convex above, feebly indented in middle in front. Scapes one-third longer than first segment of funiculus, second segment three and one-third times longer than scape, third, fourth, and fifth equal length, one-third shorter than second, remainder sub-equal to apical. Thorax barely twice as long as broad; pronotum short, strongly convex in front; scutellum broader than long, bluntly cone-shaped in front, mayrian and parapsidal furrows deeply impressed, a fine, short, longitudinal groove in front; mesonotum slightly broader than long, anterior edge straight, sides feebly, posterior border strongly convex; epinotum short, strongly convex transversely. Node as long as broad, circular, longer than stalk in front; in profile dome-shaped, evenly convex, ventral spine very short and blunt. Post-petiole very slightly broader than long, fully two and one-half times broader behind than in front, sides straight to posterior fourth, then strongly convex. Gaster fully one-fourth longer than broad, first segment one-fourth broader than long, sides strongly convex.

South Australia: Kingscote (type locality), Mt. Lofty Range, Tumby Bay, Carribe District, Reevesby Island.

Type in Emery Collection, Natural History Museum, Genoa.

MYRMECIA AURIVENTRIS Mayr

Figs. 17, 18

Myrmecia auriventris Mayr 1870, Verh. zool.-bot. Ges. Wien **20**: 968, ♀; 1876, J. Mus. Godeffroy **12**: 95, ♂.

Myrmecia (Myrmecia) auriventris Mayr, Emery, 1911, Genera Insect. **118**: 20, ♂. Wheeler, 1933, Colony-founding among Ants, p. 46, ♂.

Worker

Length: 18-20 mm.

Head, pronotum, mesonotum, postpetiole, and gaster black, metanotum, epinotum, and node red, mandibles, antennae, coxae, basal half of femora, and tarsi reddish yellow, apical half of femora and tibiae brownish.

Front of head finely striate-rugose longitudinally, irregularly punctate-rugose behind. Pronotum coarsely rugose, longitudinally in middle; mesonotum transversely striate-rugose, epinotum and node more coarsely and irregularly punctate-rugose.

Hair erect, long, fine, and abundant throughout, shorter and suberect on antennae and legs. Postpetiole and gaster densely clothed with adpressed golden yellow pubescence.

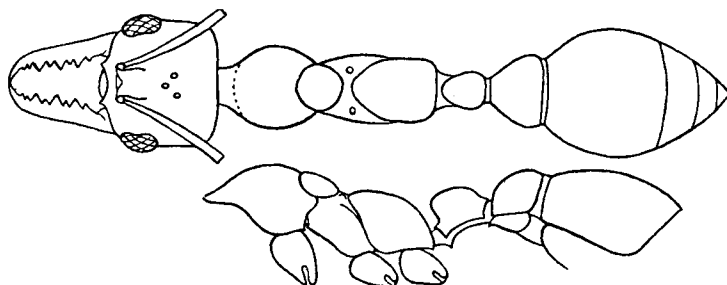


Fig. 17.—*Myrmecia auriventris* Mayr. Dorsal and lateral view of worker.

Head one-twelfth broader than long, occipital angles broadly rounded. Mandibles a fraction shorter than head, outer border feebly concave, almost straight, inner border with nine teeth, third, fifth, and seventh much larger and broader than others. Scapes exceed occipital border by one-sixth their length, first and third segments of funiculus equal, one-fifth shorter than second. Thorax two and one-half times longer than broad; pronotum one-fifth broader than long, sides and front strongly convex, mesonotum one-tenth broader than long, convex in all directions, meso-epinotal constriction deep and wide, epinotum one-fifth longer than broad, feebly convex transversely. Node one-fourth longer than broad, sides convex, bluntly pointed in front, broadly convex behind; in profile as high as long, dorsum convex, anterior face straight, vertical, longer than short stalk in front, posterior face short, rounded into dorsum, ventral spine short and sharp. Postpetiole one-third broader than long, strongly convex at posterior third, constriction deep and wide. First segment of gaster slightly broader than long, strongly convex.

Female

Unknown.

Male

Length: 15.5 mm.

Colour and pilosity as on worker, sculpture finer.

Head very slightly broader than long, hemispherical behind eyes. Mandibles with three strong, sharp teeth; clypeus feebly indented at middle in front. Scapes fully twice as long as first segment of funiculus, second segment of funiculus three and one-half times longer than first; ocelli large and prominent. Thorax twice as long as broad; pronotum barely three times broader than long, strongly convex in front, sides straight, almost parallel; mesonotum broader than long, convex in front, mayrian furrows feebly indicated, parapsidal furrows sharply impressed; scutellum one-fifth broader than long, broadest in front; wings hyaline with a strong yellow tinge; epinotum one-third broader than long, broadest in front, sides convex. In profile pronotum erect, convex, sloping

backward above; mesonotum high and convex; scutellum dome-shaped, as high as long; epinotum evenly convex from base to bottom of declivity. Node one-fifth broader than long, convex in all directions; in profile higher than long,

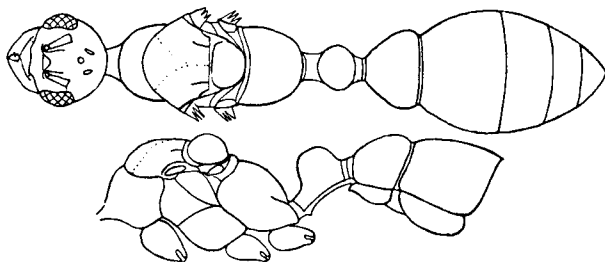


Fig. 18.—*Myrmecia auriventris* Mayr. Dorsal and lateral view of male.

dome-shaped above, almost twice as long as stalk in front; ventral spine very short and blunt. Postpetiole one-third broader than long, strongly convex at posterior third, constriction deep. First segment of gaster one-third broader than long, broadest behind.

Queensland: Mackay (type locality), Bowen, Townsville, Cairns, Byfield, Rockhampton, Mareeba, Maryborough, South Percy Island.

The node and bright golden pubescence render this species distinct from all known forms.

MYRMECIA AURIVENTRIS Mayr var. *ATHERTONENSIS* Forel

Myrmecia auriventris Mayr var. *athertonensis* Forel, 1915, Ark. Zool. 9: 8, ♀ ♂.

This form is not available for examination, but for the sake of completeness Forel's description is given below.

Worker

Length: 14.6-22 mm.

"Unterscheidet sich fast lediglich vom Typus der Art durch seine gelblichen hellen Kiefer mit dunkleren Zahnsitzen, während die Kiefer des Arttypus braun sind. Mayr legt viel Wert auf die Färbung der Kiefer bei *Myrmecia*. Die neue var. hat, wie der Typus der Art und sogar noch ausgesprochener, eine blurte Färbung des Epinotums und des Petiolusknotens, während der übrige Körper und die Glieder schwarz sind. Beim Arttypus sind dagegen die Schenkel gelblich. Die goldige Pubescenz des Hinterleibes ist sehr schön ausgesprochen und die Skulptur gleich verteilt wie beim Arttypus aber runzeliger und weniger grob genetzt, besonders am Pronotum und am Kopf."

Male

Length: 14.5-15.5 mm.

"Vom Arttypus nur durch seine weniger tiefe, d. h. viel seichtere und mehr gerunzelte als genetzte Struktur zu unterscheiden."

Queensland: Atherton.

Type in Natural History Museum, Stockholm.

MYRMECIA COMATA n.sp.

Fig. 19

Worker

Length: 18-20 mm.

Head, thorax, node, and postpetiole reddish brown, gaster black, mandibles, antennae, and legs yellowish brown.

Head finely striate-rugose in front, diverging outward behind, occiput transversely striate-rugose. Pronotum longitudinally arched striate-rugose, transverse in front, almost straight in middle, mesonotum, epinotum, and node more coarsely striate-rugose transversely; postpetiole and gaster microscopically punctate.

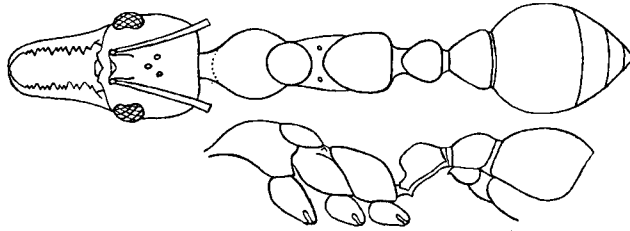


Fig. 19.—*Myrmecia comata* n.sp. Dorsal and lateral view of worker.

Hair whitish, long, thin, and erect, very abundant throughout, slightly shorter on legs, none on antennae. Pubescence on head, thorax, and node white, short, very fine and adpressed, longer and much more abundant on postpetiole and gaster, almost hiding sculpture, pubescence on middle of gaster brownish and somewhat iridescent.

Head as long as broad, sides convex, occipital border short and feebly concave. Mandibles as long as head, outer border concave, inner border with twelve teeth, third, seventh, ninth, and eleventh large and broad. Scapes exceed occipital border by twice their thickness, first and third segments of funiculus equal length, one-sixth shorter than second. Thorax two and one-half times longer than broad; pronotum one-fourth broader than long, mesonotum as long as broad, circular, meso-epinotal constriction deep and wide, epinotum slightly longer than broad. Node as long as broad, broadest at posterior third, in profile slightly longer than high, anterior face short, vertical, rounded into dorsum, posterior face very short, convex, dorsum very feebly convex, almost straight, stalk in front as long as anterior face; ventral spine short and sharp. Postpetiole one-fourth broader than long, sides almost straight to posterior third, constriction deep and wide. First segment of gaster one-fifth broader than long.

Queensland: Bunya Mts. (E. J. Dumigan).

Near *M. flavicoma* but distinguished by the colour, sculpture, shape of the mandible teeth and the node.

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA TRICOLOR MAYR

Figs. 20, 21

Myrmecia tricolor Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 724, ♀; 1865, Reise Novara Formicid., p. 85, ♀.

Myrmecia (Myrmecia) tricolor Mayr, Emery, 1911, Genera Insect. **118**: 20. Wheeler, 1933, Colony-founding among Ants, p. 44, ♀.

Worker

Length: 13-23 mm.

Head and thorax brownish black, gaster black, epinotal declivity, node, and postpetiole brownish red, mandibles, antennae, and tarsi reddish yellow.

Head coarsely striate-rugose, diverging outward behind. Pronotum longitudinally striate-rugose, striae sharper than on head, mesonotum, epinotum, and node transversely striate-rugose, postpetiole and gaster smooth and shining.

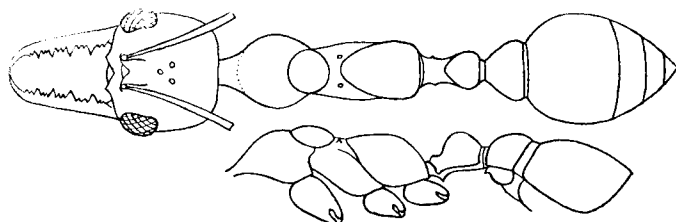


Fig. 20.—*Myrmecia tricolor* Mayr. Dorsal and lateral view of worker.

Hair yellow, fine, long and erect, abundant throughout, shorter on legs, none on antennae. Pubescence whitish, very fine, adpressed, long and more abundant on apical half of gaster.

Head slightly broader than long, sides and occipital border feebly convex, angles broadly rounded. Mandibles as long as head, outer border straight to apical third, inner border with fourteen teeth, third, sixth, ninth, and eleventh large and erect, teeth between ninth and eleventh small and obsolete. Scapes exceed occipital border by one-fifth their length, second segment of funiculus almost twice as long as first, third one-fifth longer than first. Thorax two and one-half times longer than broad; pronotum one-third broader than long, mesonotum circular, epinotum one-fourth longer than broad, bluntly pointed in front. Node as long as broad, broadest at middle, bluntly pointed in front; in profile as high as long, highest in front, sloping downward, convex behind, anterior face high, sloping backward, rounded into dorsum, node twice as long as stalk in front, ventral spine slender and sharp. Postpetiole almost one-third broader than long, sides feebly convex. First segment of gaster one-seventh broader than long.

Female (Subapterous)

Length: 24-25 mm.

Colour and pilosity similar to worker; sculpture coarser, pronotum longitudinally arched rugose, mesonotum and epinotum transversely striate-rugose, scutellum and node coarsely punctate with traces of transverse rugae.

Mandibles slightly shorter than head, teeth longer. Pronotum almost twice as broad as long, mesonotum one-fourth broader than long, scutellum twice as broad as long, oval, anterior wing insertions partly developed, posterior wing insertions indicated. Remainder as in worker.

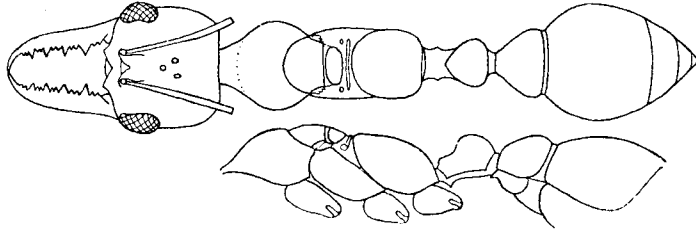


Fig. 21.—*Myrmecia tricolor* Mayr. Dorsal and lateral view of subapterous female.

Male

Unknown.

New South Wales: Sydney (type locality), Katoomba, Wentworth Falls, Nepean River, Hornsby.

Type in Mus. Caes., Vienna.

There is great variation in the colour of the thorax and node amongst the workers of a single nest. Some individuals are coloured almost as in *M. nigriventris* while others are similar to *M. rogeri* Emery. All grades of intermediates are found. Emery (1914) recorded this species from Mt. Lofty, South Australia, apparently an error of locality since the species is almost entirely confined to the Blue Mountains.

MYRMECIA TRICOLOR NIGRIVENTRIS MAYR

Figs. 22, 23

Myrmecia nigriventris Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 724, 727, ♀.

Myrmecia tricolor Mayr var. *nigriventris* Mayr, Emery, 1900, Boll. Soc. Ent. Ital. **32**: 110,

♂ ♀. Forel, 1910, Rev. Suisse Zool. **18**: 7, ♀.

Myrmecia (Myrmecia) tricolor Mayr var. *nigriventris* Mayr, Emery, 1911, Genera Insect. **118**: 20. Wheeler, 1933, Colony-founding among Ants, p. 44, ♀.

Myrmecia spadicea Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 724, 728, ♂; 1865, Reise Novara, Formicid., p. 86, ♀. Emery, 1900, Boll. Soc. Ent. Ital. **32**: 110, ♀. Forel, 1910, Rev. Suisse Zool. **18**: 7, ♀.

Worker

Length: 16-23 mm.

Differs from *M. tricolor* as follows: Head, thorax, node, and postpetiole brownish red, gaster black, mandibles, antennae, and tarsi reddish yellow, legs brownish yellow. Node as long as broad, almost circular; in profile barely twice as long as stalk, anterior and posterior faces high, rounded into convex dorsum, as high behind as in front.

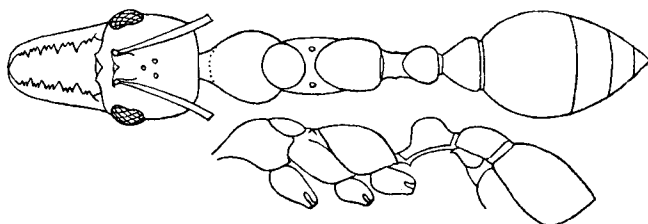


Fig. 22.—*Myrmecia tricolor nigriventris* Mayr. Dorsal and lateral view of worker.

Female (Subapterous)

Length: 24-25 mm.

Differs from the female of *M. tricolor* in colour and in having a slightly broader node.

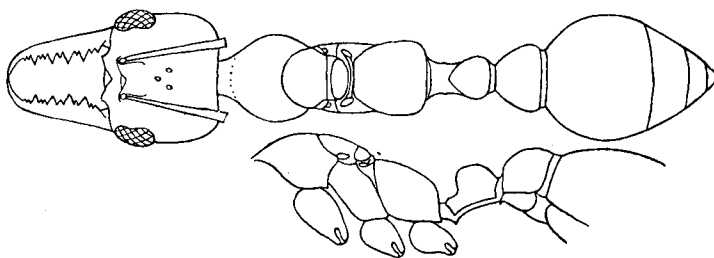


Fig. 23.—*Myrmecia tricolor nigriventris* Mayr. Dorsal and lateral view of subapterous female.

Neuholland (type locality). *Victoria*: Belgrave, Croydon, Fern Tree Gully, Gellibrand, Riddell, Grampians, Frankston. *New South Wales*: Gerringong, Loftus, Newcastle, Dungong. *Australian Capital Territory*: Black Mt., Blundell's, Canberra.

The colour varies considerably even amongst individuals from the same nest. Colour variations ranging from yellowish red to reddish brown are quite common. On many examples the postpetiole is more or less black.

MYRMECIA PRINCEPS n.sp.

Fig. 24

Worker

Length: 23.5-27.5 mm.

Head and gaster black or brownish black, mandibles pale yellow, clypeus, antennae, thorax, node, postpetiole, and legs darker yellow.

Head reticulate-rugose, coarser behind than in front. Pronotum longitudinally striate-rugose. Mesonotum transversely striate-rugose, striae obsolete on middle, epinotum much more coarsely striate-rugose transversely. Node irregularly punctate-rugose. Postpetiole and gaster microscopically reticulate.

Hair yellow, fine, erect and short on head, thorax, and node, longer and more abundant on postpetiole and gaster, shorter and suberect on antennae and legs. Pubescence white, very fine and adpressed, abundant on clypeus, postpetiole, and posterior margins of segments of gaster.

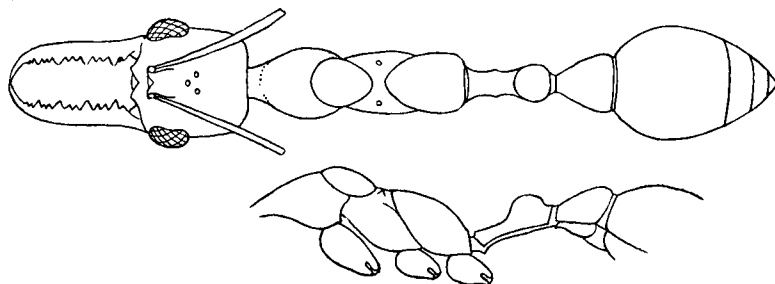


Fig. 24.—*Myrmecia princeps* n.sp. Dorsal and lateral view of worker.

Head slightly longer than broad, sides convex, occipital border straight, angles broadly rounded. Mandibles fully their width at base longer than head, outer border feebly concave at basal third, inner border with fourteen teeth, third, sixth, ninth, and twelfth long, sharp, and erect. Scapes exceed occipital border by almost one-third their length, second segment of funiculus almost twice as long as first and one-third longer than third. Thorax three times longer than broad; pronotum one-fourth longer than broad, mesonotum one-fifth longer than broad, broadest in front, constriction very wide, epinotum one-fourth longer than broad. Node circular; in profile as high as long, as long as stalk in front, almost dome-shaped, ventral spine short and sharp. Postpetiole as long as broad behind, sides straight to posterior fourth, constriction deep and wide. First segment of gaster as long as broad.

Female

Unknown.

Male

Unknown.

South Australia: Tarcoola (K. Millar) (type locality), Ooldea (J. A. Ker-shaw), Urenbering Rocks (R. Chandler). *Victoria*: Bannerton (A. C. Nilson).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

This species somewhat resembles *M. lutea* in colour and sculpture, but differs greatly in size and the shape of the head is quite different.

MYRMECIA PICTICEPS n.sp.

Fig. 25

Worker

Length: 18-19 mm.

Head red with a broad transverse brown band extending from near anterior margin of eyes to posterior margin of ocelli, interrupted in middle in front by

a red area between frontal carinae, thorax, node, and postpetiole red, gaster black, mandibles yellow, antennae and legs reddish yellow.

Head irregularly punctate-rugose, rugae more or less longitudinal. Pronotum finely striate, arched transversely, mesonotum and epinotum transversely striate. Node transversely rugose. Postpetiole with some large, shallow, scattered punctures, gaster microscopically punctate.

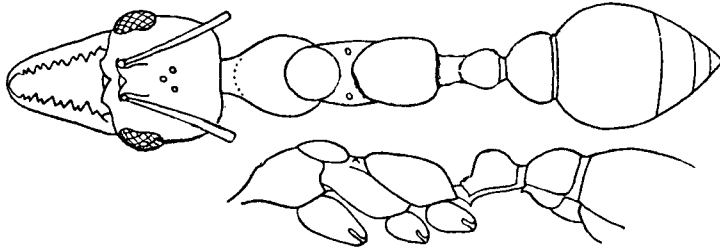


Fig. 25.—*Myrmecia picticeps* n.sp. Dorsal and lateral view of worker.

Hair yellow, short and erect, longer and more abundant on gaster, short and suberect on antennae and legs. Pubescence very fine, apparent only on apical margins of gaster segments.

Head very slightly broader than long, sides strongly convex behind, occipital border short and straight. Mandibles slightly shorter than head, outer border straight to apical third, inner border with ten teeth, third, fifth, seventh, and ninth large, broad, and sharp. Scapes exceed occipital border by one-sixth their length, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax two and one-half times longer than broad; pronotum fully one-third broader than long, mesonotum as long as broad, almost circular, meso-epinotal constriction wide, epinotum one-fourth longer than broad. Node as long as broad, broadest behind, bluntly pointed in front; in profile as high as long, dorsum convex, rounded into short posterior face, anterior face straight, sloping gently backward, as long as stalk in front, ventral spine long and sharp. Postpetiole one-third broader than long, strongly convex, constriction deep and narrow. First segment of gaster one-fifth broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Albany (J. Clark, Nov. 1943).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA GULOSA (Fabricius)

Figs. 26-28

Formica gulosa Fabr., 1775, Syst. Ent. 2: 863, ♀. Latreille, 1802, Fourmis, p. 215, pl. 8, fig. 49, ♀.

Myrmecia gulosa Fabr., 1804, Syst. Piez., p. 424, ♀. Smith, 1858, Cat. Hym. Brit. Mus. 6: 143, ♂. Roger, 1861, Ent. Z. 5: 33. Mayr, 1862, Verh. zool.-bot. Ges. Wien 12: 723, Lowne, 1868, Entomologist 2: 335.

Eciton gulosa (Fabr.) Latreille, 1805, Hist. Nat. Crust. Ins. 13: 258.

Ponera gulosa (Fabr.) Illiger, 1807, Mag. Insektenk. 6: 194.

Myrmecia (*Myrmecia*) *gulosa* Emery, 1911, Genera Insect. 118: 19. Clark, 1925, Vict. Nat. 42: 141. Wheeler, 1933, Colony-founding among Ants, p. 29.

Myrmecia gulosa F. var. *obscurior* Forel 1922, Rev. Suisse Zool. 30: 87, ♀.

Worker

Length: 14-26 mm.

Yellowish red, mandibles yellow, posterior margin of first segment of gaster and all three apical segments black.

Head finely punctate-rugose, diverging outward behind. Pronotum transversely arched striate, mesonotum and epinotum transversely striate. Node transversely striate in front, irregularly punctate-rugose behind. Postpetiole and gaster smooth and shining.

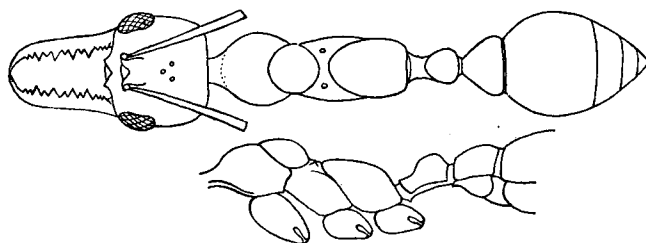


Fig. 26.—*Myrmecia gulosa* (Fabricius). Dorsal and lateral view of worker.

Hair yellow, erect, moderately long and abundant, shorter and suberect on legs, none on antennae. Pubescence yellow, apparent only on clypeus.

Head very slightly broader than long, sides and occipital border feebly convex, angles broadly rounded. Mandibles one-tenth longer than head, outer border concave, inner border with twelve teeth, third, fifth, seventh, and ninth long and sharp. Scapes exceed occipital border by almost one-third their length, first and third segments of funiculus equal length, one-third shorter than second. Thorax two and two-thirds longer than broad; pronotum one-third broader than long, mesonotum circular, as long as broad, meso-epinotal constriction deep and wide, epinotum one-third longer than broad. Node very slightly broader than long, broadest behind, bluntly pointed in front; in profile as high as long, dorsum feebly convex, posterior face strongly convex, anterior face sloping backward, rounded into dorsum, one-third shorter than stalk in front, ventral spine long and sharp. Postpetiole one-third broader than long, sides straight to basal third, constriction deep. First segment of gaster one-ninth broader than long.

Female (Dealated)

Length: 27-29 mm.

Colour similar to worker, pilosity more abundant, sculpture coarser.

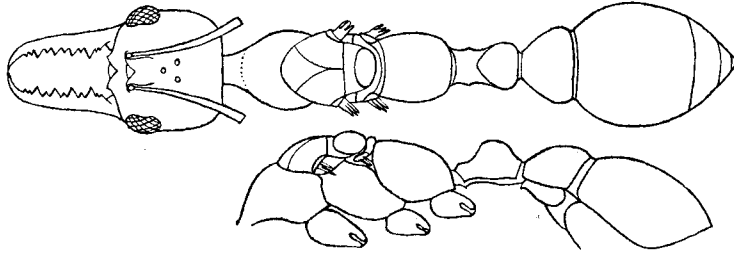


Fig. 27.—*Myrmecia gulosa* (Fabricius). Dorsal and lateral view of dealated female.

Head very slightly broader than long, angles broadly rounded. Mandibles as long as head, teeth as on worker; scapes exceed occipital border by one-fifth their length. Pronotum twice as broad as long; mesonotum one-ninth broader than long; mayrian furrows strongly impressed; scutellum twice as broad as long. Node slightly broader than long, broadest behind. Postpetiole one-third broader than long. First segment of gaster broader than long.

Male

Length: 17-21 mm.

Colour and pilosity as on worker. Sculpture finer, punctate-rugose on head, pronotum, and mesonotum; scutellum longitudinally, epinotum transversely striate-rugose. Node almost smooth, with a few obsolete punctures.

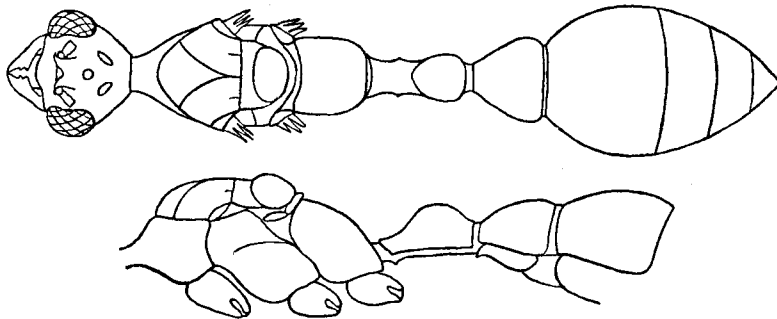


Fig. 28.—*Myrmecia gulosa* (Fabricius). Dorsal and lateral view of male.

Head as long as broad, occipital border and sides straight. Mandibles with two small teeth at base of terminal border. Scapes two and one-half times longer than first segment of funiculus, second segment of funiculus six and one-half times longer than first. Thorax fully twice as long as broad; pronotum

five times broader than long, mesonotum one-fourth broader than long, mayrian and parapsidal furrows sharply impressed, scutellum twice as broad as long; wings hyaline, distinctly yellowish; epinotum one-eighth broader than long. Node as long as broad, bluntly pointed in front; in profile very slightly longer than high, dome-shaped, one-fifth longer than stalk in front, ventral spine short; broad, and sharp. Postpetiole one-seventh broader than long, sides straight to basal fourth. First segment of gaster one-fifth broader than long.

New South Wales: Sydney, Como, Liverpool, Taree, Armidale, Oatley, National Park, Narrabri, Lismore, Clarence River. *Australian Capital Territory*: Black Mt. *Queensland*: Brisbane, Fletcher, Stanthorpe, St. George.

Forel described *M. gulosa* var. *obscurior* from an unknown locality. From his description this cannot be separated from the many large, dark forms so frequently found in nests in many localities.

MYRMECIA NIGRISCAPA Roger

Figs. 29-31

Myrmecia nigriscapa Roger, 1861, Ent. Z. 5: 33, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien 13: 723, ♀.

Myrmecia (Myrmecia) nigriscapa Roger, Emery, 1911, Genera Insect. 118: 19. Clark, 1925, Vict. Nat. 42: 141, ♀ ♀ ♂. Wheeler, 1933, Colony-founding among Ants, p. 30.

Worker

Length: 17-25 mm.

Head, thorax, and node red, funiculus, legs, postpetiole, two apical segments of gaster and anterior three-fourths of first segment yellowish red, scapes and remainder of gaster black, mandibles and clypeus reddish yellow.

Head longitudinally striate-rugose. Pronotum transversely arched striate, almost longitudinally arched on middle, mesonotum and epinotum transversely striate. Node circularly rugose. Postpetiole and gaster smooth and shining.

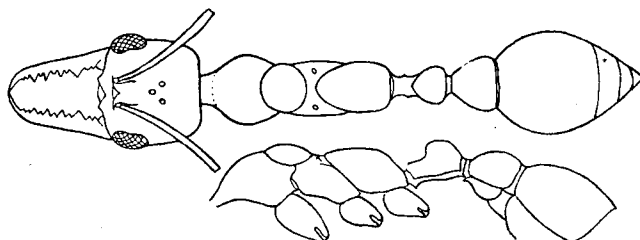


Fig. 29.—*Myrmecia nigriscapa* Roger. Dorsal and lateral view of worker.

Hair yellow, short, erect, and abundant, longer on mandibles and apical segments of gaster, shorter and suberect on antennae and legs. Pubescence apparent only on clypeus.

Head as long as broad, sides convex, occipital border straight, angles rounded. Mandibles longer than head by their width at base, outer border feebly concave, inner border straight with thirteen teeth, third, sixth, eighth, and tenth long, broad, and sharp. Scapes exceed occipital border by barely one-third their length, first segment of funiculus one-third shorter than second, one-fifth shorter than third. Thorax two and three-fourths longer than broad; pronotum one-third broader than long, mesonotum circular, as long as broad, epinotum one-third broader than long. Node one-ninth broader than long, broadest behind, in profile as high as long, dorsum convex, rounded into short, convex, posterior face, anterior face straight, vertical, much shorter than stalk in front, ventral spine slender and sharp. Postpetiole one-sixth broader than long, first segment of gaster one-fifth broader than long.

Female (Dealated)

Length: 23-26 mm.

Colour slightly darker than on worker, sculpture coarser, pilosity longer and more abundant.

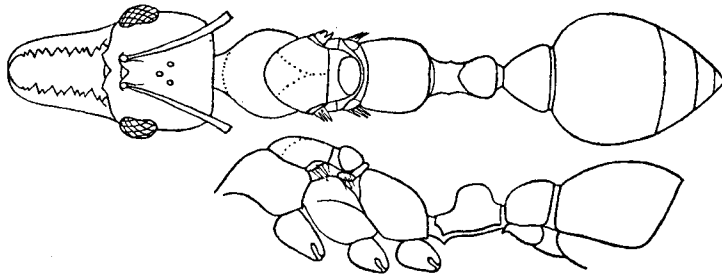


Fig. 30.—*Myrmecia nigriscapa* Roger. Dorsal and lateral view of dealated female.

Head slightly broader than long, sides and occipital border straight, angles rounded. Mandibles as long as head. Scapes exceed occipital border by one-fifth their length. Pronotum twice as broad as long. Mesonotum one-sixth broader than long, mayrian and parapsidal furrows weakly impressed, scutellum barely twice as broad as long, wings hyaline, epinotum one-sixth broader than long. Node very slightly broader than long, broadest behind. Postpetiole one-fourth broader than long. First segment of gaster broader than long.

Male

Length: 16-20 mm.

Black, mandibles, antennae, anterior third of head, mesonotum, node, and postpetiole brownish red, femora brown, tibiae and tarsi yellowish red.

Posterior half of head, pronotum, mesonotum, and scutellum coarsely punctate, epinotum transversely rugose, node transversely arched rugose in front,

irregularly rugose behind. Postpetiole and gaster densely and microscopically punctate.

Pilosity as on worker.

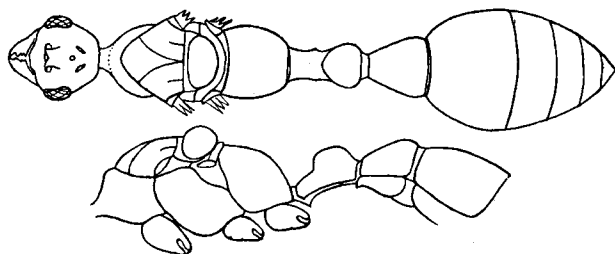


Fig. 31.—*Myrmecia nigriscapa* Roger. Dorsal and lateral view of male.

Head as long as broad, hemispherical behind eyes. Mandibles with a large triangular tooth on middle of terminal border. Scapes twice as long as first segment of funiculus, second segment of funiculus six and one-half times longer than first. Thorax fully twice as long as broad; pronotum four and one-half times broader than long; mesonotum one-fourth broader than long, mayrian furrows sharply impressed, scutellum one-fifth broader than long; wings hyaline tinged yellow; epinotum one-fourth broader than long. Node as long as broad, broadest behind; in profile as long as high, dome-shaped, one-fifth longer than stalk in front, ventral spine short and blunt. Postpetiole one-seventh broader than long. First segment of gaster one-fifth broader than long.

Neuholland (type locality). *Western Australia*: Albany, Bunbury, Denmark, Pinjarra, Margaret River, Busselton. *South Australia*: Kangaroo Island, Port Lincoln, Corringa, Mt. Lofty, Meningie. *Victoria*: Ballarat, Hamilton, Frankston, Spring Vale, Timboon, Malacoota, Gellibrand, Portland. *New South Wales*: Lismore, Eden. *Queensland*: Beaudesert.

Type in Roger collection.

MYRMECIA ANALIS Mayr

Figs. 32, 33

Myrmecia analis Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 725, 728, ♀.

Myrmecia (Myrmecia) analis Mayr, Emery, 1911, Genera Insect. **118**: 20, ♀.

Myrmecia atriscapa Crawley, 1925, Ann. Mag. Nat. Hist. **16**: 580, ♀.

Myrmecia analis Mayr, Clark, 1927, Vict. Nat. **44**: 34, ♀ ♀. Wheeler, 1933, Colony-founding among Ants, p. 42.

Worker

Length: 18-20 mm.

Head, thorax, node, and postpetiole red, mandibles, funiculus, and legs reddish yellow, scapes brown, gaster black, two apical segments and posterior half of second segment reddish yellow.

Head longitudinally striate-rugose, more irregularly rugose behind. Pronotum transversely arched striate-rugose, almost longitudinally in middle, mesonotum and epinotum more finely striate-rugose transversely, node circularly rugose. Postpetiole and first segment of gaster smooth and shining, apical segments finely and densely reticulate.

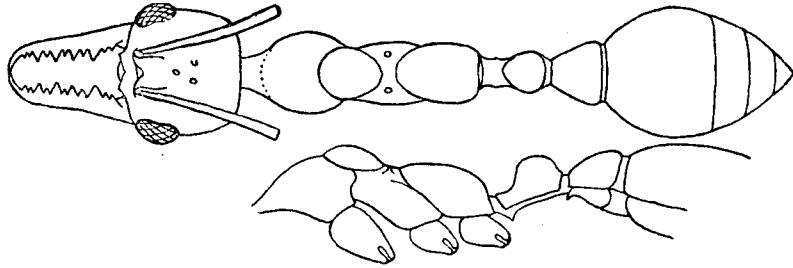


Fig. 32.—*Myrmecia analis* Mayr. Dorsal and lateral view of worker.

Hair yellow, short and erect, longer and more abundant on gaster, very fine, short and suberect on legs, none on antennae. Pubescence yellow, very fine and adpressed, apparent only on apical half of gaster, forming a distinct covering.

Head very slightly broader than long, sides straight and broadly rounded into short, straight, occipital border. Mandibles as long as head, outer border feebly concave, inner border with eleven teeth, third, fifth, seventh, and ninth large, broad, and sharp. Scapes exceed occipital border by slightly more than one-fourth their length, first and third segments of funiculus equal, one-third shorter than second. Thorax fully two and one-half times longer than broad; pronotum one-third broader than long, mesonotum one-sixth longer than broad, mesoepinotal constriction deep and wide, epinotum one-third longer than broad. Node very slightly longer than broad, broadest at middle, bluntly pointed in front; in profile as high as long, dorsum and posterior united in a convexity, anterior face straight, sloping gently backward, as long as stalk in front, ventral spine long, slender, and sharp. Postpetiole one-fourth broader than long. First segment of gaster one-sixth broader than long.

Female (Dealated)

Length: 20-22 mm.

Colour and pilosity as on worker, sculpture much coarser, mesonotum and scutellum longitudinally striate-rugose.

Head very slightly broader than long, occipital border straight, sides feebly convex, angles rounded. Mandibles shorter than head; scapes exceed occipital border by barely one-fourth their length. Pronotum twice as broad as long, mesonotum one-sixth broader than long, mayrian and parapsidal furrows sharply impressed, scutellum twice as broad as long, wings with a strong yellowish sheen,

epinotum as long as broad. Node very slightly broader than long, bluntly pointed in front. Postpetiole one-third broader than long. First segment of gaster one-sixth broader than long.

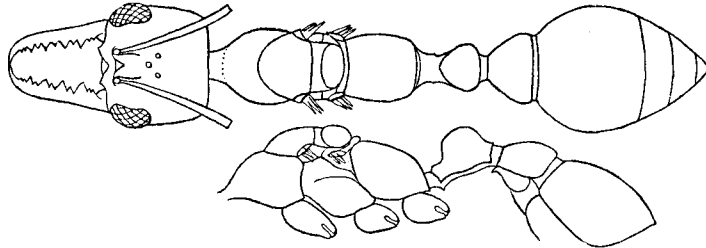


Fig. 33.—*Myrmecia analis* Mayr. Dorsal and lateral view of dealated female.

Male

Unknown.

Neuholland (type locality). *Western Australia*: Albany, Denmark, Walpole, Margaret River. *Victoria*: Portland, Warrnambool. *New South Wales*: Lismore. *Queensland*: Brisbane.

Type in Mus. Caes., Vienna.

MYRMECIA MIDAS n.sp.

Figs. 34, 35

Worker

Length: 13-15 mm.

Head, thorax, node, and postpetiole red, gaster black, two apical segments yellow, mandibles, antennae, and legs brownish red.

Head longitudinally and finely rugose. Pronotum coarsely rugose, transversely arched in front, longitudinally on middle, mesonotum very finely striate-rugose, transversely, epinotum more coarsely striate transversely. Node irregularly punctate-rugose. Postpetiole and gaster finely and densely punctate.

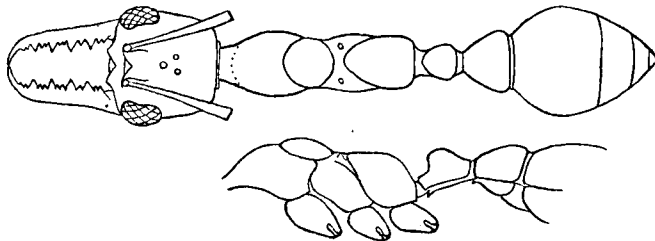


Fig. 34.—*Myrmecia midas* n.sp. Dorsal and lateral view of worker.

Hair yellow, erect and short on head and thorax, longer and more abundant on gaster, very fine, short and suberect on antennae and legs. Pubescence yellow, very fine and adpressed, forming a dense golden covering on postpetiole and gaster.

Head as long as broad, sides convex, occipital border short and straight, angles broadly rounded. Mandibles as long as head, slender, outer border feebly concave, inner border with thirteen teeth, third, sixth, eighth, and tenth longer and sharper than remainder. Scapes exceed occipital border by one-sixth their length, first segment of funiculus one-fourth shorter than second, third slightly shorter than first. Thorax fully two and one-half times longer than broad; pronotum almost one-sixth broader than long, mesonotum circular, as long as broad, epinotum one-third longer than broad. Node as long as broad, almost circular, slightly broader behind; in profile as high as long, highest in front, dorsum and posterior face united in a convexity, anterior face straight, vertical, as long as stalk in front, ventral spine short and sharp. Postpetiole one-fifth broader than long, sides convex, constriction deep and wide. First segment of gaster one-fourth broader than long.

Female (Subapterous)

Length: 18-19 mm.

Colour and pilosity as on worker. Sculpture coarser; pronotum transversely arched striate-rugose, mesonotum, epinotum, and node transversely striate-rugose.

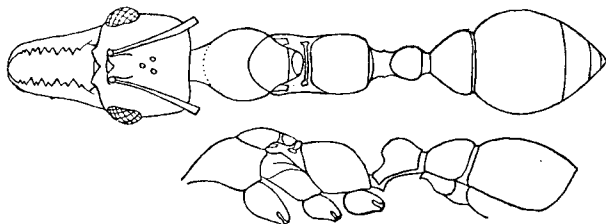


Fig. 35.—*Myrmecia midas* n.sp. Dorsal and lateral view of subapterous female.

Head very slightly broader than long, sides and occipital border straight, angles rounded. Mandibles as long as head, outer border straight, inner border with ten erect teeth, third, fifth, seventh, and ninth large and broad. Scapes exceed occipital border by one-seventh their length. Pronotum one-third broader than long, mesonotum one-fourth broader than long, scutellum twice as broad as long. Node slightly broader than long, broadest behind. Postpetiole one-third broader than long.

Male

Unknown.

New South Wales: Dorrigo (R. Heron), Brooklana (W. W. Froggatt).
Queensland: National Park, Mt. Tambourine (H. Hacker).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

On a few examples the postpetiole is black with red markings.

KEY TO SPECIES, VINDEK GROUP

Workers

1. Mandibles, light-coloured, various shades of yellow, brownish yellow, or reddish yellow 2
Mandibles dark-coloured, various shades of dark red or reddish brown, never yellowish 22
2. Thorax entirely reddish, head usually red, sometimes bicoloured, black and red or yellow; mandibles usually as long as or longer than head; stalk of node usually long, more than one-third length of node 3
Thorax black or bicoloured, head black; mandibles almost always shorter than head; stalk of node short, usually less than one-fourth length of node 18
3. Thorax, node, and postpetiole light-coloured, usually yellow or reddish yellow 4
Thorax dark, usually blood red or reddish brown 7
4. Legs yellowish or reddish 5
Middle and posterior legs dark brown, anterior legs light brown; head and gaster black *M. fuscipes*
5. Head black or blackish brown 6
Head light yellowish red, gaster black *M. gratiosa*
6. Node as long as stalk; pubescence on gaster very sparse; pronotum longitudinally arched striate-rugose in middle *M. lutea*
Node twice as long as stalk; pubescence on gaster dense; pronotum transversely arched striate-rugose in middle *M. desertorum*
7. Pronotum transversely arched striate in middle 8
Pronotum longitudinally arched striate-rugose in middle 12
8. Gaster entirely black or dark reddish brown 9
Gaster with first segment reddish, apical segments either black or reddish 11
9. Head black or bicoloured, gaster black 10
Head entirely reddish, gaster dark reddish brown *M. vindex*
10. Head dark red posteriorly and between frontal carinae, remainder black *M. fasciata*
Head black, sometimes yellowish between frontal carinae *M. nigriceps*
11. Gaster with apical segments black or brownish black; node with posterior face punctate or sometimes with obsolete rugae *M. vindex basirufa*
Gaster with two apical segments reddish brown; node with posterior face strongly rugose *M. dimidiata*
12. Gaster smooth and shining, with very fine whitish pubescence 13
Gaster densely covered with pubescence 17
13. Head longer than broad, convex behind, node circular, one-third longer than stalk *M. suttoni*

- Head as long as broad, straight behind, node pointed in front, as long as stalk *M. fulgida*
14. Head and gaster black 15
Node slightly shorter than stalk, with obsolete transverse striae in front *M. atrata*
15. Head blackish brown, gaster black 16
Node longer than stalk, irregularly punctate-rugose *M. pavidata*
16. Head, thorax, node, and postpetiole reddish brown 18
17. Gaster more or less densely pubescent 27
Node almost six times as long as stalk *M. flavicoma*
18. Node black, thorax black or black and reddish brown 19
Node, thorax, and postpetiole reddish *M. pulchra*
19. Postpetiole black; gaster entirely black 20
Postpetiole yellowish red; gaster with apical segments reddish, rest black *M. esuriens*
20. Thorax entirely blackish brown 21
Mesonotum and a small area of pronotum reddish brown, rest of thorax black *M. fallax*
21. Node almost five times as long as stalk; pronotum longitudinally arched striate-rugose in middle *M. murina*
Node twice as long as stalk; pronotum longitudinally rugose in middle *M. rowlandi*
22. Pronotum longitudinally arched striate or striate-rugose in middle 23
Pronotum transversely arched striate or striate-rugose in middle 26
23. Head entirely dark brown or reddish 24
Head bicoloured, reddish brown with middle of forehead between frontal carinae and around ocelli black; anterior legs and all tarsi reddish, middle and posterior femora and tibiae brown *M. crassinoda*
24. Head, thorax, node, and postpetiole red or brownish red 25
Head, thorax, node, and postpetiole dark brown, sometimes dark reddish brown *M. simillima*
25. Gaster with first segment as broad as long; node twice as long as stalk, as long as broad, broadest behind, rounded in front, in profile as long as high, anterior face sloping backward, dorsum and posterior face uniformly convex *M. decipians*
Gaster with first segment one-fifth broader than long; node three times as long as stalk, one-fourth longer than broad, broadest at middle, sharp pointed in front, in profile one-fourth longer than high, anterior face vertical, dorsum and posterior face straight or feebly convex *M. longinodis*
26. Gaster entirely black 27
Gaster black with apical segments reddish yellow *M. regularis*

27. Gaster highly polished; pubescence on postpetiole and gaster very sparse; head narrowed behind 28
 Gaster less shining; pubescence on postpetiole and gaster abundant, forming a distinct covering particularly on apical segments; head not at all or very slightly narrowed behind; node three times as long as stalk *M. pyriformis*
28. Head, thorax, node, and postpetiole dull reddish brown; node approximately twice as long as stalk 29
 Head, thorax, node, and postpetiole bright blood red with a distinct metallic sheen; node three times as long as stalk *M. rubra*
29. Mandibles slightly shorter than head; node as long as broad, slightly more than twice as long as stalk, anterior face vertical *M. forficata*
 Mandibles slightly longer than head; node broader than long, slightly less than twice as long as stalk, anterior face sloping backward *M. brevinoda*

MYRMECIA DESERTORUM Wheeler

Figs. 36, 37

Myrmecia vindex Smith var. *desertorum* Wheeler, 1915, Trans. Roy. Soc. S. Aust. **39**: 805, ♀. Clark, 1925, Vict. Nat. **42**: 143, ♀♀♂.

Myrmecia nigriceps Mayr, Kirby, 1896, Results Horn Exped., Zool. Suppl. **1**: 206.

Myrmecia vindex Smith var. *nigriceps* Mayr, Forel, 1910, Rev. Suisse Zool. **18**: 3.

Myrmecia (Myrmecia) desertorum Wheeler, Clark, 1928, Vict. Nat. **45** (Suppl.): 39, ♀♀; 1930, Proc. Roy. Soc. Vict. **43**: 22. Wheeler, 1933, Colony-founding among Ants, p. 40.

Worker

Length: 18-26 mm.

Reddish yellow, head and gaster blackish brown, mandibles, labrum, and clypeus yellow.

Head irregularly striate-rugose in front, more punctate-rugose behind. Pronotum strongly arched striate, mesonotum finely and epinotum coarsely striate transversely, a rather deep and wide longitudinal impression on middle of epinotum. Node punctate-rugose. Postpetiole and gaster smooth and shining, very finely reticulate.

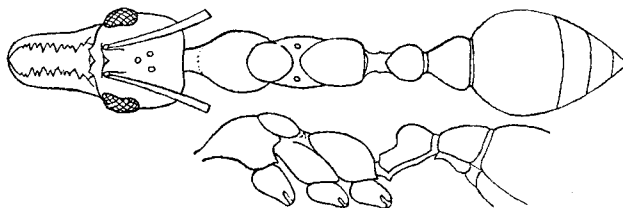


Fig. 36.—*Myrmecia desertorum* Wheeler. Dorsal and lateral view of worker.

Hair white, abundant throughout, short and erect, much longer on mandibles and terminal segments of gaster, very short and suberect on antennae and legs.

Pubescence white, very fine and adpressed, most abundant on clypeus, postpetiole, and gaster.

Head as long as broad, occipital angles broadly rounded, occipital border short and straight. Mandibles slightly shorter than head, outer border concave at middle, inner border with twelve teeth, third, fifth, seventh, and tenth larger and broader. Scapes exceed occipital border by barely one-third their length, first and third segments of funiculus equal length, second almost twice as long as first. Thorax three times longer than broad. Pronotum as long as broad, strongly convex above and on sides, mesonotum one-sixth longer than broad, convex, epinotum one-fourth longer than broad, dorsum flat with a longitudinal shallow impression in middle. Node as long as broad, convex in all directions, one-third longer than stalk in front; in profile as high as long, anterior face erect and sloping backward, rounded into convex dorsum, ventral spine very short and sharp. Postpetiole one-sixth broader than long, constriction wide and deep. First segment of gaster one-fifth broader than long, strongly convex.

Female (Dealated)

Length: 24-25 mm.

Colour as in worker but sculpture coarser and pilosity longer and more abundant.

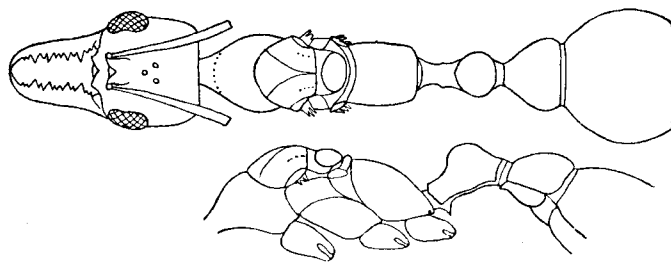


Fig. 37.—*Myrmecia desertorum* Wheeler. Dorsal and lateral view of dealated female.

Head square, angles rounded, mandibles shorter and broader. Scapes exceed occipital border by one-fourth their length, second segment of funiculus one-third longer than first. Thorax two and one-half times longer than broad; pronotum twice as broad as long, mesonotum with deeply impressed mayrian furrows, parapsidal furrows feebly indicated, epinotum as long as broad. Node as long as broad, very slightly longer than stalk in front; in profile as high as long, anterior face vertical, feebly convex, posterior face short, united with dorsum without trace of a boundary, ventral spine long, slender, and sharp. Postpetiole one-fifth broader than long, sides convex, constriction wide. First segment of gaster one-sixth broader than long.

Northern Territory: Alice Springs, Tennant's Creek, Ayers Rock, Illamurta, Bagot Creek, Reedy Hole, Burt Plain. *Western Australia*: Geraldton, Mt.

Magnet, Hammersley Range, Port Hedland, Strelley River. *South Australia*: Todmorden (type locality), Oodnadatta, Stuart's Range, Marree. *Queensland*: Cunnamulla, Winton. *New South Wales*: Bourke, Broken Hill, Tibooburra.

Type in Wheeler collection, Harvard.

Apparently confined to the dry interior, this is the only species so far recorded from the area.

MYRMECIA LUTEA Crawley

Fig. 38

Myrmecia lutea Crawley, 1922, Ann. Mag. Nat. Hist. (9) 9: 429, ♀.

Worker

Length: 17-24 mm.

Head and gaster brown, sometimes almost blackish brown, mandibles, antennae, thorax, node, postpetiole, and legs bright yellow, mandibles sometimes transparent yellow with teeth brownish.

Head longitudinally striate-rugose in front, irregularly and superficially punctate-rugose behind. Pronotum longitudinally arched striate, striae fine and regular, on some examples striae more transversely arched; mesonotum finely and superficially striate transversely, in some examples almost smooth; epinotum finely striate transversely. Node irregularly punctate-rugose. Postpetiole and gaster smooth.

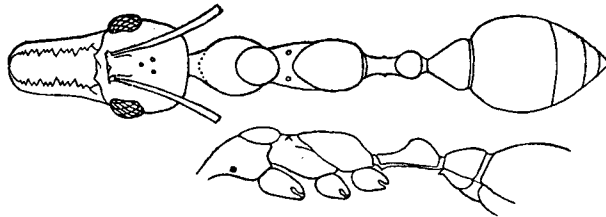


Fig. 38.—*Myrmecia lutea* Crawley. Dorsal and lateral view of worker.

Hair yellow, fine, more numerous on gaster than elsewhere, short and suberect on legs. Pubescence white, apparent only on clypeus and gaster, forming a very thin covering.

Head as long as broad, convex behind. Mandibles one-twelfth longer than head, outer border straight to apical third, inner border with twelve teeth, third, fifth, eighth, and eleventh large and broad. Scapes exceed occipital border by fully one-third their length, second segment of funiculus barely twice as long as first and almost one-third longer than second. Thorax three times longer than broad; pronotum one-third broader than long, mesonotum very slightly longer than broad, almost circular, constriction deep and very wide, epinotum one-third longer than broad. Node as long as broad, circular; in profile as high as long; posterior face and dorsum united in a curve, anterior face inclined

backwards, rounded into dorsum, stalk in front slightly longer than node, ventral spine short and broad. Postpetiole one-sixth broader than long, sides straight to posterior fourth, constriction deep and wide. First segment of gaster one-fifth broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Ludlow (type locality), Tambellup, Ravensthorpe.

Type in Crawley collection, University Museum, Oxford.

MYRMECIA FUSCIPES n.sp.

Fig. 39

Worker

Length: 20-21 mm.

Head and gaster black, antennae, thorax, node, and postpetiole yellowish red, mandibles and clypeus yellow, anterior legs light brown, middle and posterior pair dark brown, almost black on some examples.

Head finely and irregularly rugose. Pronotum longitudinally arched striate-rugose, mesonotum and node very finely and irregularly punctate-rugose, epinotum striate transversely. Postpetiole and gaster smooth.

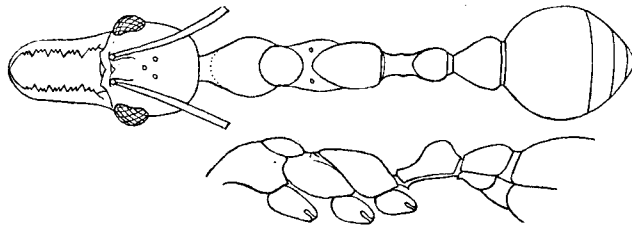


Fig. 39.—*Myrmecia fuscipes* n.sp. Dorsal and lateral view of worker.

Hair yellow, short and erect on head, thorax, and node, longer and more abundant on postpetiole and gaster. Pubescence white, very fine and adpressed, forming a fine but dense covering on postpetiole and gaster.

Head slightly longer than broad, occipital border short and straight, angles broadly rounded. Mandibles slightly longer than head, with fifteen teeth, third, sixth, ninth, and twelfth much larger and broader than others. Scapes exceed occipital border by one-third their length, first and third segments of funiculus equal length, one-third shorter than second. Thorax three times longer than broad; pronotum one-fifth broader than long, mesonotum one-sixth longer than broad, mesoepinotal constriction deep and wide, epinotum one-third longer

than broad, dorsum flattened transversely. Node one-ninth longer than broad, broadest just behind middle, stalk in front one-eighth shorter than node; in profile as high as long, almost dome-shaped, ventral spine long, thin, and sharp. Postpetiole as long as broad, basal half strongly convex, constriction deeply impressed. First segment of gaster one-fifth broader than long, strongly convex.

Female

Unknown.

Male

Unknown.

South Australia: Port Lincoln (type locality), Port Augusta, Tumby Bay (J. Clark, Dec. 1936). *Victoria*: Dimboola. *Western Australia*: Balladonia (Mrs. J. Crocker, 1934), Madura, Israelite Bay, Port Malcolm (T. Greaves, Dec. 1947).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

Except for the dark brown legs this species somewhat resembles *M. nigriceps*. The form and sculpture are quite different.

MYRMECIA FASCIATA n.sp.

Fig. 40

Worker

Length: 20-21 mm.

Head, thorax, node, and postpetiole red, a dark brown, almost black, transverse band across middle of head embracing posterior margin of eyes, mandibles yellow, darker at apex, antennae and legs light reddish yellow, gaster black.

Head finely, densely, and irregularly rugose. Thorax transversely striate, slightly arched on pronotum. Node irregularly rugose. Postpetiole and gaster smooth.

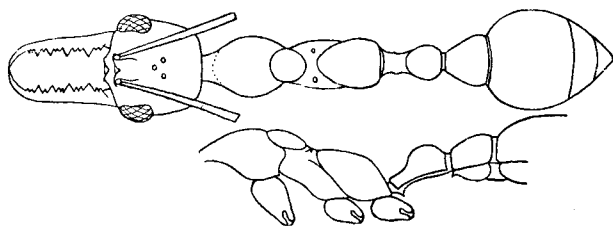


Fig. 40.—*Myrmecia fasciata* n.sp. Dorsal and lateral view of worker.

Hair yellow, erect, and abundant, much longer on mandible and apical segments of gaster, short and suberect on legs and apex of scapes. Pubescence white, forming a thin covering on postpetiole and gaster but not hiding sculpture.

Head as long as broad, narrowed behind, angles broadly rounded. Mandibles very slightly longer than head, with thirteen teeth, third, fifth, eighth, and

eleventh large and broad. Scapes exceed occipital border by one-third their length, second segment of funiculus barely twice as long as first, almost one-third longer than third. Thorax three times longer than broad, pronotum very slightly broader than long, mesonotum one-tenth longer than broad, mesoepinotal constriction deep and wide, epinotum one-third longer than broad. Node as long as broad, broadest behind, one-third longer than stalk in front; in profile slightly longer than high, dome-shaped above, ventral spine long, slender, and sharp. Postpetiole very slightly broader than long, constriction deep and narrow. First segment of gaster one-sixth broader than long.

Female

Unknown.

Male

Unknown.

New South Wales: Pilliga (W. W. Froggatt), Barraba (T. Greaves).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA NIGRICEPS Mayr

Figs. 41-43

Myrmecia nigriceps Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 725, ♀; 1876, J. Mus. Godeffroy **12**: 95, ♀.

Myrmecia vindex Smith var. *nigriceps* Mayr, Forel, 1907, Fauna Südwest. Austral. **1**: 264; 1910, Rev. Suisse Zool. **18**: 3, ♀ ♀.

Myrmecia (Myrmecia) vindex Smith var. *nigriceps* Mayr, Emery, 1911, Genera Insect. **118**: 19. Clark, 1925, Vict. Nat. **42**: 144.

Myrmecia (Myrmecia) nigriceps Mayr, Wheeler, 1933, Colony-founding among Ants, p. 38.

Worker

Length: 19-23 mm.

Head and gaster black, thorax, node, and postpetiole red or yellowish red, antennae, space between frontal carinae, and legs testaceous, almost yellow, mandibles and clypeus yellow.

Head finely striate-rugose, diverging outward behind. Pronotum transversely arched striate, mesonotum punctate-rugose, feebly striate-rugose transversely on

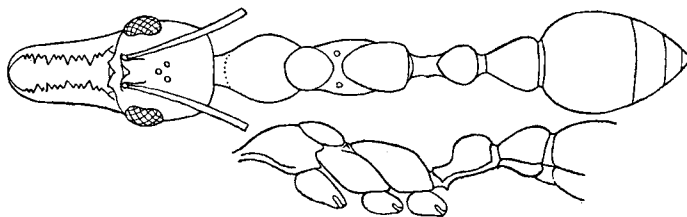


Fig. 41.—*Myrmecia nigriceps* Mayr. Dorsal and lateral view of worker.

some examples, epinotum transversely striate. Node punctate-rugose as on mesonotum. Postpetiole and gaster smooth.

Hair yellowish, short and erect on body, shorter and suberect on legs, none on antennae. Pubescence white, very fine and adpressed, most abundant on postpetiole and gaster.

Head as long as broad, almost square, with occipital angles rounded. Mandibles longer than head by their width at base, with thirteen teeth, third, fifth, eighth, and eleventh long and broad. Scapes exceed occipital border by one-third their length, second segment of funiculus one-third longer than first, third very slightly longer than first. Thorax three times longer than broad; pronotum as long as broad, convex in all directions, suture wide, mesonotum one-sixth longer than broad, constriction deep and wide, epinotum one-third longer than broad, feebly convex transversely. Node as long as broad, one and one-half times as long as stalk in front; in profile as high as long, dome-shaped, ventral spine short and sharp. Postpetiole as long as broad, constriction deep and wide. First segment of gaster one-eighth broader than long.

Female (Dealated)

Length: 24-26 mm.

Colour as in worker, sculpture coarser, pilosity more abundant.

Head broader, more square behind. Mandibles shorter and broader, as long as head. Scapes exceed occipital border by one-fourth their length. Mayrian

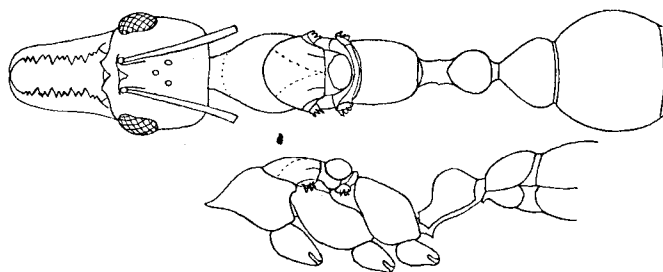


Fig. 42.—*Myrmecia nigriceps* Mayr. Dorsal and lateral view of dealated female.

furrows feebly impressed, parapsidal furrows sharply impressed; wings hyaline, with a yellowish tinge. Postpetiole one-fifth broader than long. First segment of gaster one-sixth broader than long.

Male

Length: 18-20 mm.

Colour as on worker. Sculpture finer, punctate-rugose and densely and finely reticulate, epinotum more striate-rugose transversely. Pilosity longer and more abundant.

Head as long as broad, sides convex, occipital border straight. Mandibles edentate. Scapes twice as long as width at apex, first segment of funiculus half as long as scape, second segment six times as long as first, third a fraction

shorter than second. Thorax twice as long as broad, pronotum five times broader than long, mesonotum slightly broader than long, mayrian furrows strongly impressed, parapsidal furrows weakly impressed; wings with a yellowish

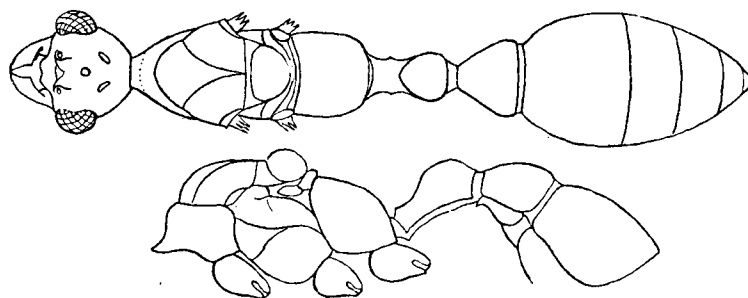


Fig. 43.—*Myrmecia nigriceps* Mayr. Dorsal and lateral view of male.

tinge; scutellum one-fifth broader than long, broadest in front, epinotum broader than long, convex in all directions. Node as long as broad, broadest behind, bluntly pointed in front. Postpetiole one-fifth broader than long. First segment of gaster fully one-fifth broader than long.

Neuholland (type locality). *Western Australia*: Perth, Bunbury, Busselton, Albany, Mt. Barker, Mundaring. *Victoria*: Grampians. *New South Wales*: Sydney, Como, Tharwa, Moulamein, Bourke. *Australian Capital Territory*: Canberra, Brindabella Range.

Viehmeyer* (1914) described a single specimen from Killalpaninna, South Australia, as the male of *M. nigriceps*. From his description and the size this is a male of a species of *Promyrmecia*.

Type in Mayr collection.

MYRMECIA GRATIOSA n.sp.

Fig. 44

Worker

Length: 21-23 mm.

Head, antennae, thorax, node, postpetiole, and legs reddish yellow, labrum, tibiae, and tarsi lighter, mandibles pale yellow, gaster black.

Head longitudinally striate in front, finely and irregularly rugose behind. Pronotum transversely and strongly arched striate, mesonotum and epinotum transversely striate, node almost smooth, with scattered punctures and traces of transverse striae in front. Postpetiole and gaster smooth and shining.

Hair short and erect, fine, abundant throughout. Pubescence yellow, confined to clypeus and extremity of gaster.

* *Arch. Naturgesch.* 79: 28.

Head slightly longer than broad, sides broadly rounded into occipital border. Mandibles very slightly longer than head, outer border feebly concave at middle, inner border with fourteen teeth, third, sixth, ninth, and twelfth much larger

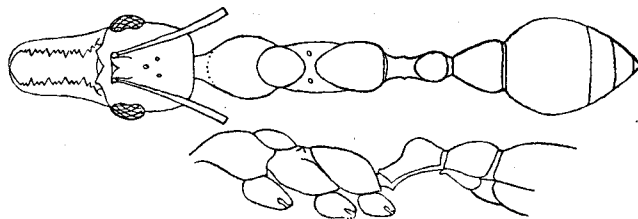


Fig. 44.—*Myrmecia gratiosa* n.sp. Dorsal and lateral view of worker.

than others. Scapes exceed occipital border by one-third their length, first and third segments of funiculus equal length, one-third shorter than second. Thorax three times longer than broad; pronotum one-fifth broader than long, with a shallow longitudinal depression in middle, mesonotum one-sixth longer than broad, epinotum one-fourth longer than broad, feebly convex transversely. Node very slightly longer than broad, almost circular, stalk in front slightly shorter than node; in profile as high as long, anterior face short and vertical, posterior face hardly defined, rounded into dorsum, ventral spine short and sharp. Post-petiole as long as broad. First segment of gaster very slightly broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Bending (C. A. Gardner), Emu Rock (F. Cadd).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

Distinguished from *M. vindex* Smith by the much brighter colour and the black shining gaster, and somewhat coarser sculpture. The node is much longer and more slender.

MYRMECIA VINDEK F. Smith

Figs. 45-48

Myrmecia vindex F. Smith, 1858, Cat. Hym. Brit. Mus. **6**: 144, ♀. Roger, 1861, Ent. Z. **5**: 34, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 725, ♀. Forel, 1907, Fauna Sudwest. Aust. **1**: 264, ♀♀.

Myrmecia (Myrmecia) vindex Smith, Emery, 1911, Genera Insect. **118**: 19, ♀♀. Crawley, 1922, Ent. Mon. Mag. **8**: 119, ♀. Clark, 1925, Vict. Nat. **42**: 143, ♀♀♂. Wheeler, 1933, Colony-founding among Ants, p. 36, ♀.

Worker

Length: 17-25 mm.

Head, thorax, node, postpetiole, and legs ferruginous, head sometimes darker, mandibles, clypeus, and labrum yellow, antennae and tarsi testaceous, gaster black or brownish black.

Head longitudinally striate-rugose diverging outward behind. Pronotum strongly arched striate, mesonotum, epinotum, and node transversely striate. Postpetiole and gaster smooth and shining.

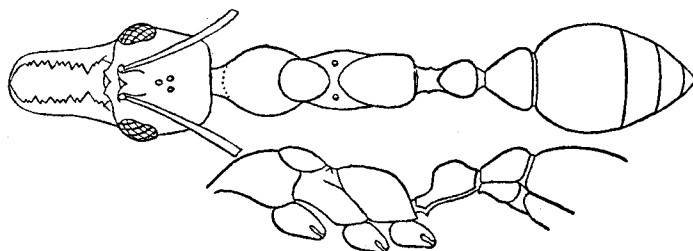


Fig. 45.—*Myrmecia vindex* F. Smith. Dorsal and lateral view of worker.

Hair yellow, short and scattered on head, thorax, and legs, longer and more abundant on terminal segments of gaster. Pubescence greyish, very fine, and abundant, longest on clypeus and apex of gaster.

Head as long as broad, sides strongly rounded, occipital border short and straight, sharply marginate below. Mandibles slender, slightly longer than head, outer border concave at middle, inner border with thirteen teeth, third, fifth, eighth, and tenth large and broad. Scapes exceed occipital border by one-third their length, first and third segments of funiculus equal length, shorter than second. Thorax three times as long as broad; pronotum one-sixth longer than broad, strongly convex, pro-mesonotal suture wide, mesonotum one-sixth longer than broad, convex in all directions, meso-epinotal suture deep and wide, epinotum one-third longer than broad, dorsum longitudinally impressed in middle. Node one-fifth longer than broad, broadest behind middle, bluntly pointed in front, twice as long as stalk in front; in profile as high as long, anterior and posterior faces short and vertical, rounded into convex dorsum. Postpetiole one-sixth broader than long, sides convex. First segment of gaster one-fifth broader than long, broader behind than in front.

Female (Dealated)

Length: 23-26.5 mm.

Colour as on worker. Sculpture coarser, more rugose, pronotum transversely, mesonotum and scutellum longitudinally striate-rugose. Pilosity and pubescence longer and more abundant.

Head slightly broader than long; mandibles as long as head. Scapes exceed occipital border by one-fourth their length. Pronotum twice as broad as long, mesonotum one-eighth broader than long, mayrian and parapsidal furrows

feebly impressed, wings hyaline, scutellum twice as long as broad. Node as long as broad. Postpetiole as long as broad. First segment of gaster slightly broader than long.

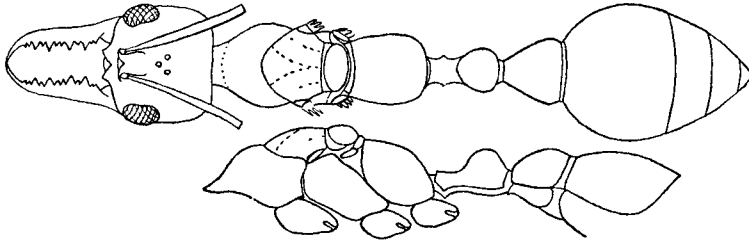


Fig. 46.—*Myrmecia vindex* F. Smith. Dorsal and lateral view of dealated female.

Female (Ergatoid)

Length: 22-24.5 mm.

Very similar to worker but differs in possessing rudimentary wing insertions and traces of a scutellum.

Head as long as broad, sides and occipital border feebly convex, angles broadly rounded. Mandibles as long as head, outer border concave. Scapes exceed occipital border by one-fourth their length. Pronotum almost one-third

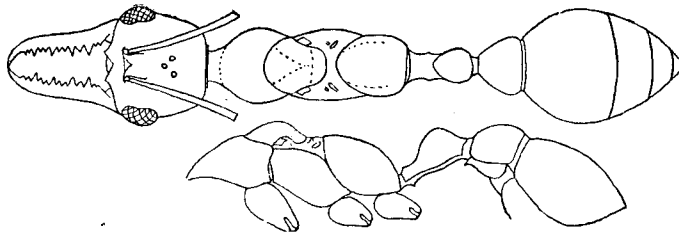


Fig. 47.—*Myrmecia vindex* F. Smith. Dorsal and lateral view of ergatoid female.

broader than long, mesonotum one-seventh broader than long, mayrian furrows indicated, wing insertions present but very small and rudimentary, scutellum present, appearing as posterior of mesonotum. Node one-fifth longer than broad. Postpetiole slightly broader than long.

Male

Length: 15.5-18 mm.

Yellowish red, last two segments and apical margins of first and second segments of gaster black, mandibles and clypeus yellow.

Head and pronotum very finely reticulate, mesonotum and scutellum striate-reticulate, epinotum finely striate transversely. Node finely and irregularly rugose. Postpetiole and gaster microscopically reticulate.

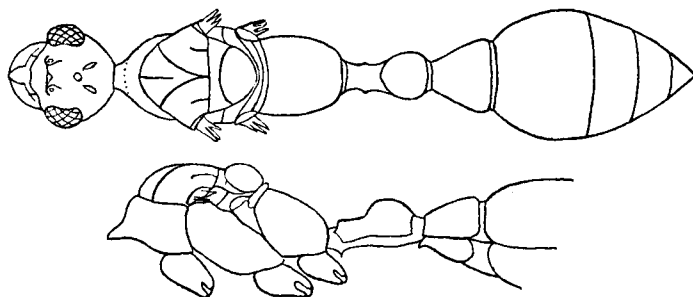


Fig. 48.—*Myrmecia vindex* F. Smith. Dorsal and lateral view of male.

Hair grey, short and erect, abundant throughout except on antennae, shorter and suberect on legs. Pubescence greyish, very fine and adpressed, abundant throughout except on antennae.

Head as long as broad, broadest in front, convex behind. Basal and terminal borders of mandibles equal length, angle sharp. Clypeus broad and convex, produced and rounded in front, feebly excised at middle. Scapes twice as long as first segment of funiculus, second segment almost six times longer than first. Thorax twice as long as broad. Wings hyaline. Pronotum short, crescent-shaped, almost seven times broader than long; mesonotum one-third broader than long, mayrian and parapsidal furrows sharply impressed, a central longitudinal carina on anterior half; scutellum one-third broader than long, strongly convex; epinotum very slightly broader than long, convex in all directions. Node as long as broad, almost circular, stalk in front one-fifth shorter than node. Postpetiole very slightly broader than long, constriction deep and wide. First segment of gaster one-third broader than long.

Western Australia: Widely distributed from Perth to Albany.

Type in British Museum.

MYRMECIA VINDEXT F. SMITH VAR. BASIRUFA FOREL

Myrmecia vindex Smith var. *basirufa* Forel, 1907, Fauna Sudwest. Aust. 1: 264, ♀.

Myrmecia (Myrmecia) vindex Smith var. *basirufa* Forel, Emery, 1911, Genera Insect. 118: 21. Wheeler, 1933, Colony-founding among Ants, p. 37.

Worker

Length: 17-23 mm.

Differs from *M. vindex* only in having base of first segment of gaster red instead of black. Red base very conspicuous on most examples, but hardly

noticeable on others from same nest; usually from one-fourth to three-fourths of base of segment red. Colour of head and thorax varies from red to brown as in *M. vindex*.

Female (Dealated)

Length: 20-24 mm.

Differs from female of *M. vindex* only by darker colour and red base of first gastric segment. Wings hyaline.

Male

Length: 20-22 mm.

Almost identical with male of *M. vindex*, but slightly darker throughout.

Western Australia: Subiaco (type locality), Perth, Ludlow, Busselton.

Type in Natural History Museum, Hamburg.

This variety appears to be confined to the strip of coastal limestone country occupied by the Tuart forests. The typical species also occurs abundantly in the same area.

MYRMECIA DIMIDIATA n.sp.

Fig. 49

Worker

Length: 23-25 mm.

Brownish red, antennae and legs lighter, terminal margins of segments of gaster brown, mandibles yellow.

Head irregularly rugose, coarser behind, pronotum transversely arched striate, mesonotum and epinotum transversely striate, epinotal declivity more strongly striate. Node striate-rugose circularly, stalk finely rugose. Postpetiole and gaster smooth, microscopically punctate.

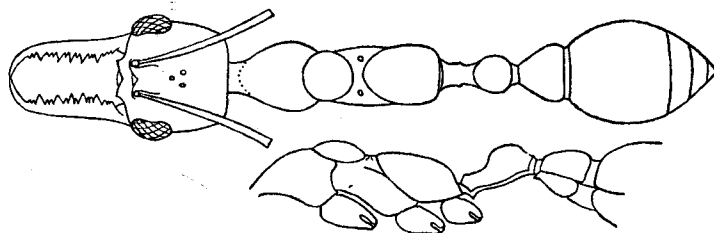


Fig. 49.—*Myrmecia dimidiata* n.sp. Dorsal and lateral view of worker.

Hair yellow, erect, abundant throughout, much longer and more abundant on apical segments of gaster, short and suberect on legs, none on antennae except on apical fourth of scapes. Pubescence white, very fine and adpressed, abundant, especially on postpetiole and gaster, forming a distinct covering but not hiding sculpture.

Head as long as broad, almost square, occipital angles broadly rounded. Mandibles longer than head by almost one-tenth their length, inner border with sixteen teeth, third, sixth, eighth, tenth, and thirteenth erect, much larger than others. Scapes exceed occipital border by barely one-third their length, second segment of funiculus twice as long as first, third one-third longer than first. Thorax three times as long as broad; pronotum as long as broad, mesonotum as long as broad, almost circular, epinotum one-fourth longer than broad, mesoepinotal constriction deep and wide. Node as long as broad, circular, stalk in front almost as long as node; in profile as high as long, dome-shaped, ventral spine long and slender. Postpetiole one-sixth broader than long, constriction deep and wide. First segment of gaster as long as broad.

Female

Unknown.

Male

Unknown.

Queensland: Stanthorpe (E. E. Sutton).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

The colour of this species is very similar to that of *M. vindex* var. *basirufa*.

MYRMECIA SUTTONI n.sp.

Figs. 50, 51

Worker

Length: 22-23 mm.

Head, thorax, node, postpetiole, and legs bright red, antennae yellowish red, mandibles yellow, gaster black.

Head coarsely striate-rugose longitudinally. Pronotum coarsely striate-rugose longitudinally arched; mesonotum more finely striate transversely; epinotum coarsely striate transversely. Node irregularly rugose, almost circularly rugose on some examples. Postpetiole and gaster smooth and shining.

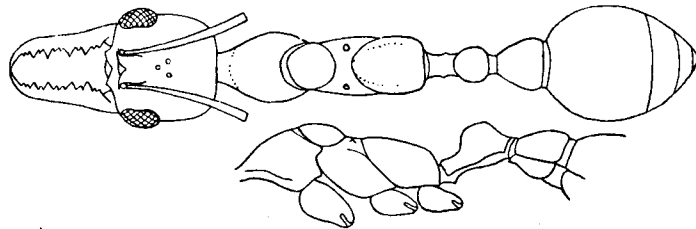


Fig. 50.—*Myrmecia suttoni* n.sp. Dorsal and lateral view of worker.

Hair yellowish, long and erect, very abundant on head and body, short and suberect on legs, none on antennae. Pubescence white, confined to clypeus.

Head a fraction longer than broad, occipital angles broadly rounded. Mandibles as long as head, with twelve teeth, third, fifth, eighth, and tenth large and broad, remainder small. Scapes exceed occipital border by almost one-fourth their length, first and third segments of funiculus equal length, one-third shorter than second. Thorax three times longer than broad; pronotum one-sixth broader than long, a wide, shallow constriction between pro-mesonotum; mesonotum circular, as long as broad, meso-epinotal constriction deep and wide; epinotum one-fourth longer than broad. Node as long as broad, circular, one-third longer than stalk in front; in profile as high as long, posterior face very short, rounded into convex dorsum, ventral spine long and sharp. Postpetiole very slightly broader than long, sides straight to posterior fourth, constriction wide but not deep. First segment of gaster one-tenth broader than long.

Female (Dealated)

Length: 24 mm.

Colour, sculpture, and pilosity as in worker. Head square, angles rounded. Scapes exceed occipital border by one-third their length. Mayrian furrows feebly indicated, parapsidal furrows not indicated.

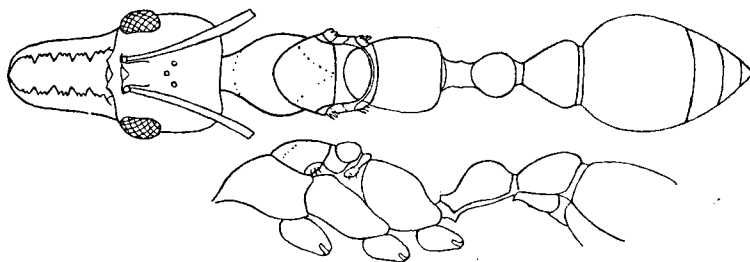


Fig. 51.—*Myrmecia suttoni* n.sp. Dorsal and lateral view of dealated female.

Male

Unknown.

Queensland: Fletcher (E. Sutton).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

The size and colour of this species are somewhat similar to *M. vindex* from Western Australia, but the sculpture is quite different.

MYRMECIA FULGIDA n.sp.

Fig. 52

Worker

Length: 24-26 mm.

Head, thorax, node, and postpetiole brownish red, antennae and legs lighter, gaster black, mandibles yellow.

Head coarsely punctate-rugose longitudinally, punctures shining at bottom. Pronotum coarsely striate-rugose, longitudinally arched on middle, transversely in front, mesonotum, epinotum, and node transversely rugose. Postpetiole and gaster smooth and shining.

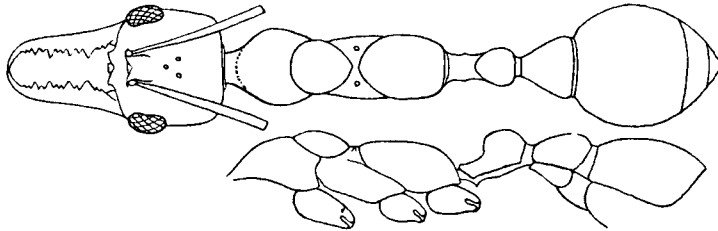


Fig. 52.—*Myrmecia fulgida* n.sp. Dorsal and lateral view of worker.

Hair yellow, short, erect, and abundant on head, thorax, node, and postpetiole, longer on gaster, shorter and finer on legs, very short and sparse on antennae. Pubescence hardly apparent except on clypeus.

Head as long as broad, sides and occipital border straight, angles broadly rounded. Mandibles as long as head, outer border feebly concave, inner border with thirteen teeth, third, fifth, eighth, and tenth long, broad, and sharp. Scapes exceed occipital border by one-third their length, first and third segments of funiculus equal length, one-fourth shorter than second. Thorax two and three-fourths longer than broad; pronotum one-fourth broader than long, mesonotum almost one-eighth longer than broad, convex in all directions, meso-epinotal constriction deep and wide, epinotum one-fourth longer than broad, broadest at middle. Node as long as broad, broadest behind middle; in profile slightly higher than long, dorsum convex and rounded into short posterior face, anterior face straight, sloping backward, as long as stalk in front, ventral spine long and slender. Postpetiole very slightly broader than long, constriction narrow. First segment of gaster broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Parker's Range (T. Greaves, Nov. 1947).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA FLAVICOMA Roger

Fig. 53

Myrmecia flavicoma Roger, 1861, Ent. Z. 5: 171, ♀.

Myrmecia (Myrmecia) flavicoma Roger, Emery, 1911, Genera Insect. 118: 20, ♀. Vieh-meyer, 1924, Ent. Mitt. 13: 221, ♀♀.

Worker

Length: 21-22 mm.

Head, thorax, node, and postpetiole red, mandibles yellow, clypeus, antennae, and legs reddish yellow, gaster black.

Head longitudinally rugose in front, irregularly rugose behind. Pronotum longitudinally arched striate-rugose, mesonotum transversely striate, epinotum transversely rugose, node circularly rugose. Postpetiole and gaster microscopically punctate.

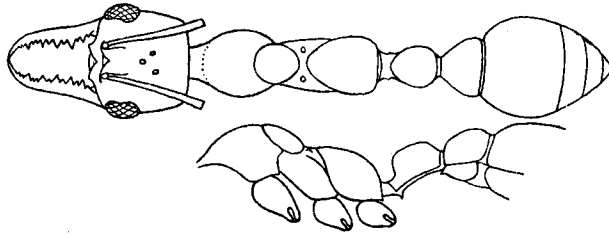


Fig. 53.—*Myrmecia flavicoma* Roger. Dorsal and lateral view of worker.

Hair yellow, long, erect and abundant throughout, shorter and finer on antennae and legs. Pubescence golden yellow, very fine and adpressed, forming a distinct covering on postpetiole and gaster but not hiding sculpture.

Head square, as long as broad, sides feebly convex, occipital border straight, angles rounded. Mandibles slightly shorter than head, outer border concave, inner border with twelve teeth, third, fifth, seventh, and ninth long, broad, and sharp. Scapes exceed occipital border by one-fifth their length. Thorax fully two and one-half times longer than broad; pronotum one-fifth broader than long, convex transversely, mesonotum as long as broad, broadest in front, epinotum one-fourth longer than broad. Node slightly longer than broad, egg-shaped, broadest behind; in profile longer than high, dorsum convex, rounded into short posterior face, anterior face straight, vertical, slightly longer than stalk in front, ventral spine short and broad. Postpetiole almost one-fourth broader than long, sides convex, constriction deep and wide. First segment of gaster one-fifth broader than long.

Australia (type locality). *Queensland*: Nanango, Beaudesert, Toowoomba, Emu Vale, Bunya Mts.

Type in K. Museum, Paris.

The large egg-shaped node and golden pilosity are conspicuous characters.

Viehmeyer described what he regarded as the female of *M. flavicoma*, from an unstated locality. His description is inadequate for the identification of any species and the female of *M. flavicoma*, like the male, remains unknown. Viehmeyer's description is quoted below:

“♀ (noch nicht beschrieben) fast ganz wie der ♂, aber mit Flügelansätzen, Mandibeln und Thorax ein wenig breiter, Skulptur des Pronotums mehr querbogig, die des kleinen Mesonotums quer, das kaum erkennbare winzige Skutellum unregelmässig gerunzelt.”

MYRMECIA FLAVICOMA Roger var. MINUSCULA Forel

Myrmecia flavicoma Roger var. *minuscula* Forel, 1915, Ark. Zool. 9: 8, ♀.

(After Forel.)

Worker

Length: 12.2-18.6 mm.

"Unterscheidet sich vom Arttypus, selbst bei den grössten Stücken, durch ihren nach hinten stärker verschmälerten Kopf, dessen Hinterrand viel konvexer und ziemlich undeutlich ist. Der Postpetiolus ist auch dunkler, braunrot; das Übrige aber gleich gefärbt. Die eigentümliche starke Pubescenz auf dem Hinterteil des Hinterleibes ist noch dichter und länger als beim Arttypus, viel rötlicher gefärbt. Sonst wie der Arttypus, aber kleiner.

Malanda, Cedar Creek (Queensland)."

Type in Natural History Museum, Stockholm.

MYRMECIA PAVIDA n.sp.

Fig. 54

Worker

Length: 19-22 mm.

Head and gaster black, thorax, node, postpetiole, and legs brown, antennae and tarsi red, mandibles and clypeus yellow.

Head irregularly and coarsely rugose. Pronotum transversely arched striate-rugose, mesonotum and epinotum transversely striate-rugose. Node irregularly punctate-rugose. Postpetiole and gaster microscopically punctate.

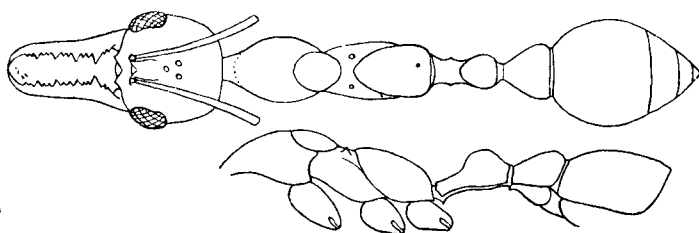


Fig. 54.—*Myrmecia pavidus* n.sp. Dorsal and lateral view of worker.

Hair yellow, short and erect, longer and more abundant on apical segments of gaster, short and suberect on legs and apex of scapes. Pubescence yellow, very fine and adpressed, forming a very thin covering on postpetiole and gaster.

Head as long as broad, convex behind eyes. Mandibles one-seventh longer than head, outer border concave, inner border with fourteen erect teeth, third, sixth, ninth, and twelfth long and broad, twelfth forming a distinct basal angle. Scapes exceed occipital border by one-third their length; first and third segments of funiculus equal length, one-third shorter than second segment. Thorax three times as long as broad; pronotum very slightly broader than long, mesonotum one-sixth longer than broad, epinotum one-third longer than broad. Node very

slightly longer than broad, broadest behind; in profile as high as long and slightly longer than stalk in front, ventral spine very short and sharp. Postpetiole slightly broader than long, sides convex. First segment of gaster one-ninth broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Mt. Barker (T. Greaves, Nov. 1947).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA ATRATA n.sp.

Fig. 55

Worker

Length: 19-20 mm.

Head, thorax, node, postpetiole, gaster, and femora black, apex of femora, middle and posterior tibiae brown, anterior tibiae and all tarsi reddish brown, mandibles yellow, clypeus and antennae reddish.

Head irregularly rugose, somewhat striate-rugose in front. Pronotum finely striate-rugose, longitudinally arched in middle, mesonotum and epinotum finely striate-rugose transversely. Node with obsolete transverse striae in front, irregularly rugose behind. Postpetiole and gaster smooth.

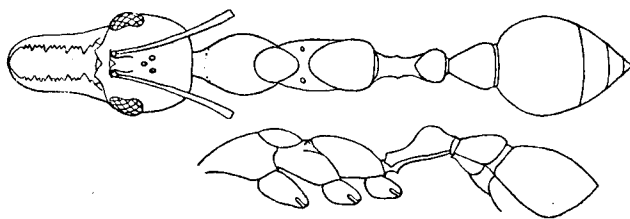


Fig. 55.—*Myrmecia atrata* n.sp. Dorsal and lateral view of worker.

Hair yellowish, short and erect on head and thorax, longer and more abundant on node, postpetiole, and gaster, short and suberect on legs. Pubescence white, very fine and adpressed, abundant on node, postpetiole, and gaster but not hiding sculpture.

Head as long as broad, occipital border and sides convex. Mandibles slightly longer than head, outer border feebly concave, inner border with fourteen teeth, third, sixth, tenth, and thirteenth much larger and broader than others, thirteenth forming a distinct basal angle. Scapes exceed occipital border by five-eighths their length. Second segment of funiculus one-third longer than first and one-sixth longer than third segment. Thorax three times longer than broad;

pronotum one-fifth broader than long, mesonotum one-fourth longer than broad, epinotum one-fourth longer than broad. Node as long as broad, circular; in profile as high as long, dome-shaped, slightly shorter than stalk in front, ventral spine short and sharp. Postpetiole as long as broad, sides almost straight. First segment of gaster broader than long.

Female

Unknown.

Male

Unknown.

Western Australia: Ravensthorpe (T. Greaves, Nov. 1947).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA ROWLANDI Forel

Fig. 56

Myrmecia tarsata Sm. subsp. *rowlandi* Forel, 1910, Rev. Suisse Zool. **18**: 4, ♀.

Myrmecia (*Myrmecia*) *tarsata* Sm. var. *rowlandi* Forel, Emery, 1911, Genera Insect. **118**: 20, ♀.

Myrmecia (*Myrmecia*) *tarsata* Sm. subsp. *rowlandi* Forel, Wheeler, 1933, Colony-founding among Ants, p. 46, ♀.

Worker

Length: 13-21 mm.

Head, thorax, node, postpetiole, and gaster black, legs brownish black, tarsi reddish brown, mandibles yellowish red, antennae red.

Head finely and longitudinally striate-rugose, diverging outward behind. Pronotum finely striate longitudinally, transverse on front, mesonotum, epinotum, and node finely striate-rugose transversely. Postpetiole and gaster microscopically punctate.

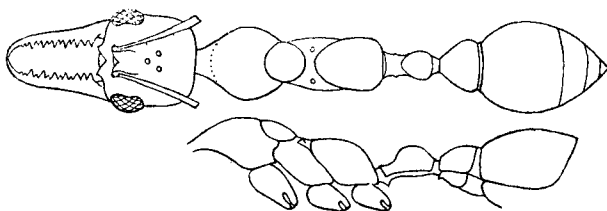


Fig. 56.—*Myrmecia rowlandi* Forel. Dorsal and lateral view of worker.

Hair yellow, short and erect on head and thorax, longer and more abundant on node, postpetiole, and gaster, finer and suberect on legs, none on antennae. Pubescence yellow, very fine and adpressed, long and abundant on postpetiole and gaster, forming a distinct covering not quite hiding sculpture.

Head almost one-tenth longer than broad, sides and occipital border straight, angles broadly rounded. Mandibles very slightly longer than head, outer border concave at middle, inner border with fifteen erect, sharp teeth, first two, fourth, and sixth smaller than remainder, except two or three on weakly defined basal border. Scapes exceed occipital border by fully their thickness, first and third segments of funiculus equal, one-third shorter than second. Thorax two and one-half times longer than broad; pronotum one-fourth broader than long, mesonotum circular, meso-epinotal constriction deep and wide, epinotum one-fifth longer than broad. Node one-ninth longer than broad, bluntly pointed in front; in profile barely as high as long, twice as long as stalk in front, anterior face short and vertical, dorsum convex to base of posterior face, ventral spine short and sharp. Postpetiole one-fourth broader than long, broadest at posterior third, constriction deep. First segment of gaster broader than long.

Female

Unknown.

Male

Unknown.

North Queensland: Kuranda (type locality), Cairns, Tully, Bellenden Ker.

Type in Forel collection, Natural History Museum, Geneva.

The differences in the head, mandibles, antennae, and node are too great to allow this species to be regarded as a subspecies of *M. tarsata*.

MYRMECIA FALLAX n.sp.

Fig. 57

Worker

Length: 15-17 mm.

Black, mesonotum and small area on pronotum brown, mandibles, antennae, anterior tibiae, and all tarsi reddish.

Head finely striate-rugose longitudinally, pronotum more coarsely striate-rugose, arched in front, almost longitudinal in middle, mesonotum finely striate

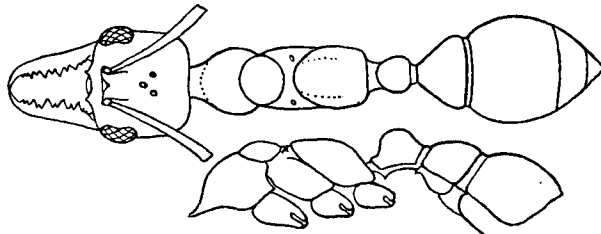


Fig. 57.—*Myrmecia fallax* n.sp. Dorsal and lateral view of worker.

transversely, almost obsolete on some examples, epinotum coarsely striate transversely. Node irregularly rugose. Postpetiole and gaster microscopically punctate.

Hair yellow, erect, abundant, short and suberect on legs, none on antennae. Pubescence white, very fine and adpressed on body and legs, longer, more abundant, and golden yellow on postpetiole and gaster, but not quite hiding sculpture.

Head as long as broad, sides and occipital border straight, angles broadly rounded. Mandibles shorter than head by their width at base, outer border concave, inner border with eleven teeth, third, fifth, seventh, and ninth long and broad, abruptly bent from ninth to base. Scapes exceeding occipital border by one-fourth their length, first and third segments of funiculus equal, one-fourth shorter than second. Thorax two and two-thirds longer than broad; pronotum one-third broader than long, mesonotum circular, as long as broad, mesoepinotal constriction deep and wide, epinotum one-third longer than broad, a distinct longitudinal groove on middle. Node as long as broad, broadest behind, convex in all directions; in profile slightly higher than long, dorsum convex and rounded into posterior face, anterior face straight, longer than stalk in front, ventral spine slender and sharp. Postpetiole one-fourth broader than long, sides convex, constriction deep. First segment of gaster one-fifth broader than long.

Female

Unknown.

Male

Unknown.

Victoria: Kerrie (J. E. Dixon).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA MURINA n.sp.

Figs. 58-60

Worker

Length: 18-20 mm.

Black, mandibles, labrum, antennae, anterior tibiae, and all tarsi yellow or reddish yellow.

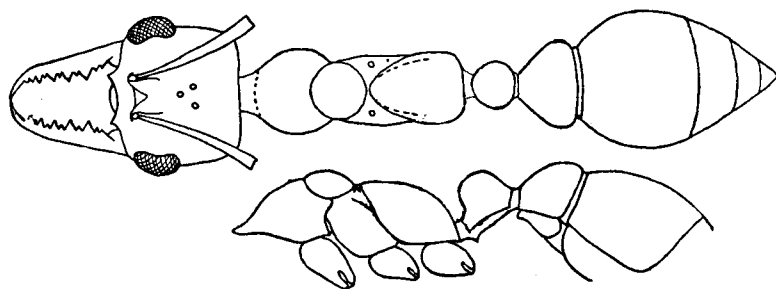


Fig. 58.—*Myrmecia murina* n.sp. Dorsal and lateral view of worker.

Head finely striate-rugose, diverging outward. Pronotum coarsely and transversely arched rugose, mesonotum and epinotum more finely striate transversely. Node circularly rugose, postpetiole and gaster very finely and densely punctate.

Hair yellow, erect, abundant, longer on gaster, none on scapes, very short and suberect on legs. Pubescence yellowish brown, very fine and adpressed, abundant throughout, particularly on postpetiole and gaster forming a dense covering hiding sculpture.

Head a fraction broader than long, sides convex, occipital border straight, angles rounded. Mandibles one-eighth shorter than head, outer border straight, inner border with eleven teeth, third, fifth, seventh, and ninth large and broad. Scapes exceed occipital border by one-fifth their length, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax fully two and one-half times longer than broad; pronotum one-third broader than long, mesonotum circular, as long as broad, convex in all directions. Meso-epinotal constriction deep and narrow, epinotum one-third longer than broad, convex transversely. Node as long as broad, circular; in profile slightly higher than long, dorsum convex, anterior face straight, vertical, longer than stalk in front, posterior face short, rounded into dorsum, ventral spine short, broad, and sharp. Postpetiole almost one-third broader than long, sides convex, constriction deep and narrow, first segment of gaster one-sixth broader than long.

Female (Subapterous)

Length: 22 mm.

Similar to worker but larger and more robust. Pronotum one-third broader than long, mesonotum one-fourth broader than long, scutellum twice as broad as long. Wing buds present, but very rudimentary.

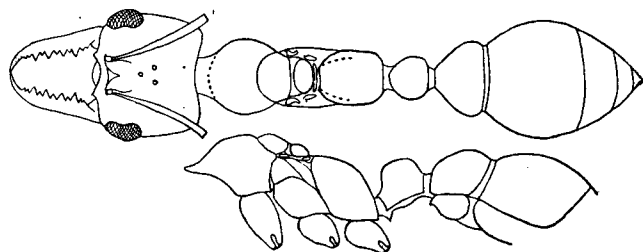


Fig. 59.—*Myrmecia murina* n.sp. Dorsal and lateral view of subapterous female.

Male

Length: 13-15 mm.

Brownish black, mandibles, basal half of antennae, anterior and middle tibiae, and all tarsi yellow.

Hair yellow, very long and fine, abundant throughout. Pubescence very fine, adpressed, abundant but not hiding sculpture.

Head, thorax, node, postpetiole, and gaster finely and densely reticulate-punctate, with numerous larger piligerous punctures.

Head very slightly broader than long, sides strongly convex, occipital border short and straight. Mandibles short, inner border with one tooth in middle. Scapes short, extending back to middle of eye, second segment of funiculus six times longer than first, third very slightly shorter than second. Thorax barely

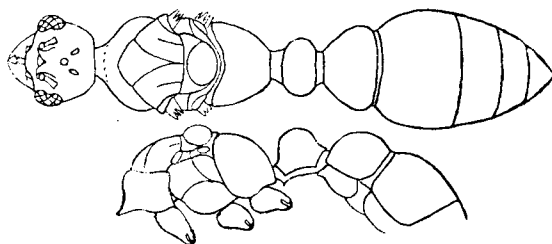


Fig. 60.—*Myrmecia murina* n.sp. Dorsal and lateral view of male.

twice as long as broad; pronotum seven times broader than long, semicircular, mesonotum one-fourth broader than long, mayrian furrows feebly impressed, parapsidal furrows sharply impressed, scutellum one-fourth broader than long, oval, strongly convex in all directions, epinotum one-third broader than long, convex. Node almost twice as broad as long, strongly convex in all directions; in profile slightly higher than long, highest in front, dorsum convex, anterior and posterior faces short, rounded into dorsum, ventral spine very small, short, and directed forward. Postpetiole one-third broader than long, strongly convex in all directions, constriction deep but not wide. First segment of gaster one-third broader than long, strongly convex.

Victoria: Belgrave (type locality ♀ ♀ ♂), Croydon, Mansfield (J. Clark, Jan. 1933), Warburton, Mt. Buffalo. *New South Wales*: Batlow, Nimmitabel (T. Greaves). *Australian Capital Territory*: Blundell's, Lee's Springs (T. Greaves).

Holotype worker and male in Division of Entomology Museum, C.S.I.R.O., Canberra.

In the type series one male specimen has indications of longitudinal rugae on the mesonotum and more faintly of transverse striae on the epinotum.

MYRMECIA PULCHRA Clark

Figs. 61, 62

Myrmecia pulchra Clark, 1929, Vict. Nat. 46: 119, 3 figs., ♀ ♀.

Worker

Length: 18-20 mm.

Head and gaster black, thorax, node, and postpetiole red, mandibles, clypeus, antennae, anterior legs, and all tarsi testaceous, coxae, femora, and tibiae of middle and posterior legs brown, joints lighter.

Head longitudinally striate-rugose, more punctate-rugose behind. Pronotum longitudinally arched striate-rugose, mesonotum and epinotum transversely rugose. Node circularly rugose, postpetiole and gaster microscopically punctate.

Hair yellow, long and erect, abundant throughout, shorter and suberect on legs. Pubescence yellow, very fine and adpressed, forming a distinct covering on postpetiole and gaster but not hiding sculpture.

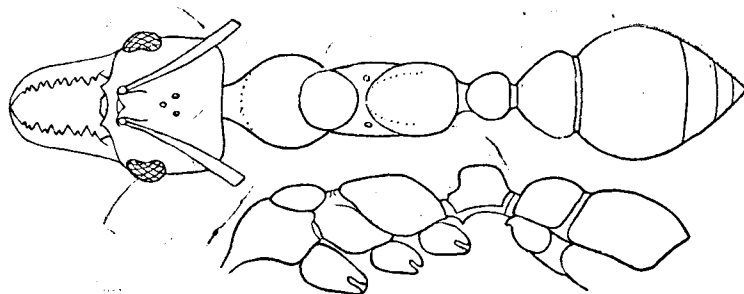


Fig. 61.—*Myrmecia pulchra* Clark. Dorsal and lateral view of worker.

Head slightly broader than long, sides and occipital border straight, angles broadly rounded. Mandibles shorter than head, outer border feebly concave, inner border with eleven teeth, third, fifth, seventh, and ninth larger and broader than remainder. Scapes exceeding occipital border by one-fifth their length, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax two and one-half times longer than broad; pronotum one-third broader than long, feebly convex transversely, mesonotum circular, as long as broad, convex in all directions, meso-epinotal constriction deep and wide, epinotum one-third longer than broad. Node slightly broader behind than long, bluntly pointed in front; in profile higher than long, anterior face straight, longer than stalk in front, dorsum feebly convex and broadly rounded into posterior face, ventral spine short and sharp. Postpetiole one-third broader than long, sides convex, constriction deep and narrow. First segment of gaster one-fifth broader than long.

Female (Dealated)

Length: 20-22 mm.

Similar to worker but larger and more robust; all wing sclerites developed.

Female (Subapterous)

Length: 20-22 mm.

Colour and pilosity as on worker. Sculpture coarser. Head divergingly striate-rugose, almost irregularly rugose behind. Pronotum transversely arched rugose, mesonotum, scutellum, and node irregularly rugose, epinotum transversely striate-rugose.

Head broader than long, sides and occipital border straight, angles broadly rounded. Mandibles slightly shorter than head, outer border straight. Scapes exceed occipital border by their thickness at apex. Pronotum twice as broad as long. Mesonotum one-sixth broader than long. Scutellum twice as broad

as long, wing buds present but not developed; epinotum as long as broad. Node one-fifth broader than long, broadest behind. Postpetiole almost one-third broader than long. First segment of gaster one-sixth broader than long.

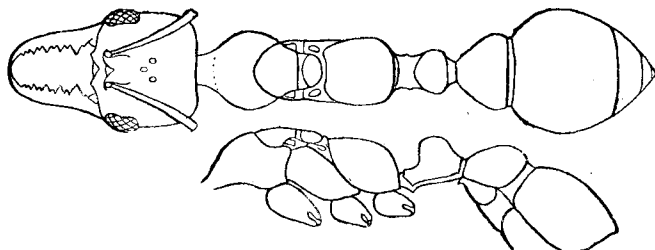


Fig. 62.—*Myrmecia pulchra* Clark. Dorsal and lateral view of subapterous female.

Male

Unknown.

Victoria: Cann River (type locality), Walhalla, Grampians (J. Clark).

Holotype worker in National Museum, Melbourne.

MYRMECIA ESURIENS Fabricius

Figs. 63-65

Myrmecia esuriens Fabr., 1804, Syst. Piez. 2: 424, ♀. Mayr, 1862, Verh. zool.-bot. Ges.

Wien 9: 727, ♀. Clark, 1934, Mem. Nat. Mus. Melbourne 8: 16, ♀♀♂.

Myrmecia tasmaniensis Smith, 1858, Cat. Hym. Brit. Mus. 6: 147, ♀.

Myrmecia walkeri Forel, 1893, Ann. Soc. Ent. Belg. 37: 456, ♀.

Myrmecia (Myrmecia) esuriens Fabr., Emery, 1911, Genera Insect. 118: 20, ♀. Clark, 1934, Mem. Nat. Mus. Melbourne 8: 16, ♀♀♂.

Worker

Length: 14-18 mm.

Black, mandibles, labrum, antennae, legs, postpetiole, and apical segments of gaster ferruginous.

Head longitudinally striate-rugose. Pronotum transversely arched rugose, coarser than on head, mesonotum and epinotum transversely rugose. Node coarsely and irregularly rugose. Postpetiole and gaster very finely and densely punctate, postpetiole with traces of large, shallow punctures.

Hair yellow, short and erect on head and thorax, longer and more abundant on gaster, very fine, short, and suberect on legs, none on scapes. Pubescence yellow, very fine and adpressed, abundant throughout, forming a distinct covering on postpetiole and gaster.

Head as long as broad, occipital border short and straight, sides convex, angles broadly rounded. Mandibles slightly shorter than head, outer border feebly concave, inner border with eleven teeth, third, fifth, seventh, and ninth larger and broader than others, abruptly reduced from fourth large tooth to base. Scapes exceed occipital border by one-seventh their length, second segment of

funiculus one-fifth longer than first, third one-fourth shorter than first. Thorax two and one-half times longer than broad; pronotum one-third broader than long, sides and front strongly convex, dorsum flatly convex transversely;

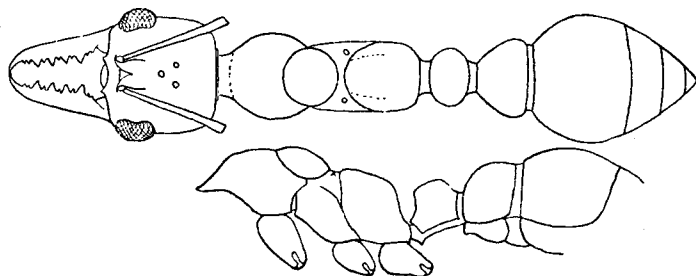


Fig. 63.—*Myrmecia esuriens* Fabr. Dorsal and lateral view of worker.

mesonotum as long as broad, circular, meso-epinotal constriction deep and wide, epinotum very slightly longer than broad. Node one-third broader than long, oval; in profile higher than long, highest in front, dorsum convex, anterior face straight, vertical, slightly higher than length of stalk in front, posterior face short, rounded into dorsum, ventral spine short and sharp. Postpetiole one-third broader than long, strongly convex in all directions, constriction deep and wide. First segment of gaster one-fourth broader than long.

Female (Ergatoid)

Length: 22-24 mm.

Similar to worker but larger and more robust, sculpture coarser. Scapes slightly shorter. Scutellum very small and impressed on posterior margin of

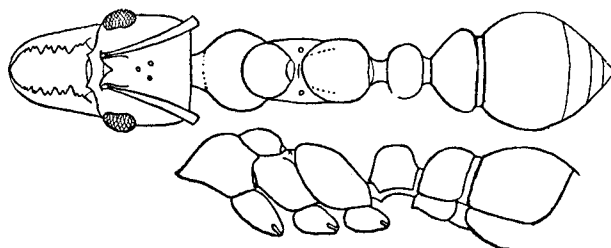


Fig. 64.—*Myrmecia esuriens* Fabr. Dorsal and lateral view of ergatoid female.

mesonotum, on a few females scutellum very faintly indicated and easily overlooked.

Male

Length: 16 mm.

Black, mandibles, labrum, antennae, legs, petiole, postpetiole, first and last segments of gaster ferruginous.

Head longitudinally rugose, thorax and node coarsely and irregularly punctate, almost rugose on some examples. Epinotum more finely so. Postpetiole and gaster very finely and densely punctate.

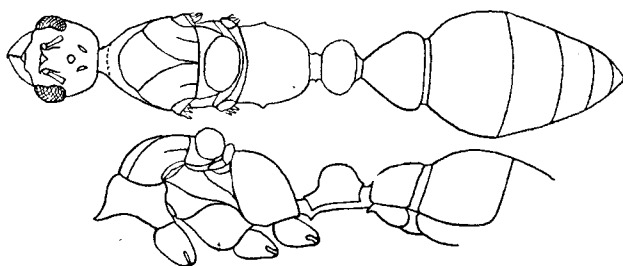


Fig. 65.—*Myrmecia esuriens* Fabr. Dorsal and lateral view of male.

Hair yellow, erect, rather long and abundant throughout, very sparse, short, and suberect on legs. Pubescence very fine and adpressed, particularly on gaster.

Head slightly broader than long, convex behind and on sides, almost semi-circular. Mandibles small, with one tooth on middle of inner border. Scapes reach posterior margin of eye, second segment of funiculus six times longer than first, remainder subequal to apical. Thorax two and one-third broader than long; pronotum six times broader than long, strongly convex, mesonotum as long as broad, mayrian furrows strongly impressed, parapsidal furrows lightly defined, scutellum one-fourth broader than long, strongly convex in all directions, epinotum one-third broader than long, strongly convex. Node oval, one-third broader than long; in profile as high as long, anterior face straight, vertical, as long as stalk in front, dorsum convex, rounded into anterior and posterior faces, ventral spine short, broad, and sharp. Postpetiole almost one-third broader than long, strongly convex at posterior third, constriction deep and wide. First segment of gaster one and one-half times broader than long, strongly convex.

Tasmania: Hobart, Mt. Wellington, National Park, Frankston, Waratah.

MYRMECIA DECIPIANS n.sp.

Fig. 66

Worker

Length: 21-23 mm.

Mandibles, scapes, head, thorax, node, postpetiole, and legs blood red, clypeus, funiculus, and tarsi lighter red, gaster black.

Head striate-rugose in front, diverging outward, punctate-rugose behind. Pronotum longitudinally striate-rugose in middle, diverging outward behind, mesonotum and epinotum more coarsely striate-rugose transversely. Node transversely arched striate-rugose. Postpetiole and gaster smooth.

Hair yellow, erect, long and abundant throughout, short and suberect on legs. Pubescence grey, very fine and adpressed on head, thorax, and node, long and abundant on postpetiole and gaster but not hiding sculpture.

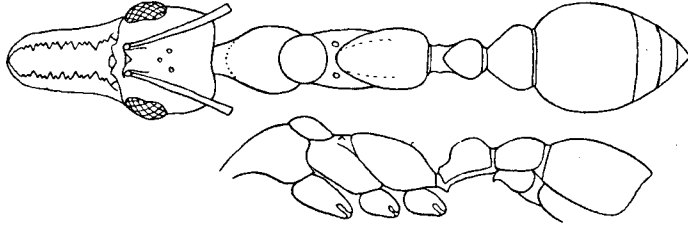


Fig. 66.—*Myrmecia decipians* n.sp. Dorsal and lateral view of worker.

Head very slightly broader than long, sides feebly convex, occipital border concave, angles broadly rounded. Mandibles longer than head, outer border concave, inner border with fourteen teeth, third, sixth, seventh, ninth, and twelfth large, sharp, and erect, remainder small, twelfth forming a strong basal angle. Scapes exceed occipital border by one-fifth their length, first and third segments equal length, one-fourth shorter than second. Thorax three times longer than broad; pronotum one-fifth broader than long, mesonotum as long as broad, constriction deep and wide, epinotum one-third longer than broad. Node as long as broad, broadest behind; in profile as high as long, twice as long as stalk in front, anterior face straight, sloping backward, posterior face and dorsum united in a continuous convexity, ventral spine long and slender, sharp. Postpetiole almost one-third broader than long, sides straight to posterior fourth, constriction deep. First segment of gaster broader than long.

Female

Unknown.

Male

Unknown.

New South Wales: Quirindi (C. V. Morissett).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

In general appearance this species is similar to *M. gigas*, but it is distinguished by the mandibles, head, and node.

MYRMECIA LONGINODIS n.sp.

Fig. 67

Worker

Length: 19-24 mm.

Mandibles, head, thorax, node, and postpetiole bright yellowish red, clypeus and tarsi yellowish, antennae and legs reddish yellow, gaster black.

Head finely and irregularly striate-rugose, striae well defined between frontal carinae and on forehead, front of face finely and densely reticulate, not rugose. Pronotum longitudinally arched striate in middle, transverse on front, mesonotum and epinotum more coarsely striate transversely. Node almost smooth but with large obsolete rugae and punctures. Postpetiole and gaster smooth and shining, microscopically punctate.

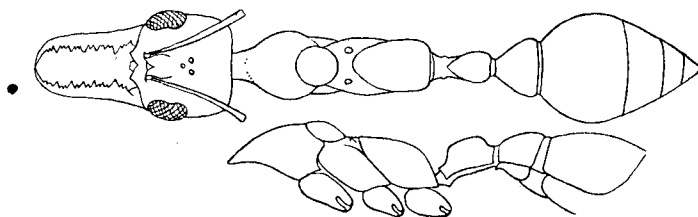


Fig. 67.—*Myrmecia longinodis* n.sp. Dorsal and lateral view of worker.

Hair whitish, short and erect on head and thorax, longer and more abundant on node, postpetiole, and gaster, short and suberect on legs, sparse on antennae, confined to apex of scapes. Pubescence white, very fine and adpressed, forming a distinct covering on node, postpetiole, and gaster but not hiding sculpture.

Head as long as broad, sides feebly convex, occipital border straight, angles rounded. Mandibles slightly longer than head, outer border concave, inner border with sixteen teeth, third, sixth, eighth, tenth, and thirteenth long, broad and erect. Scapes exceed occipital border by almost one-fifth their length, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax three times longer than broad; pronotum one-fifth broader than long, mesonotum very slightly longer than broad, epinotum one-third longer than broad. Node almost one-fourth longer than broad, broadest at middle, sharp pointed in front, sides convex; in profile almost one-fourth longer than high and three times as long as stalk in front, anterior face vertical, dorsum straight or very feebly convex, ventral spine slender and sharp. Postpetiole one-fourth broader than long, constriction deep and wide. First segment of gaster one-fifth broader than long.

Female

Unknown.

Male

Unknown.

New South Wales: Kiama (F. A. Cudmore).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

MYRMECIA CRASSINODA Clark

Myrmecia crassinoda Clark, 1934, Mem. Nat. Mus. Melbourne 8: 50, pl. 4, fig. 2, ♂ ♀.

Worker

Length: 16-20 mm.

Dark red, almost brown, gaster black, middle of forehead between frontal carinae and ocelli black, size of area varying in individuals, mandibles and clypeus castaneous, antennae, anterior legs, and all tarsi ferruginous, middle and posterior femora and tibiae brown.

Mandibles, postpetiole, and gaster shining. Head strongly striate, diverging outward behind. Pronotum longitudinally arched striate, transversely on a few examples. Mesonotum and epinotum transversely striate. Node circularly rugose.

Hair yellowish, long and erect, abundant throughout, short and suberect on legs. Pubescence yellow, very fine and adpressed, longer and coarser on clypeus and apical segments of gaster than elsewhere.

Head as long as broad, sides parallel, occipital border straight, angles rounded. Mandibles barely as long as head, outer border feebly concave, inner border with fourteen teeth, third, seventh, ninth, and eleventh large, reduced from eleventh to base. Scapes exceeding occipital border by one-fifth their length, second segment of funiculus very slightly longer than first, third shorter than first. Thorax two and three-fourths longer than broad; pronotum broader than long, slightly flattened above; mesonotum circular, convex above; epinotum longer than broad, convex laterally, with indications of a longitudinal median groove, in profile dorsum almost flat, declivity short and convex. Node as long as broad, broader behind than in front; in profile higher than long, fully twice as long as stalk in front, anterior and posterior faces vertical, dorsum almost flat, angles rounded. Postpetiole broader than long, convex. First segment of gaster much broader than long.

Female (Subapterous)

Length: 21 mm.

Slightly larger and darker than worker; sculpture coarser. Pilosity longer and more abundant. Pronotum similar; mesonotum somewhat similar but with a depression at each side in front; scutellum small but distinct. Wing pads present but no trace of wings. Node broader than long. In other respects similar to worker.

Male

Unknown.

Victoria: Gellibrand (type locality).

Holotype worker in National Museum, Melbourne.

MYRMECIA SIMILLIMA F. Smith

Figs. 68, 69

Myrmecia simillima F. Smith, 1858, Cat. Brit. Mus. 6: 144.

Myrmecia affinis Mayr, 1862, Verh. zool.-bot. Ges. Wien 12: 725, 729.

Myrmecia forficata Fab. subsp. *simillima* Smith, Forel, 1907, Fauna Sudwest Aust. 1: 265.

Myrmecia (*Myrmecia*) *forficata* Fabr. subsp. *simillima* Smith, Emery, 1911, *Genera Insect.* **118**: 20.

Myrmecia (*Myrmecia*) *simillima* Smith, Clark, 1928, *Vict. Nat.* **45**: 39. Wheeler, 1933, *Colony-founding among Ants*, p. 34. Clark, 1934, *Mem. Nat. Mus. Melbourne* **8**: 51.

Worker

Length: 19-23 mm.

Head, thorax, node, and postpetiole brown, gaster black, mandibles, clypeus, scapes, and legs reddish, funiculus and tarsi yellowish red.

Head longitudinally rugose, rugae diverging outward behind. Pronotum longitudinally arched striate-rugose, mesonotum and epinotum transversely striate-rugose. Node irregularly rugose with a more or less transverse direction. Postpetiole and gaster microscopically punctate.

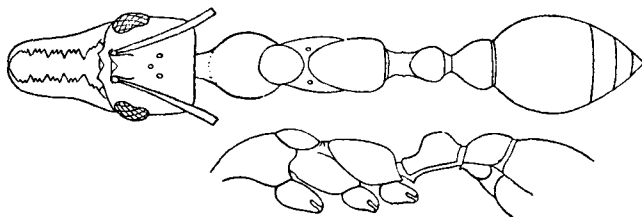


Fig. 68.—*Myrmecia simillima* F. Smith. Dorsal and lateral view of worker.

Hair greyish, erect, short and abundant throughout but longer on apical segments of gaster, very short and suberect on antennae and legs. Pubescence greyish, very fine and adpressed, abundant throughout, forming a distinct covering on postpetiole and gaster but not hiding sculpture.

Head as long as broad, sides and occipital border straight, angles broadly rounded. Mandibles just a fraction longer than head, outer border concave, inner border with fourteen teeth, third, sixth, ninth, and twelfth large and broad, twelfth forming a strong basal angle. Scapes exceed occipital border almost one-fourth their length, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax two and three-fourths longer than broad; pronotum one-fourth broader than long, mesonotum one-sixth longer than broad, epinotum one-third longer than broad. Node fully as long as broad, bluntly rounded in front, broadest behind; in profile as high as long, twice as long as stalk in front, anterior face straight, sloping backward above, sharply rounded into dorsum, almost angular, posterior face and dorsum united in a convexity, ventral spine sharp. Postpetiole one-sixth broader than long, sides convex. First segment of gaster as broad as long.

Female (Dealated)

Length: 22-24 mm.

Colour and pilosity similar to that of worker, sculpture coarser, longitudinally striate-rugose on mesonotum and scutellum, node transversely striate-rugose.

Head slightly broader than long. Mandibles shorter than head. Scapes exceed occipital border by one-fifth their length. Mesonotum with feebly defined mayrian furrows. Node slightly broader than long. Postpetiole fully one-fourth broader than long. First segment of gaster slightly broader than long.

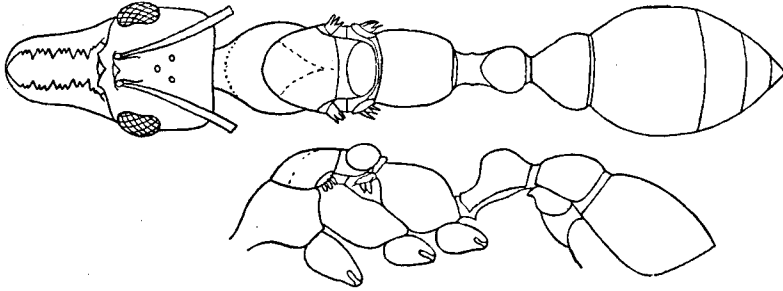


Fig. 69.—*Myrmecia simillima* F. Smith. Dorsal and lateral view of dealated female.

Male

Unknown.

Australia (type locality). *Victoria*: Ballarat, Macedon, Millgrove, Gellibrand. *New South Wales*: Cambewarra. *South Australia*: Port Lincoln.

Type in British Museum.

MYRMECIA REGULARIS Crawley

Figs. 70, 71

Myrmecia regularis Crawley, 1925, Ann. Mag. Nat. Hist. 16: 579, ♀. Wheeler, 1933, Colony-founding among Ants, p. 25, ♀♀.

Myrmecia lucida (not Forel) Clark, 1927, Vict. Nat. 44: 34, ♀♀♂.

Worker

Length: 14-20 mm.

Bright brownish red, scapes and legs brown, gaster black, apical margins of segments reddish yellow.

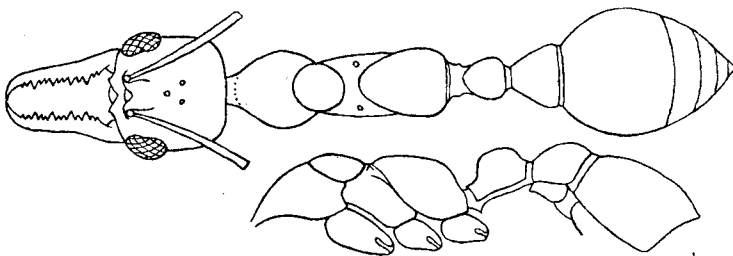


Fig. 70.—*Myrmecia regularis* Crawley. Dorsal and lateral view of worker.

Head finely striate-rugose, longitudinally in middle, diverging outward at sides. Pronotum transversely arched striate-rugose, mesonotum and epinotum trans-

versely striate-rugose. Node transversely arched striate-rugose interspersed with large shallow punctures. Postpetiole and gaster microscopically reticulate.

Hair yellow, moderately long, erect, abundant throughout, shorter and sub-erect on legs, none on antennae. Pubescence very fine, confined to clypeus.

Head as long as broad, occipital border straight, sides convex, angles broadly rounded. Mandibles as long as head, concave at middle, inner border with thirteen teeth, third, sixth, ninth, and eleventh large and erect, eleventh forming a feeble basal angle. Scapes exceed occipital border by one-fourth their length, first and third segments of funiculus equal length, one-third shorter than second. Thorax two and three-fourths longer than broad; pronotum one-fifth broader than long, mesonotum very slightly longer than broad, almost circular, constriction deep and wide, epinotum one-fifth longer than broad. Node as long as broad, broadest behind, bluntly pointed in front, dorsum feebly convex; anterior and posterior faces straight and erect, rounded into dorsum, ventral spine slender and sharp. Postpetiole one-sixth broader than long, sides feebly convex, constriction deep. First segment of gaster slightly broader than long.

Female (Subapterous)

Length: 18-20 mm.

Colour, sculpture, and pilosity as on worker.

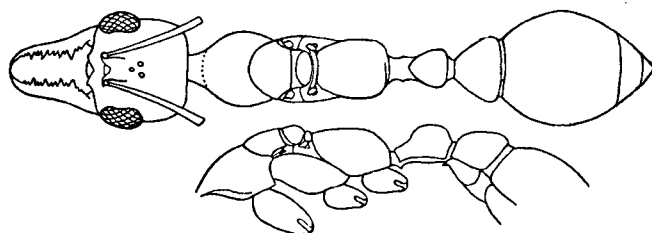


Fig. 71.—*Myrmecia regularis* Crawley. Dorsal and lateral view of subapterous female.

Head as long as broad, occipital border straight, angles broadly rounded. Mandibles slightly shorter than head, outer border concave, fourth large tooth forming a strong angle at basal fourth. Scapes exceed occipital border by one-fifth their length. Pronotum one-third broader than long, mesonotum one-sixth broader than long, almost circular, convex above, scutellum almost twice as broad as long, oval, epinotum slightly longer than broad, anterior and posterior wing insertions partially developed, very small. Node as long as broad, bluntly rounded in front, anterior and posterior faces vertical, rounded into feebly convex dorsum, ventral spine short and sharp. Postpetiole one-fifth broader than long. First segment of gaster slightly broader than long.

Male

Length: 15-17 mm.

The only specimen available is too badly damaged for description. The colour and pilosity are similar to that of the worker but the sculpture is finer.

Western Australia: Albany (type locality), Denmark, Nornalup, Manjimup, Pemberton, Margaret River. *South Australia:* Kangaroo Island. *Victoria:* Portland.

Type in Crawley collection, University Museum, Oxford.

Although a large number of nests has been examined, no winged or dealated females have been found. Even the females found in incipient nests have been wingless, similar to that described above. These females are similar to the largest workers and beyond the well-developed scutellum and traces of wing buds show little difference in structure.

Previously (1927) the author regarded this species as synonymous with *M. lucida* Forel. Wheeler (1933), however, disagreed with this opinion and gave a small comparative description of what he stated to be *M. lucida* from Tasmania. Recently, specimens identified by Wheeler as *M. lucida* from Tasmania were received from the Museum of Comparative Zoology, Harvard. A comparison of the species concerned shows not only that *M. lucida* is distinct from *M. regularis*, as stated by Wheeler, but that *M. lucida* is identical with *M. forficata* Fabr., so common in Tasmania. Although the author is not satisfied that Wheeler's identification of *M. lucida* is correct, he feels that until such time as Forel's type can be examined Wheeler's definition should be retained.

MYRMECIA FORFICATA (Fabricius)

Figs. 72-74

Formica forficata Fabricius, 1787, Mant. Ins. 1: 310, ♀.

Ponera forficata Illiger, 1807, Mag. Insektenk. 6: 194, ♀.

Myrmecia forficata Fabr., 1804, Syst. Piez., p. 424, ♀. Smith, 1858, Cat. Hym. Brit. Mus. 6: 143, ♀. Roger, 1861, Ent. Z. 5: 35, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien 12: 726, ♀; 1876, J. Mus. Godeffroy 12: 95, ♀ ♀. Forel, 1907, Fauna Sudwest. Aust. 1: 265; 1910, Rev. Suisse Zool. 18: 2; 1913, Bull. Soc. Vaud. 49: 173, ♀ ♀.

Myrmecia (Myrmecia) forficata Fabr., Emery, 1911, Genera Insect. 118: 20, ♀ ♀. Clark, 1927, Vict. Nat. 44: 35, ♀ ♀ ♂. Wheeler, 1933, Colony-founding among Ants, p. 31.

Myrmecia sanguinea F. Smith, 1858, Cat. Hym. Brit. Mus. 6: 148. Mayr, 1876, J. Mus. Godeffroy 12: 94. Forel, 1910, Rev. Suisse Zool. 18: 3. Emery, 1911, Genera Insect. 118: 20.

Myrmecia lucida Forel, 1893, Ann. Soc. Ent. Belg. 37: 457, ♀. Wheeler, 1933, Colony-founding among Ants, p. 25.

Worker

Length: 15-21 mm.

Reddish brown, clypeus and tarsi reddish; gaster black and generally with a metallic green or blue sheen.

Head longitudinally striate-rugose, diverging outward behind, usually with a few transverse striae at occipital border. Pronotum transversely arched striate, mesonotum and epinotum transversely striate. Node irregularly rugose with a few transverse striae in front. Postpetiole and gaster smooth and shining.

Hair yellow, short, erect and abundant on head and thorax, longer and more abundant on node, postpetiole, and gaster, short and suberect on legs, very short and adpressed on scapes. Pubescence white, very fine and adpressed, hardly apparent except on posterior of postpetiole, posterior third of first segment, and all of remaining segments of gaster.

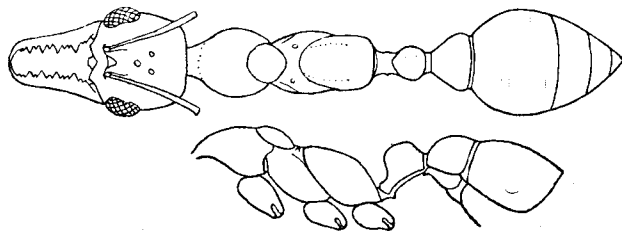


Fig. 72.—*Myrmecia forficata* (Fabricius). Dorsal and lateral view of worker.

Head as long as broad, narrowed behind, sides and occipital border straight or feebly convex, angles rounded. Mandibles slightly shorter than head, outer border concave, inner border with twelve or thirteen teeth, third, fifth, seventh, and tenth large, erect, and broad. Scapes exceed occipital border by one-sixth their length, first segment of funiculus one-fifth shorter than second and one-fourth longer than third. Thorax two and three-fourths longer than broad; pronotum one-fourth broader than long, mesonotum as long as broad, broadest in front of middle, meso-epinotal constriction deep and wide, epinotum almost one-third longer than broad. Node as long as broad, broadest just behind middle; in profile slightly higher than long, anterior face vertical, feebly convex, one-sixth higher than length of stalk in front, posterior face convex, half as high as anterior face, rounded into very feebly convex dorsum, ventral spine short, slender, and sharp. Postpetiole one-third broader than long, sides straight to posterior fourth, constriction wide and deep. First segment of gaster one-fifth broader than long.

Female (Dealated)

Length: 19-23 mm.

Colour and pilosity similar to worker, sculpture coarser, head more rugose, transverse rugae on occiput more pronounced, mesonotum and scutellum longitudinally striate, striae more widely spaced and finer than on pronotum. Node transversely striate-rugose.

Head broader behind, sides almost parallel, slightly convex, occipital border straight. Mandibles almost their width at base shorter than head, teeth similar. Scapes exceed occipital border by one-fifth their length. Pronotum two and one-half times broader than long, mesonotum one-fourth broader than long, mayrian and parapsidal furrows feebly impressed, scutellum one-third broader than long, wings hyaline with yellow tinge, epinotum slightly broader than long.

Node one-sixth broader than long, broadest just behind middle. Postpetiole one-fourth broader than long. First segment of gaster one-sixth broader than long.

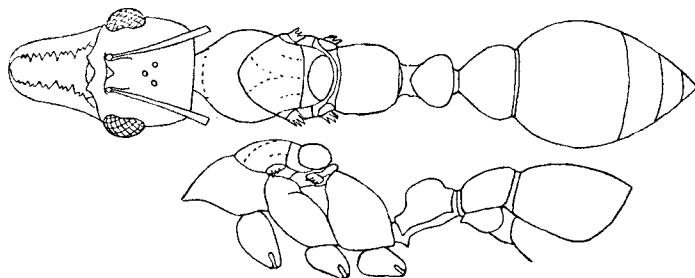


Fig. 73.—*Myrmecia forficata* (Fabricius). Dorsal and lateral view of dealated female.

Male

Length: 17-19 mm.

Head, pronotum, mesonotum, and gaster black, scutellum, epinotum, node, and postpetiole brown, mandibles, antennae, and legs reddish.

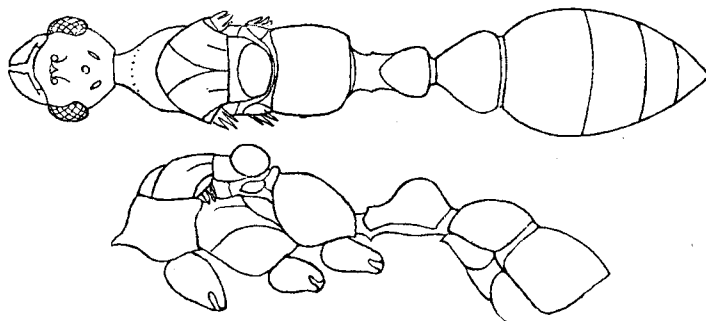


Fig. 74.—*Myrmecia forficata* (Fabricius). Dorsal and lateral view of male.

Head, pronotum, mesonotum, and scutellum punctate-rugose, punctures shallow, epinotum transversely striate-rugose. Node and postpetiole smooth and shining with a few large, shallow, obsolete punctures, gaster microscopically reticulate.

Hair yellow, long and erect, abundant throughout, shorter and suberect on legs. Pubescence white, very fine and adpressed, abundant on posterior of postpetiole and on gaster.

Head as long as broad at posterior margin of eyes, sides and occipital borders nearly straight, occipital border slightly longer than sides. Mandibles with one large sharp tooth at middle of inner border. Scapes three times longer than

first segment of funiculus, second segment fully six times longer than first and one-fifth longer than third. Thorax two and one-half times longer than broad; pronotum three times broader than long, mesonotum one-third broader than long, mayrian and parapsidal furrows sharply impressed, scutellum one-third broader than long, oval, wings with a yellowish tinge, epinotum one-fifth broader than long. Node as long as broad, broadest behind; in profile very slightly higher than long, dome-shaped, twice as long as stalk in front, ventral spine short and sharp. Postpetiole one-fifth broader than long, sides straight to basal fourth, constriction deep and wide. First segment of gaster one-third broader than long.

Tasmania: Hobart, Port Arthur, Launceston, Deloraine, Wynyard, Safety Cove, Great Lakes, Blackman's River, King Island, Flinders Island. *Victoria*: Fern Tree Gully, Otway Range, Wilson's Promontory, Healesville, Warburton, Gembrook, Ballarat, Ben Cairn, Grampians, Stawell. *New South Wales*: Eden, Nowra. *Australian Capital Territory*: Lee's Spring, Brindabella Range.

The specimen described by Smith as *M. sanguinea* is undoubtedly a specimen of *M. forficata* with longitudinal instead of transverse striation on the pronotum. This variation of the striae is quite common amongst the individuals of many nests both in Tasmania and Victoria.

As shown under *M. regularis*, *M. lucida* Forel is evidently synonymous with *M. forficata*.

MYRMECIA BREVINODA Forel

Figs. 75, 76

Myrmecia forficata Fabr. var. *brevinoda* Forel, 1910, Rev. Suisse Zool. **18**: 2, ♀♀.

Myrmecia (Myrmecia) forficata var. *brevinoda* Forel, Emery, 1911, Genera Insect. **118**: 20.

Clark, 1927, Vict. Nat. **44**: 35. Wheeler, 1933, Colony-founding among Ants, p. 31.

Worker

Length: 13-20 mm.

Head, thorax, node, and postpetiole dull dark red, mandibles, antennae, and legs lighter red, gaster black.

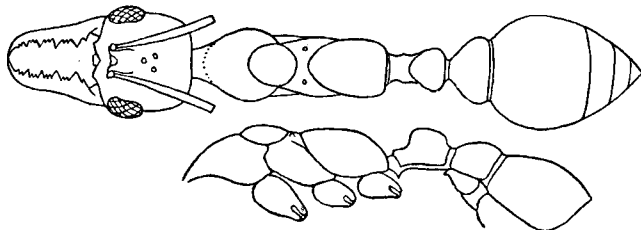


Fig. 75.—*Myrmecia brevinoda* Forel. Dorsal and lateral view of worker.

Head finely striate-rugose, longitudinally in middle, diverging strongly outward on each side. Pronotum, mesonotum, and epinotum more coarsely striate-rugose transversely. Node circularly striate-rugose. Postpetiole and gaster smooth and shining.

Hair yellow, short and erect, not abundant, very short and suberect on legs. Pubescence very fine and adpressed, yellow, very sparse, confined to scapes and apical segments of gaster.

Head as long as broad, sides convex, occipital border straight, angles broadly rounded. Mandibles as long as head, outer border concave, inner border with thirteen teeth, third, sixth, ninth, and twelfth larger and broader than others, twelfth forming a sharp basal angle. Scapes exceed occipital border by one-fourth their length; first and third segments of funiculus equal length, one-fifth shorter than second. Thorax two and one-half times longer than broad; pronotum almost one-third broader than long, mesonotum one-sixth longer than broad, constriction wide but not deep, epinotum almost one-third longer than broad. Node one-sixth broader than long, bluntly pointed in front; in profile very slightly higher than long, highest in front, anterior face straight, sloping slightly backward, as long as stalk in front, dorsum and posterior face united in a convexity, ventral spine very short and sharp. Postpetiole one-third broader than long, broadest just behind middle, constriction deep. First segment of gaster one-sixth broader than long.

Female (Dealated)

Length: 24.5 mm.

Larger and more robust than the worker, colour and pilosity similar, sculpture coarser, longitudinally striate-rugose on mesonotum and scutellum.

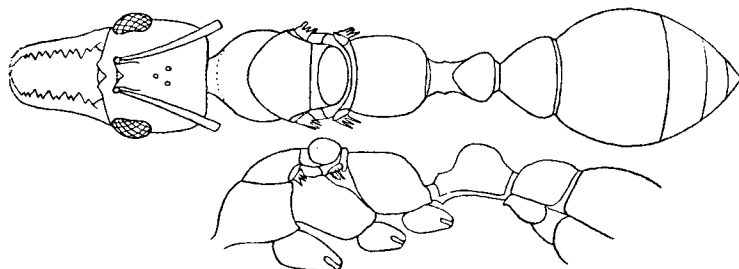


Fig. 76.—*Myrmecia brevinoda* Forel. Dorsal and lateral view of dealated female.

Mandibles shorter, broader, teeth stronger, with only one small tooth instead of two between large teeth. Scapes exceed occipital border by one-sixth their length, mesonotum without trace of mayrian furrows.

Male

Unknown.

Victoria: Gisborne, Mt. Macedon, Grampians, Cape Otway, Portland, Fern Tree Gully, Bogong High Plains. *New South Wales*: Walcha, Barrington Tops.

Type in Forel collection, Natural History Museum, Geneva.

Resembles *M. forficata* in size and colour but distinguished readily by the form of the node.

MYRMECIA RUBRA Forel

Fig. 77

Myrmecia forficata var. *rubra* Forel, 1910, Rev. Suisse Zool. **18**: 3, ♀.

Myrmecia (*Myrmecia*) *forficata* var. *rubra* Forel, Emery, 1911, Genera Insect. **118**: 20.

Wheeler, 1933, Colony-founding among Ants, p. 31.

Myrmecia rubra Forel, Clark, 1927, Vict. Nat. **44**: 35, ♀♀.

Myrmecia forficata r. *simillima* Sm. var. *violacea* Forel, 1915, Ark. Zool. **9** (16): 5, ♀.

Wheeler, 1933, Colony-founding among Ants, p. 32.

Worker

Length: 18-22 mm.

Head, thorax, node, and postpetiole bright blood red, with a distinct metallic sheen, gaster black with a violet sheen.

Head striate-rugose in front, rugose behind. Pronotum, mesonotum, and epinotum coarsely striate-rugose transversely. Node circularly striate-rugose. Postpetiole and gaster smooth and shining.

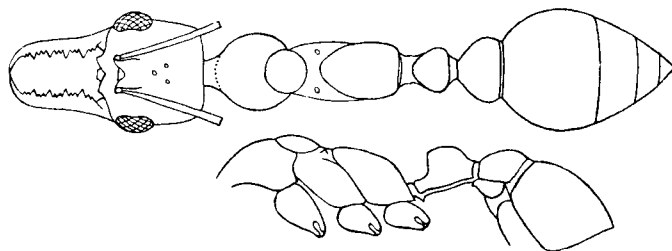


Fig. 77.—*Myrmecia rubra* Forel. Dorsal and lateral view of worker.

Hair yellow, erect, not abundant, but longer and more abundant on apical segments of gaster. Pubescence very sparse, faintly indicated on margins of apical segments of gaster.

Head as long as broad, sides and occipital border feebly convex, angles broadly rounded. Mandibles concave, as long as head, inner border with fourteen or fifteen teeth, third, sixth, ninth, and twelfth large and broad, twelfth forming a distinct basal angle. Scapes exceed occipital border by one-fifth their length, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax fully two and one-half times longer than broad; pronotum almost one-third broader than long, mesonotum as long as broad, constriction wide and shallow, epinotum fully one-fourth longer than broad. Node almost one-sixth broader than long, broadest behind; in profile very slightly higher than long, twice as long as stalk, anterior face straight, vertical, as long as stalk in front, ventral spine short and sharp. Postpetiole one-third broader than long. First segment of gaster fully one-fifth broader than long.

Female

Unknown.

Male

Unknown.

Victoria: Yarra District (type locality), Yarra Glen, Woori Yallock, Healesville, Marysville, Emerald, Fern Tree Gully, Beech Forest, Gellibrand, Wallan, Orbost, Cann River. *New South Wales*: Sydney, Kosciusko.

Type in Forel collection, Natural History Museum, Geneva.

MYRMECIA PYRIFORMIS F. Smith

Figs. 78-80

Myrmecia pyriformis F. Smith, 1858, Cat. Hym. Brit. Mus. **6**: 144, pl. x, figs. 1-6, ♀ ♀ ♂.

Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 726; 1876, J. Mus. Godeffroy **12**: 96.

Myrmecia (Myrmecia) pyriformis Smith, Emery, 1911, Genera Insect. **118**: 20. Clark, 1927, Vict. Nat. **44**: 36, ♀ ♀ ♂.

Myrmecia forcicata Fabr. subsp. *pyriformis* Sm., Forel, 1910, Rev. Suisse Zool. **18**: 2, ♀.

Worker

Length: 14-23 mm.

Dark red or brown, mandibles, clypeus, frontal area, antennae, and tarsi reddish, gaster black.

Head coarsely rugose longitudinally, rugae diverging outward behind. Pronotum coarsely striate-rugose, strongly arched transversely in middle, mesonotum, epinotum, and node transversely striate-rugose, finer and interspersed with large, shallow punctures on node. Postpetiole and gaster microscopically reticulate and with numerous fine, shallow punctures.

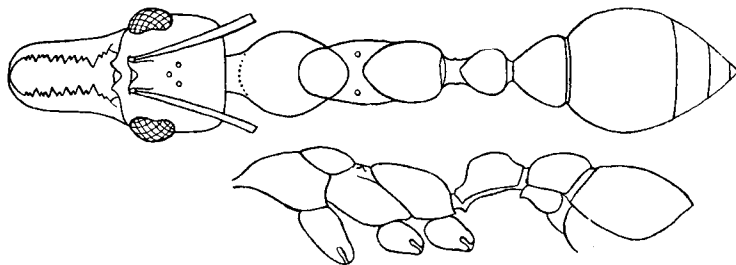


Fig. 78.—*Myrmecia pyriformis* F. Smith. Dorsal and lateral view of worker.

Hair yellow, fine, short and erect, abundant throughout, longer on gaster, very short and suberect on antennae and legs. Pubescence yellowish, very fine and adpressed, forming a very fine but distinct covering on postpetiole and gaster.

Head very slightly broader than long, sides and occipital borders straight, angles rounded. Mandibles as long as head, outer border concave, inner border with fourteen teeth, third, sixth, eighth, tenth, and twelfth large, erect, and sharp. Scapes exceed occipital border by fully one-fourth their length,

second segment of funiculus one-third longer than first and one-sixth longer than third. Thorax two and one-half times longer than broad; pronotum one-fourth broader than long, mesonotum very slightly longer than broad, almost circular, constriction deep and wide, epinotum one-fourth longer than broad. Node as long as broad, bluntly pointed in front, pear-shaped; in profile slightly longer than high, almost three times as long as stalk in front, anterior and posterior faces convex, rounded into flatly convex dorsum, ventral spine long, broad, and sharp. Postpetiole one-fifth broader than long, constriction deep. First segment of gaster one-sixth broader than long.

Female (Dealated)

Length: 23-26 mm.

Colour and pilosity as on worker.

Sculpture rather coarser, transverse on pronotum, epinotum, and node, longitudinal on mesonotum and scutellum.

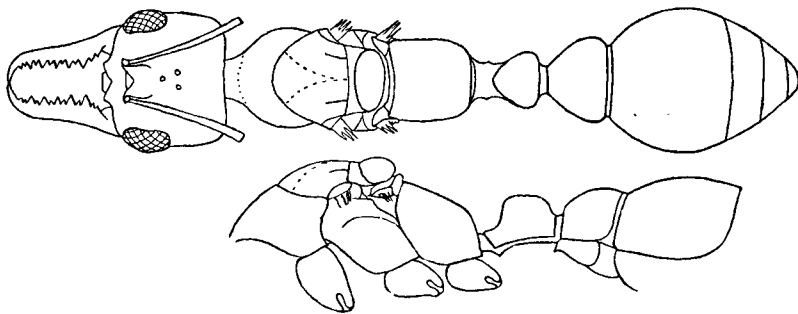


Fig. 79.—*Myrmecia pyriformis* F. Smith. Dorsal and lateral view of dealated female.

Head broader, sides almost parallel. Mandibles almost their width at base shorter than head, broader, and with stronger teeth. Scapes exceed occipital border by one-sixth their length. Pronotum almost three times broader than long, mesonotum one-sixth broader than long, mayrian furrows very feebly impressed, parapsidal furrows sharply impressed, wings hyaline with a yellow tinge, scutellum oval, almost twice as broad as long, epinotum very slightly broader than long. Node fully one-sixth broader than long, bluntly pointed in front. Postpetiole almost one-fourth broader than long. First segment of gaster one-seventh broader than long.

Male

Length: 18-20 mm.

Head and thorax blackish brown, gaster black, node and postpetiole brownish red, mandibles, antennae, and legs yellowish red.

Head and thorax irregularly punctate-rugose, node, postpetiole, and gaster microscopically punctate, node with a few large, shallow punctures in front.

Hair yellowish, erect, very long and abundant throughout, short and suberect on legs. Pubescence yellowish, very fine and adpressed, abundant throughout but not hiding the sculpture.

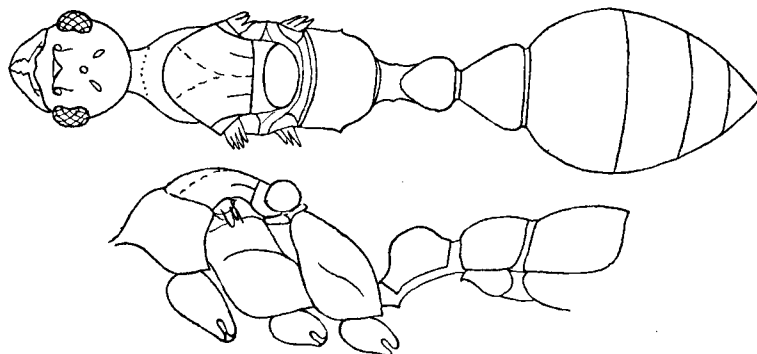


Fig. 80.—*Myrmecia pyriformis* F. Smith. Dorsal and lateral view of male.

Head as long as broad at posterior margins of eyes, convex behind eyes, occipital border short and straight. Mandibles with one tooth on inner border just behind middle. Scapes twice as long as first segment of funiculus. Thorax two and one-fourth longer than broad; pronotum short and round, mesonotum one-tenth broader than long, mayrian and parapsidal furrows strongly impressed, scutellum one-fifth broader than long, epinotum almost twice as broad as long. Wings hyaline with a yellow tinge. Node as long as broad, pear-shaped, bluntly pointed in front; in profile as high as long, three times as long as stalk in front, anterior and posterior faces convex, ventral spine short and sharp. Postpetiole one-fourth broader than long, constriction deep and wide. First segment of gaster one and three-fourths broader than long.

Victoria: Melbourne (type locality), Belgrave, Fern Tree Gully, Ringwood, Warrandyte, Eltham, Broadmeadows, Springvale, Frankston, Melton, Riddell, Greytown, Stawell, Kiata. *South Australia*: Adelaide, Gorong, Blackwood, Belair, Mt. Lofty. *New South Wales*: Sydney, Manar, Wentworth Falls, Katoomba, Shoalhaven River, Bermagui, Hartley, Gunning. *Australian Capital Territory*: Canberra, Kowen, Cotter River.

Type in British Museum.

One worker and one female bearing a label Northern Territory have been received from the Queensland Museum, but the locality is almost certainly incorrect.

MYRMECIA MJOBERGI Forel

Figs. 81, 82

Myrmecia mjobergi Forel, 1915, Ark. Zool. 9: 5, fig. 2, ♀ ♀ ♂.

Worker

Length: 17-27 mm.

Head, thorax, and node red, postpetiole and anterior half of first segment of gaster brownish red, remainder of gaster black with posterior margin of segments yellowish brown, mandibles, antennae, and legs yellow or slightly reddish yellow.

Head irregularly punctate-rugose, with a more or less longitudinal direction. Pronotum finely striate-rugose longitudinally. Mesonotum and epinotum striate-rugose transversely. Node circularly rugose, postpetiole and gaster smooth, microscopically punctate.

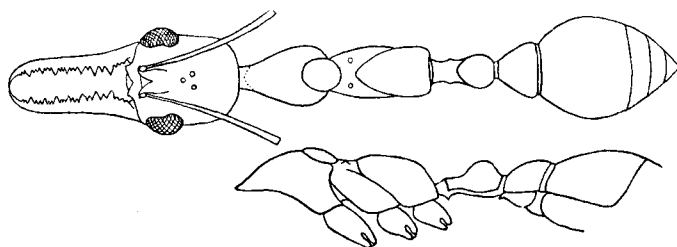


Fig. 81.—*Myrmecia mjobergi* Forel. Dorsal and lateral view of worker.

Hair yellow, short, erect, sparse throughout but longer and more abundant on apical segments of gaster, very short and suberect on legs, none on antennae. Pubescence very fine and adpressed, sparse except on clypeus, postpetiole, and gaster, forming a distinct covering but not hiding sculpture.

Head one-fifth longer than broad, sides straight, parallel, broadly rounded into occipital border. Mandibles almost one-fifth longer than head, outer border concave at middle, inner border with twenty-six teeth, third, sixth, ninth, and twelfth long and sharp, erect, remainder smaller and subequal to twentieth, twenty-first broad and directed backward forming basal angle, four or five small teeth along basal border. Scapes exceed occipital border by one-third their length, first and third segments of funiculus equal length, one-fourth shorter than second. Thorax three and one-fifth times longer than broad, pronotum as long as broad, broadest in front, meso-epinotal constriction very wide, epinotum fully one and one-half times longer than broad, bluntly pointed in front. Node as long as broad, oval; in profile as high as long, dome-shaped, as long as stalk in front, ventral spine short, sharp, and slender. Postpetiole one-fourth broader than long, sides straight to posterior fourth, constriction deep and wide. First segment of gaster broader than long, broadest at middle.

Female (Subapterous)

Length: 30 mm.

Colour, sculpture, and pilosity similar to worker. Head broader, mandibles shorter and broader with fewer but straight teeth; scapes shorter, exceeding occipital border by one-fourth their length. Mesonotum without mayrian and parapsidal furrows, scutellum very small, oval, wing insertions present but not developed. Node broader than long, postpetiole and gaster larger.

Male

Length: 20-24 mm.

Yellowish red, postpetiole and gaster darker, mandibles more yellow. Wings tinted yellow.

Finely and densely punctate-reticulate throughout, with traces of larger punctures on thorax.

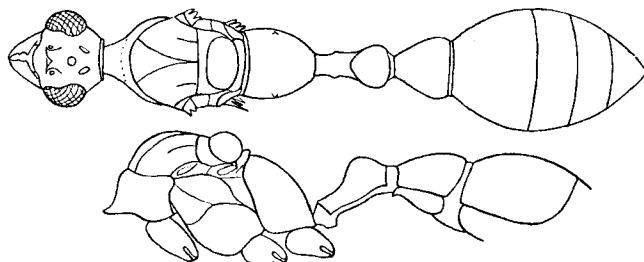


Fig. 82.—*Myrmecia mjobergi* Forel. Dorsal and lateral view of male.

Hair yellow, long and erect, abundant throughout, short and suberect on legs, none on antennae. Pubescence whitish, very fine and dense throughout, particularly on postpetiole and gaster.

Head, across eyes, one-third broader than long, eyes very large, occupying more than half the sides, ocelli very large, oval, mandibles triangular, inner border with five short, sharp teeth. Scapes one-fourth longer than first segment of funiculus, second segment almost five times longer than first, remainder subequal to apex. Thorax as broad as head across eyes, mayrian and parapsidal furrows sharply and deeply impressed. Node as long as broad, circular, as long as stalk in front; in profile as high as long, dome-shaped, anterior face sloping forward, long and straight, twice as long as posterior face, ventral spine long and broad, almost square, as long as broad at base. Postpetiole as long as broad, broadest at posterior third, sides straight in front, constriction deep but not wide, first segment of gaster broader than long, twice as broad behind as in front.

North Queensland: Atherton (type locality), Cairns, Kuranda, Cardwell Range, Malanda.

Type in Natural History Museum, Stockholm.

The long, slender head and mandibles separate this from all the other known species. There is great variation in size of the worker but no indication of polymorphism or dimorphism. All the known females are wingless and the thoracic segments are poorly developed but the wing insertions are clearly indicated. Generally the females are equal in size to the largest workers. Forel gives the length of the male as 16.8 mm. and states that the colour of the head and gaster is brownish black. All the males which I have seen range in length from 20 to 24.5 mm., with the head, thorax, node, and legs concolourous, the gaster darker.

As far as is known, this is the only species which nests entirely in trees. Generally the nests are located in epiphytes, particularly in *Platyserium*.

KEY TO SPECIES, GIGAS GROUP

Workers

1. Node at least four times as long as stalk; head, thorax, legs, and antennae densely covered with long hair; entire gaster densely pubescent, hiding sculpture *M. hirsuta*
- Node one and a half times as long as stalk; head, thorax, and antennae not at all or only sparsely hirsute; gaster with apical segments densely pubescent, pubescence on first segment sparse, not hiding sculpture *M. gigas*

MYRMECIA GIGAS Forel

Fig. 83

Myrmecia pyriformis Sm. race *gigas* Forel, 1913, Rev. Zool. Afr. **2** (3): 310, ♀. 1915, Ark. Zool. **9** (16): 7, ♀.

Myrmecia forficata Fabr. var. *eudoxia* Forel, 1915, Ark. Zool. **9** (16): 8, ♂.

Myrmecia eudoxia Forel, Wheeler, 1933, Colony-founding among Ants, p. 35.

Workers polymorphic.

Worker minor

Length: 13 mm.

Yellowish red, mandibles, antennae, and legs lighter, more yellowish, gaster black.

Head finely and superficially striate-rugose, diverging outward behind. Pronotum longitudinally striate-rugose on middle, transversely on neck in front, mesonotum and epinotum transversely striate-rugose, rugae more or less obsolete. Node, postpetiole, and gaster smooth.

Hair yellow, moderately long, erect and sparse throughout, shorter and sub-erect on legs, none on antennae. Pubescence white, very fine, adpressed, sparse on postpetiole and first segment of gaster, dense on apical segments of gaster.

Head as long as broad, semicircular behind eyes. Mandibles as long as head, outer border concave at basal third, inner border with seventeen unequal teeth, thirteenth forming an angle at basal third, then reduced to base, forming almost a distinct dentate border with four teeth. Scapes exceed occipital border by twice their thickness, first and third segments of funiculus equal length almost one-third shorter than second. Thorax three times longer than broad; pronotum one-fifth broader than long, mesonotum slightly longer than broad, broadest in front, meso-epinotal suture wide, epinotum twice as long as broad. Node as long as broad, broadest behind; in profile as high as long, almost dome-shaped above, twice as long as stalk in front, ventral spine short, slender, and sharp. Postpetiole one-fourth broader than long, constriction deep and wide. First segment of gaster slightly broader than long.

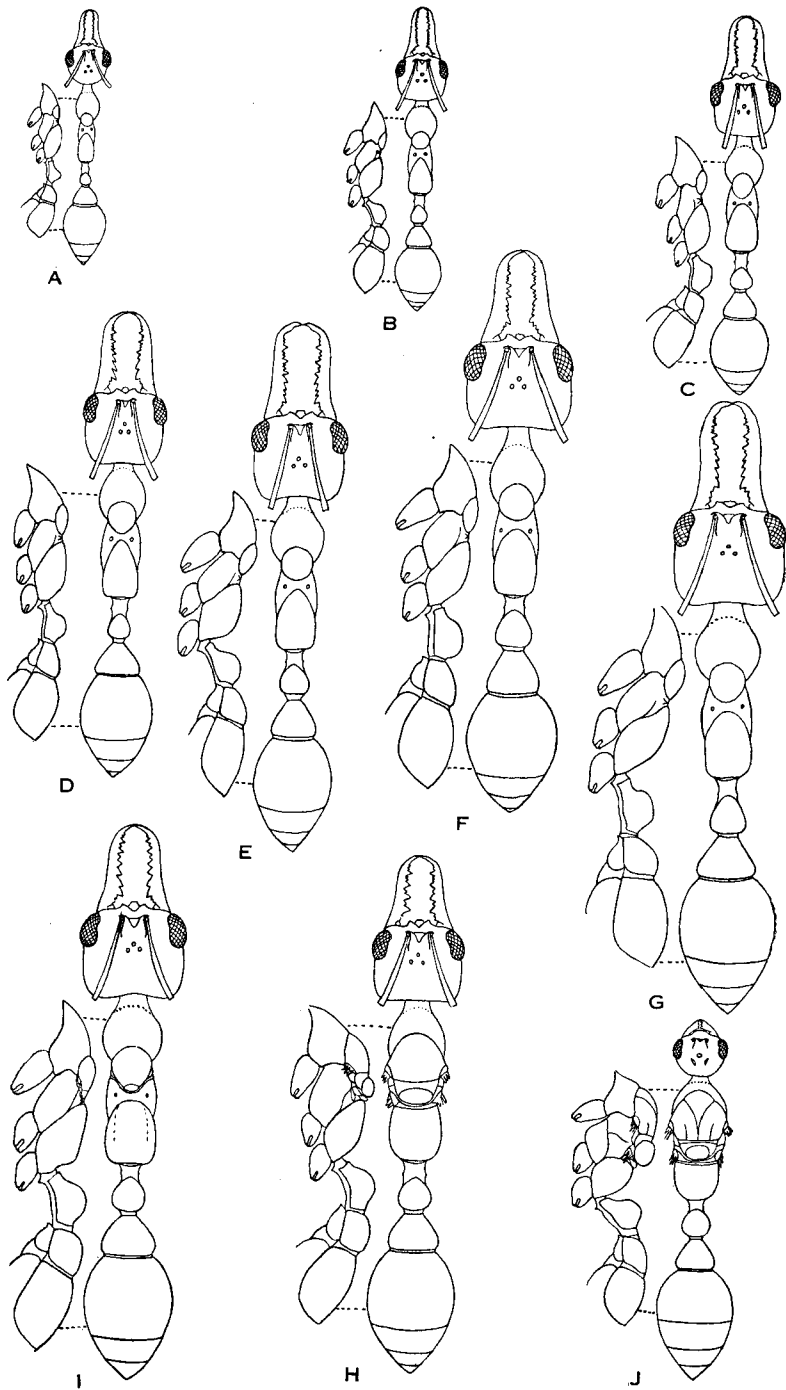


Fig. 83.—*Myrmecia gigas* Forel. A-G, dorsal and lateral view of minor, media, and major worker; D, holotype worker; H, dealated female; I, ergatoid female; J, male.

Worker media

Length: 23 mm.

Colour and pilosity as in worker minor. Sculpture stronger and more regular, node punctate-rugose.

Head very slightly broader than long, sides and occipital border straight, angles broadly rounded. Mandibles fully their width at base longer than head, outer border concave, inner border with eighteen teeth, third, sixth, and eighth large and erect, teeth behind eighth large and directed backward, fourteenth forming a distinct angle, four smaller teeth between angle and base. Scapes exceed occipital border by fully one-fourth their length, first and third segments of funiculus equal length one-third shorter than second. Thorax fully two and three-fourths longer than broad; pronotum one-fourth broader than long, mesonotum very slightly longer than broad, broadest in front, constriction deep but not wide, epinotum one and three-fourths longer than broad. Node as long as broad, broadest at posterior third; in profile as high as long, dome-shaped, almost twice as long as stalk in front, ventral spine long and sharp. Postpetiole one-fifth broader than long, constriction deep and wide. First segment of gaster broader than long.

Worker major

Length: 36 mm.

Colour slightly darker, sculpture and pilosity similar.

Head slightly broader than long, sides convex, occipital border concave, angles broadly rounded. Mandibles slightly longer than head, outer border concave at middle, apex hooked inward and toward base, inner border with fifteen teeth, third, sixth, and eighth large and erect, teeth behind eighth large and directed backward, thirteenth forming a sharp angle. Scapes exceed occipital border by twice their thickness, first and third segments of funiculus equal length, one-third shorter than second. Thorax two and three-fourths longer than broad; pronotum one-fourth broader than long, mesonotum slightly longer than broad, almost circular, meso-epinotal constriction deep but not wide, epinotum almost one-third longer than broad. Node as long as broad, broadest at posterior third; in profile slightly longer than high, anterior and posterior faces vertical, rounded into feebly convex dorsum, fully twice as long as stalk in front, ventral spine short, slender, and sharp. Postpetiole one-fourth broader than long, constriction deep and wide. First segment of gaster broader than long.

Female (Dealated)

Length: 28-30 mm.

Colour and pilosity as on worker major. Sculpture coarser. Pronotum transversely arched striate, mesonotum and scutellum longitudinally striate, epinotum transversely striate; node superficially punctate-rugose, almost smooth.

Head almost one-tenth broader than long, almost square, sides and occipital border straight, angles broadly rounded. Mandibles as long as head, outer border concave, inner border with twelve teeth, third, sixth, eighth, and tenth large and

erect, tenth forming angle at basal third, two small teeth on basal border behind tenth. Scapes exceed occipital border by slightly more than their thickness at apex, first and third segments of funiculus equal length, one-sixth shorter than second. Thorax two and one-half times longer than broad; pronotum twice as broad as long. Mesonotum one-seventh broader than long, mayrian furrows very feebly impressed, scutellum twice as broad as long, oval, epinotum almost as long as broad. Node as long as broad, broadest behind, in profile barely as high as long, almost dome-shaped, twice as long as stalk in front, ventral spine long, slender, and sharp. Postpetiole one-fourth broader than long, constriction deep. First segment of gaster slightly broader than long. Wings hyaline with a reddish yellow tinge.

Female (Ergatoid)

Length: 27-31 mm.

Almost identical in size, shape, colour, and pilosity with the large major workers, and quite different from the winged females.

Head slightly broader than long, sides straight, occipital border deeply concave at middle, angles broadly rounded. Mandibles very slightly shorter than head, outer border concave at basal third, inner border with twelve teeth, third, sixth, and eighth large and erect, behind eighth all broad and directed backward. Scapes exceed occipital border by about half their thickness, first segment of funiculus one-third shorter than second and one-sixth shorter than third. Thorax two and three-fourths longer than broad; pronotum one-third broader than long, mesonotum, including scutellum, very slightly longer than broad, broadest in front, scutellum very small, slightly broader than long, anterior wing pads present but no trace of posterior wing pads, constriction deep and wide, epinotum one-fifth longer than broad. Node very slightly longer than broad, pear-shaped, broadest at posterior third, in profile longer than high, anterior and posterior faces erect and convex, rounded into feebly convex dorsum, three times longer than stalk in front, ventral spine short, broad, and sharp. Postpetiole one-fourth broader than long, sides feebly convex, constriction deep. First segment of gaster broader than long.

Male

Length: 20-22 mm.

Colour as in worker, sculpture more punctate, hair longer and more abundant, pubescence similar.

Head as long as broad, strongly convex behind eyes. Mandibles short, triangular, with one tooth between basal teeth and apex. Scapes twice as long as first segment of funiculus, second segment of funiculus five times longer than first, third one-fifth shorter than second. Thorax twice as long as broad; pronotum short, strongly convex on sides and front, mesonotum one-sixth broader than long, mayrian and parapsidal furrows strongly impressed, scutellum one-fourth broader than long, broadest in front, epinotum almost one-third broader

than long. Node as long as broad, broadest at posterior third; in profile dome-shaped, slightly higher than long, twice as long as stalk in front, ventral spine short and sharp. Postpetiole one-fifth broader than long, broadest at posterior third, constriction deep and wide. First segment of gaster much broader than long.

Queensland: Atherton (type locality), Cairns, Kuranda, Ravenshoe, Mt. Garnet, Blackall Range, Emu Vale, Toowoomba, Stanthorpe. *New South Wales*: Dorrigo, Lismore, Uralla.

Type in Brussels Museum, allotype male in Division of Entomology Museum, C.S.I.R.O., Canberra.

Considerable confusion has surrounded the identity of this species. Most myrmecologists appear to have identified as *M. sanguinea* F. Smith the smaller forms found in Queensland and New South Wales. In 1915 Forel received specimens collected at Atherton, North Queensland, which he described as *M. forficata* var. *eudoxia*. He described only the worker media of the species and in Figure 83 this form is referred to as the typical worker. In describing *eudoxia*, however, Forel overlooked the fact that two years earlier (1913) he had described as *M. pyriformis* race *gigas* a very large *Myrmecia* from Queensland. Later he considered that the type of *gigas* was not a worker but should be regarded as an ergatoid female of *M. pyriformis*. The large series of all forms which have been received over a number of years from various parts of Queensland and New South Wales clearly shows that *eudoxia* is the worker of the previously described *gigas* and that *M. gigas* Forel is a species very distinct from both *M. forficata* and *M. pyriformis*.

The author's attention was called to this species early in 1925 when Mr. C. F. Duquet sent him a large series of all forms of the worker, but at the time it was not certain whether all the specimens received came from the same nest; later, similar series were received from many localities, including Atherton, the type locality of *eudoxia*. Included in one series from Ravenshoe, collected by Mr. T. Greaves, was a fine specimen of the ergatoid female. It is, however, owing to the interest and enthusiasm of Mr. J. Henry that all forms of this species, taken from single nests, are available. During the course of investigations Mr. Henry completely dug out several nests and from each obtained a similar series. The major workers are the largest known ants and have a sting which corresponds well with the huge size, so that in digging out the nest the investigator requires not only skill but courage. During several of the investigations Mr. Henry was ably assisted by Mrs. Henry.

In a series from one nest obtained by Mr. Henry at Emu Vale the workers range in size from 13 to 37 mm., and show three distinct forms, minor, media, and major, but all are connected by intermediate forms. The formation of the head alters with each increase in size from semicircular in the smallest forms to broad and square in the largest. The form of the thorax and nodes remains almost constant but there is great variation in the striation of the pronotum. In the majority of workers the pronotum is more or less longitudinally striate

but on quite a number of specimens in each nest the striation is transversely arched. The colour, sculpture, and pilosity are more constant, but frequently major workers are darker in colour than the media workers. Figure 83 illustrates the various forms usual in this species.

Ergatoid females are found commonly in the nests and vary greatly in size and in the form of the head. One female examined is very similar to the winged female but there is no trace of wing buds and the scutellum is very small. One ergatoid female with exactly the same thoracic development as that of the ergatoid female described above has a very rudimentary wing sprouting from the anterior wing bud. This vestigial wing is deformed and only 2 mm. long. The anterior wing on the left side is longer, 15 mm., folded longitudinally, and very narrow. As on the other specimens, there is no trace of the posterior wing buds.

So far this is the only species in the genus which shows signs of distinct polymorphism. Most, if not all, other species always have two forms present in the nest, the differences being more marked in some species than in others. These differences, however, appear to be controlled entirely by the amount of food available for the larvae, the smallest forms being most commonly found during early summer and as first brood of newly founded nests, larval food being scarce during the winter months. In these small workers the head is semicircular behind and frequently the striation of the whole body is poorly defined.

MYRMECIA HIRSUTA n.sp.

Fig. 84

Worker

Length: 21-23 mm.

Head, mandibles, antennae, thorax, node, postpetiole, and legs brownish red, gaster black, a large brown spot enclosing ocelli.

Head finely striate-rugose longitudinally. Pronotum more coarsely striate-rugose, transversely in front, longitudinally arched in middle; mesonotum more

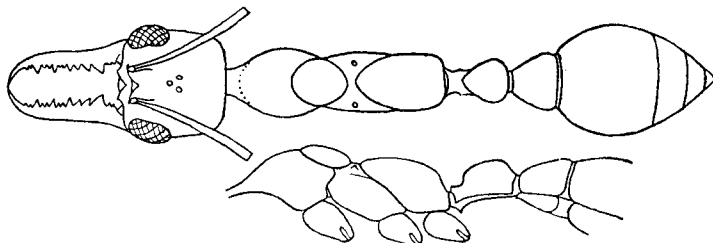


Fig. 84.—*Myrmecia hirsuta* n.sp. Dorsal and lateral view of worker.

finely striate transversely; epinotum transversely striate, striae almost obsolete. Node superficially rugose, with large, shallow punctures. Postpetiole and gaster microscopically punctate.

Hair white, erect, very long, and abundant throughout, very short and suberect on antennae, longer on legs. Pubescence white, very fine and adpressed, abundant throughout, forming a distinct covering on postpetiole and gaster but not quite hiding sculpture.

Head as long as broad, almost square, angles broadly rounded. Mandibles fully their width at base longer than head, outer border strongly concave at basal third, inner border with fourteen teeth, third, sixth, and eighth long, slender, and sharp, tenth and eleventh very broad and inclined slightly backward. Scapes exceed occipital border by almost one-fourth their length, second segment of funiculus one-third longer than first, third very slightly longer than first. Thorax three times longer than broad; pronotum one-fourth broader than long; mesonotum slightly longer than broad; epinotum almost one-third longer than broad. Node very slightly longer than broad, pear-shaped, pointed in front, broadest at posterior third; in profile very slightly longer than high, dorsum convex, rounded into short posterior face, anterior face straight on basal half, convex on top, one-fifth shorter than stalk in front, ventral spine small and sharp. Postpetiole one-sixth broader than long. First segment of gaster one-eighth broader than long.

Victoria: Stawell (J. Clark, Dec. 1934).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

The shape of the mandibles, node, and postpetiole, in addition to the pilosity, separates this form from all known species. On many specimens from the same nest the mesonotum is longitudinally striate and the pronotum more definitely longitudinally striate.

KEY TO SPECIES, NIGROCINCTA GROUP

Workers

1. Thorax entirely black or brownish black, postpetiole and node black or reddish 2
 Thorax and postpetiole bicoloured, black and yellowish red, node yellowish red *M. nigrocincta*
2. Node, postpetiole, and gaster black; gaster with first segment almost as long as broad, twice as long as postpetiole 3
 Node and postpetiole reddish brown, gaster blackish brown with two apical segments reddish yellow; gaster with first segment almost twice as broad as long, almost one and one-fourth as long as postpetiole *M. cordata*
3. Gaster entirely blackish brown, legs blackish brown with anterior tibiae yellowish brown *M. petiolata*
 Gaster with posterior margin of first and second and whole of two apical segments reddish yellow, rest black, legs reddish brown *M. apicalis*

MYRMECIA APICALIS Emery

Fig. 85

Myrmecia apicalis Emery, 1883, Boll. Soc. Ent. Ital. **25**: 150, ♀.

Myrmecia (Myrmecia) apicalis Emery, 1911, Genera Insect. **118**: 21; 1914, Nova Caledonia, Zool. **1**: 394, nota, ♀. Wheeler, 1927, Proc. Amer. Acad. Arts Sci. **62** (4): 129, ♀.

Worker

Length: 13 mm.

Black, mandibles and labrum yellow, antennae and legs ferruginous, posterior margin of first and second, and whole of two apical segments testaceous.

Head very finely striate longitudinally, striae obsolete behind. Pronotum and mesonotum smooth and shining with faint traces of fine longitudinal striae, stronger and more clearly defined on sides of pronotum; epinotum and declivity striate-rugose transversely. Node, postpetiole, and gaster smooth, microscopically punctate.

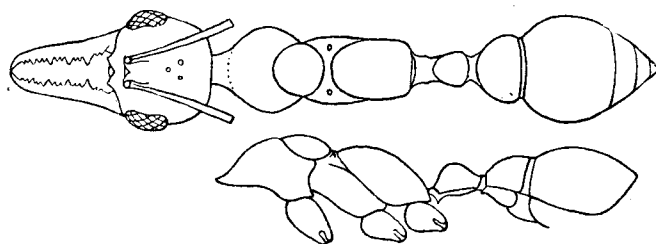


Fig. 85.—*Myrmecia apicalis* Emery. Dorsal and lateral view of worker.

Hair white, very sparse, short and erect, longer on mandibles and apical segments of gaster, very short and suberect on antennae and legs. Pubescence white, very fine and adpressed, forming a distinct covering on postpetiole and first segment of gaster, yellowish, more abundant, and longer on apical segments of gaster.

Head as long as broad, sides and occipital border convex. Mandibles as long as head, outer border concave, inner border with fourteen teeth, third, sixth, ninth, and twelfth large and broad, twelfth forming a strong angle, two small teeth between angle and base. Scapes exceed occipital border by one-fourth their length, first and third segments of funiculus equal length, one-fourth shorter than second. Thorax two and one-half times longer than broad; pronotum almost twice as broad as long, strongly convex in all directions, mesonotum circular, as long as broad, strongly convex above, epinotum one-fourth longer than broad. Node as long as broad, broadest behind; in profile slightly higher than long, dome-shaped, stalk short, ventral spine short and slender. Postpetiole one-third broader than long, broadest behind middle, constriction deep and wide. First segment of gaster one-sixth broader than long.

Female

Unknown.

Male

Unknown.

New Caledonia (H. Bougier, 1881).

Type in K. Museum, Paris.

Redescribed from a cotype received many years ago from the late Dr. Emery.

Dr. Emery, dealing with the ants in the *Zoology of New Caledonia* (1914), in a footnote expressed a doubt as to this species having been captured there. This doubt must remain until further examples have been obtained. The fact that it has no near allies in Australia warrants the supposition that the locality is correct. That it has not been seen since taken by Bougier is no criterion. Many of the species of *Myrmecia* are by no means common. Only single examples of several species have been found, and then at long intervals. This particularly applies to species living in heavily-timbered country. It is interesting to note that this is not the only typically Australian genus represented in New Caledonia. Notable among the other genera are *Amblyopone* with one species and *Chalcopynera* with four species.

MYRMECIA PETIOLATA Emery

Fig. 86

Myrmecia petiolata Emery, 1895, Ann. Soc. Ent. Belg. **39**: 345, ♀.

Myrmecia (Myrmecia) petiolata Emery, 1911, Genera Insect. **118**: 20, ♀.

Worker

Length: 11-13 mm.

Blackish brown, mandibles, funiculi, and tarsi yellow, scapes and anterior tibiae yellowish brown.

Head very finely striate-rugose, striae obsolete behind. Pronotum transversely arched striate-rugose in front, striae finer and closer behind, almost obsolete,

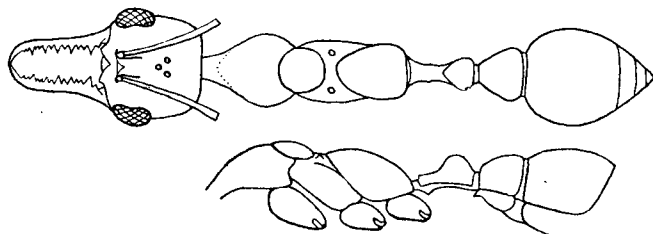


Fig. 86.—*Myrmecia petiolata* Emery. Dorsal and lateral view of worker.

mesonotum finely striate transversely, epinotum and declivity coarsely striate transversely. Node, postpetiole, and gaster smooth, very finely and densely reticulate-punctate.

Hair greyish, sparse except on apical segments of gaster. Pubescence grey, very fine and adpressed, abundant on gaster, particularly on apical segments, but not hiding sculpture.

Head as long as broad, sides and occipital border convex. Mandibles slightly longer than head, external border concave, inner border with fourteen teeth, third, sixth, ninth, and thirteenth long and sharp, thirteenth forming a sharp angle at base. Scapes exceed occipital border by fully one-fourth their length, second segment of funiculus one-fourth longer than first and one-fifth longer than third. Thorax two and one-half times longer than broad; pronotum one-fourth broader than long, mesonotum as long as broad, circular, epinotum one-fourth longer than broad. Node as long as broad, broadest just behind middle; in profile higher than long, highest in front, anterior face short, convex, posterior face and dorsum united in a continuous curve, stalk in front one-third shorter than node, ventral spine very short and sharp. Postpetiole one-fifth broader than long, strongly convex in front, constriction deep and wide. First segment of gaster slightly broader than long.

Female

Unknown.

Male

Unknown.

Queensland: Mt. Bellendenker (type locality), Cairns.

Type in Emery collection, Natural History Museum, Genoa.

MYRMECIA NIGROCINCTA F. Smith

Figs. 87-89

Myrmecia nigrocincta F. Smith, 1858, Cat. Hym. Brit. Mus. **6**: 147, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 724, ♀. Lowne, 1865, Entomologist **2**: 336, ♀. Mayr, 1876,

J. Mus. Godeffroy **12**: 95, ♀ ♂. Froggatt, 1905, Agric. Gaz. N.S.W. **16**: 5, 9, ♀.

Myrmecia (Myrmecia) nigrocincta Smith, Emery, 1911, Genera Insect. **118**: 20, ♀ ♀ ♂.

Myrmecia (Halmamyrmecia) nigrocincta Smith, Wheeler, 1922, Biol. Bull. **42**: 194-5, fig. 2.

Worker

Length: 13-15 mm.

Head, mesonotum, part of sides, and gaster black, postpetiole black splashed with red, pronotum, epinotum, and node light yellowish red, mandibles yellow, scapes more brownish yellow, all coxae, femora, middle and posterior tibiae brown, anterior tibiae and all tarsi yellowish brown.

Head very finely and densely punctate-reticulate, longitudinally striate-rugose, very fine, almost obsolete, particularly behind. Pronotum transversely arched striate-rugose on anterior half, posterior half finely reticulate-rugose transversely, mesonotum and epinotum transversely striate-rugose. Node, postpetiole, and gaster very finely and densely reticulate.

Hair yellow, long and erect, abundant throughout, shorter and suberect on legs, none on antennae except a few at apex of scapes. Pubescence yellowish, very fine and adpressed, forming a distinct covering on postpetiole and gaster but not hiding sculpture.

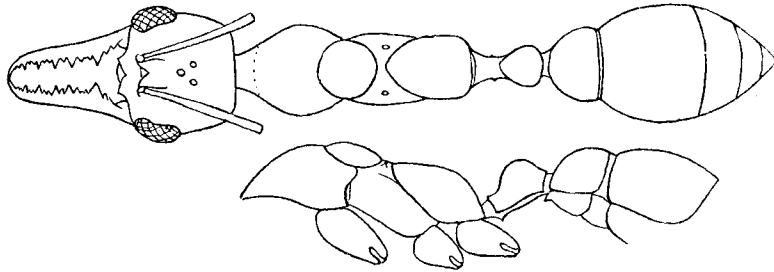


Fig. 87.—*Myrmecia nigrocincta* F. Smith. Dorsal and lateral view of worker.

Head as long as broad, sides strongly convex and rounded into short, straight, occipital border. Mandibles slightly longer than head, outer border concave at middle, inner border with sixteen teeth, fourteenth forming a distinct angle, reduced from there to base. Scapes exceed occipital border by one-fourth their length, first and third segments of funiculus equal length, one-third shorter than second. Thorax barely two and one-half times longer than broad; pronotum one-third broader than long, mesonotum slightly longer than broad, constriction deep and wide, epinotum fully one-fourth longer than broad; node as long as broad, broadest behind, pear-shaped; in profile as high as long, almost dome-shaped, twice as long as stalk in front, ventral spine very short and sharp. Postpetiole one-fourth broader than long, broadest behind middle. First segment of gaster slightly broader than long.

Female (Brachypterous)

Length: 17-19 mm.

Larger and more robust than worker, colour, sculpture, and pilosity similar.

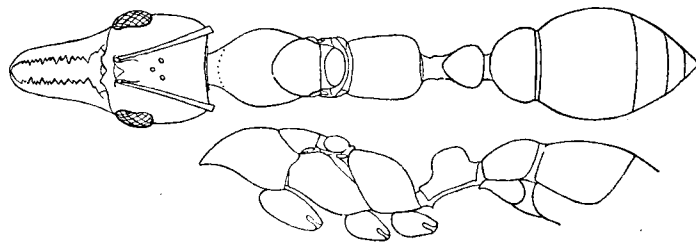


Fig. 88.—*Myrmecia nigrocincta* F. Smith. Dorsal and lateral view of brachypterous female.

Head broader behind, angles not as broadly rounded. Mandibles slightly shorter and broader. Scapes exceed occipital border by fully their thickness. Pronotum longer than mesonotum and similar to that of worker, mesonotum

hardly larger than that of worker; mayrian and parapsidal furrows feebly impressed. Scutellum fully half as long as mesonotum and twice as broad as long; wing stumps present. Node and postpetiole similar to those of worker, but larger.

Male

Length: 16-17 mm.

Colour, sculpture, and pilosity as on worker and female.

Head broader than long, broadest across eyes, broader in front than behind, occipital border short and straight, mandibles edentate. Scapes three times longer than first segment of funiculus, second segment of funiculus three times longer than scape. Thorax two and one-half times longer than broad, pronotum

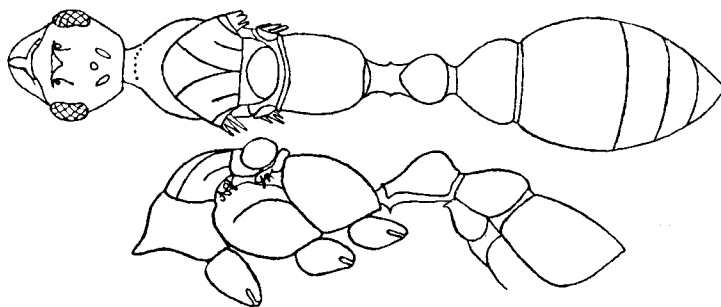


Fig. 89.—*Myrmecia nigrocincta* F. Smith. Dorsal and lateral view of male.

two and one-half times broader than long, mesonotum one-fifth broader than long, mayrian furrows deeply impressed, parapsidal furrows long and sharply impressed; scutellum oval, one-third broader than long, epinotum very slightly broader than long. Node as long as broad, broadest behind middle; in profile as high as long, dome-shaped, anterior face sloping forward, continuous, and forming an almost straight line with stalk in front, ventral spine short and sharp. Postpetiole one-fourth broader than long, constriction wide. First segment of gaster one-fourth broader than long.

Victoria: Millgrove, Trafalgar. *New South Wales*: Armidale, Como, Dorrigo, Heathcote, National Park, Sydney, Lismore. *Queensland*: Brisbane, Blackall Range, Cairns, Atherton, Mackay, Fletcher, Mt. Tambourine.

Type in British Museum.

The development of the thorax and wings of the female is incomplete, approaching closely the ergatoid condition. The wings are small and short, quite useless for flight.

This is one of the few species of *Myrmecia* in which the workers are accomplished jumpers. The distance covered by each jump (3 to 4 inches) is greater than that of the majority of the jumpers of the genus *Promyrmecia*. The

jumping habit is obvious in the field but cabinet specimens do not readily indicate this and the species is definitely placed in *Myrmecia* by the length of the scapes and the form of the node, as well as by the general appearance. Several species of *Myrmecia* make attempts to jump but few accomplish more than one distinct hop, although all can and do jump from tree trunks and bushes to the ground when alarmed, and do so without hesitation. The jumping habit is not general even in the genus *Promyrmecia* and many species have never been seen to jump, but instead walk in the stately manner of *Myrmecia*.

MYRMECIA CORDATA n.sp.

Fig. 90

Worker

Length: 17 mm.

Head, thorax, and first two segments of gaster blackish brown, node, postpetiole, and legs reddish brown, mandibles yellow, antennae, all tarsi, and two apical segments of gaster testaceous.

Head finely striate-rugose longitudinally, diverging outward behind. Pronotum transversely arched striate in front, longitudinally in middle, striae very fine, mesonotum finely and densely reticulate almost circularly on middle, very finely rugose on sides, epinotum strongly striate-rugose transversely. Node irregularly punctate-rugose, postpetiole and gaster smooth, microscopically punctate.

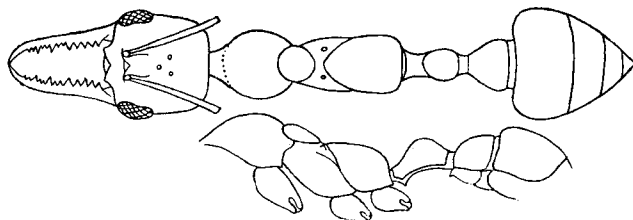


Fig. 90.—*Myrmecia cordata* n.sp. Dorsal and lateral view of worker.

Hair yellow, long, and abundant throughout, including legs, short and suberect on antennae. Pubescence yellow, very fine and adpressed, forming on postpetiole and gaster a distinct covering almost hiding sculpture.

Head slightly longer than broad, sides and occipital border feebly convex, angles broadly rounded. Mandibles slightly longer than head, outer border almost straight, feebly concave at middle, inner border with thirteen teeth, first, second, fifth, and sixth small, remainder large and about equal in size to base. Scapes exceed occipital border by almost one-seventh their length, first and third segments of funiculus equal length one-fourth shorter than second. Thorax two and three-fourths longer than broad; pronotum one-fifth broader than long, sides strongly convex, mesonotum small, circular, only half as broad

as pronotum, meso-epinotal constriction wide but not deep, epinotum one-third longer than broad, concave longitudinally. Node as long as broad, oval, broadest at middle; in profile as high as long, dome-shaped above, twice as long as stalk in front, ventral spine short and sharp. Postpetiole one-fifth broader than long. Gaster heart-shaped, first segment almost twice as broad as long, broadest at middle, almost as broad in front as behind.

North Queensland: Malanda (G. F. Hill).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

The peculiar gaster renders this species very conspicuous. The first segment, strongly truncate in front, is not like any other known species. Another unusual feature is the long erect hair on the legs.

The two following descriptions do not fit any specimen so far examined and it is impossible to say to what they might refer. For the sake of completeness the original descriptions are quoted.

MYRMECIA PAUCIDENS Forel

Myrmecia paucidens Forel, 1910, Rev. Suisse Zool. **18**: 5, ♀.

Myrmecia (Myrmecia) paucidens, Emery, 1911, Genera Insect. **118**: 20.

(After Forel.)

Worker

Length: 15-17 mm.

"Mandibules étroites, encore plus étroites que chez une petite *forcicata*, du reste de même forme et aussi concaves à leur bord externe. Mais de leur base à leur milieu, elles n'ont (à mi-chemin) qu'une seule dent large et obtuse. A partir de leur milieu, et à part la dent terminale, elles ne portent que 7 dents, dont 5 fort petites et 2 plus grosses. En avant et en arrière de la dent médiane, obtuse, de leur portion basale, leur bord interne est édenté. Néanmoins sa portion allant de la base à la dent médiane a parfois quelques denticules peu distincts. Du reste absolument identique de forme, de sculpture, de pilosité et de couleur à la *forcicata* var. *brevinoda*. Peut-être simple sous-espèce.

Tasmanie (Froggatt).

Diffère de *forceps* Roger par la forme des mandibules qui, chez cette espèce, ont le bord externe convexe. Les mandibules sont rouges et non jaunes comme chez la *forceps*."

MYRMECIA SUBFASCIATA Viehmeyer

Myrmecia subfasciata Viehmeyer, 1924, Ent. Mitt. **13**: 221, ♀.

(After Viehmeyer.)

Worker

Length: 21 mm.

"Kopf etwas quer, die Seiten nach rückwärts schwach verengt, weniger als bei *pyriformis*. Mandibeln wie bei dieser, auch die Farbe; der Fühlerschaft überragt den Hinterrand des Kopfes etwa um seine dickste Dicke. Netzaugen die knappe

Hälfte der Kopfseiten einnehmend. Thorax kräftig, breiter als bei *pyriformis*, besonders das Epinotum. Petiolus und Postpetiolus ungefähr wie bei *sanguinea*. Der Petiolus aber kürzer und breiter gestaltet, etwa wie bei *tarsata*; Knoten etwas länger als breit, seine Vorderfläche im Profil gesehen nicht vertikal, sondern schräg und fast wie die hintere Fläche bogenförmig in die Rückenfläche übergehend. Postpetiolus breiter als lang. Skulptur ungefähr wie bei *sanguinea*, am Kopf eine Spur kräftiger, auf dem Thorax aber schwächer, die Pronotum-Runzeln weniger steil. Vorderkörper matt; Mandibeln, der gesamte Hinterleib und die Beine mehr oder weniger glänzend. Abstehende Behaarung sehr kurz, auch etwas kürzer als bei *pyriformis*, an den Gliedern sehr stark schräg, fast anliegend. Pubeszenz äusserst fein und kurz, einen siebförmigen Überzug bildend, der aber den Glanz der glatten Chitin-Teile nicht zu verdecken vermag. Schmutzigrötlich gelbbraun; der Vorderkörper dunkler, der Hinterleib, besonders die Gaster auf der Endhälfte heller und mehr gelblich, die ersten drei Gastersegmente am Hinterrande mit je einer verwaschenen dunkleren Querbinde, die in der Form an die von *gulosa* erinnert. Mandibeln rotbraun.

Liverpool, ein einzelnes Stück."

Genus PROMYRMECIA Emery

Genus PROMYRMECIA Emery

Fig. 91

Myrmecia Fabricius subgenus *Promyrmecia* Emery, 1911, *Genera Insect.* **118**: 18-19. Clark, 1925, *Vict. Nat.* **43**: 139. Wheeler, 1933, *Colony-founding among Ants*, pp. 54-5. Clark, 1934, *Mem. Nat. Mus. Melbourne* **8**: 9.

Myrmecia Fabr., subgenus *Pristomyrmecia* Emery, 1911, *Genera Insect.* **118**: 18, 21. Vieh-meyer, 1924, *Ent. Mitt.* **13**: 220.

Myrmecia Fabr., subgenus *Halmamyrmecia* Wheeler, 1922, *Biol. Bull.* **42**: 195.

Promyrmecia Emery, Clark, 1943, *Mem. Nat. Mus. Melbourne* **13**: 84.

Worker

Length: 4-16 mm.

Mandibles long, but usually somewhat shorter than head, with large and small teeth of various forms. Antennae slender, twelve-segmented, scapes usually shorter than head, never exceeding occipital border by more than twice their thickness; second segment of funiculus longer than first. Eyes occupying anterior fourth of sides of head. Thorax usually twice as long as broad, metanotum not apparent. Node large, usually as long as broad, stalk in front very short; ventral surface with a more or less developed spine in front. Postpetiole dome-shaped, strongly constricted behind. Legs robust, femora of posterior pair often more or less incrassated toward base, middle tibiae with two long bristle-like spurs, posterior tibiae with one pectinate and one bristle-like spur.

Female

Similar to worker but larger, more robust, and usually winged. In general, head broader; mandibles shorter, broader, and with stronger teeth; node and postpetiole broader.

Male

Differs from male of *Myrmecia* in having shorter mandibles, smaller nodes, and a very short stalk to the node.

Genotype PROMYRMECIA ABERRANS (Forel)

The genus has been divided into eight groups based on the size and shape of the mandibles and head of the workers. In many species the head of the female differs greatly from that of the worker. Figure 91 illustrates a typical species of each group.

Commonly known throughout Australia as "jumpers," most of the species when disturbed swarm from all entrances to the nest and advance in a series of jumps, the jumps averaging one and a half inches along the ground. All species sting severely, most being very savage but a few quite timid. Generally the nests are constructed in the ground under large stones but a few species nest in the

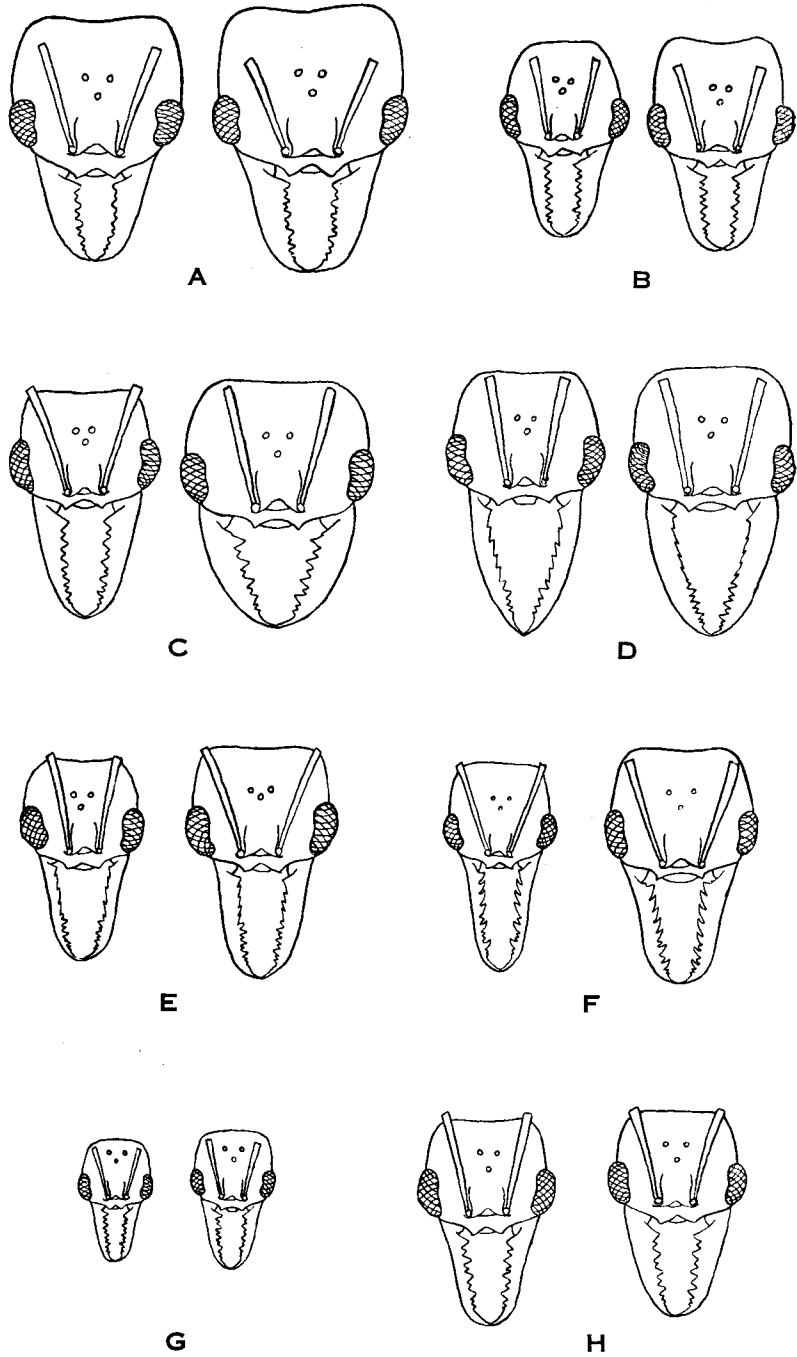


Fig. 91.—Head of worker and female typical of each group of *Promyrmecia*. A, *P. nobilis*; B, *P. picta*; C, *P. cephalotes*; D, *P. mandibularis*; E, *P. tepperi*; F, *P. varians*; G, *P. urens*; H, *P. pilosula*.

open ground where the nests are covered by a dome-shaped mound up to a foot high, the mounds having several entrances, or exits, in constant use. Several species construct an underground nest without making a covering mound and the entrance is indicated merely by one or several small entrances difficult to detect unless the ants are seen to enter or emerge. Many species are common and widely distributed, but the majority are comparatively rare. One species, *P. pilosula* Smith, known as the "black jumper," is found in all the States but is most common in Victoria and Tasmania.

Most *Promyrmecia* are more highly coloured than *Myrmecia*. Combinations of black with reds and yellows are common, whilst quite a number of species have abundant bright golden pubescence giving them a striking appearance. The colour is extremely variable.

KEY TO GROUPS, GENUS PROMYRMECIA

Workers

1. Mandibles broad, broadest near basal third, usually shorter but never longer than head; teeth extend to but not beyond basal third 2
 Mandibles slender or broad, usually broadest at base or at middle or beyond, usually as long as or longer than head but if shorter (*URENS* group), then species small (4-9 mm.); teeth extend from apex to base, although sometimes obsolete along basal half 3
2. Pronotum finely arched-striate; head longitudinally striate; mandibles straight or slightly concave along outer border, with six to nine large, broad, blunt teeth; heavily-built, robust species (10-15 mm.)
 *ABERRANS* group, p. 122
 Pronotum irregularly rugose; head irregularly rugose, sometimes striate-rugose in front; mandibles concave along outer border, with four to six large and three or four small, sharp, erect teeth; more slender species (9-12 mm.) *PICTA* group, p. 138
3. Mandibles convex or barely straight along outer border 4
 Mandibles more or less concave along outer border 5
4. Bicoloured, usually black and yellowish-red, with legs yellowish-red; mandibles with teeth erect, sometimes obsolete or absent along basal fourth; robust species (12-15 mm.) *CEPHALOTES* group, p. 144
 Unicoloured, black or blackish brown, rarely with last gastric segments brown or yellowish, legs variable; mandibles narrow, almost parallel, with basal teeth short, often sawtooth-like, directed backwards, sometimes obsolete (9.5-16 mm.) *MANDIBULARIS* group, p. 150
5. Mandibles with some teeth directed backwards 6
 Mandibles with all teeth erect 7
6. With three to five large, sharp teeth on apical third, from there to base teeth sawtooth-like or obsolescent *TEPPERI* group, p. 171

- With six to eight large, sharp teeth, interspersed with smaller teeth, from apex to base, some of the teeth more or less hook-shaped VARIANS group, p. 181
7. Small species, 4-9 mm.; pronotum irregularly rugose URENS group, p. 189
- Larger species, 10-15 mm.; pronotum arched-striate PILOSULA group, p. 200

KEY TO SPECIES, ABERRANS GROUP

Workers

1. Node red, with head and thorax red, black, or bicoloured 2
 Node, head, and thorax always entirely black *P. maura*
2. Head and sides of thorax black 3
 Head and thorax red or bicoloured 4
3. Mesonotum black *P. aberrans*
 Mesonotum red *P. nobilis*
4. Head and thorax bicoloured 5
 Head and thorax entirely red *P. greavesi*
5. Pronotum and mesonotum entirely blood red; mesonotum transversely striate-rugose 6
 Pronotum and mesonotum bicoloured; mesonotum diagonally striate-rugose 8
6. Epinotum blood red; pubescence on gaster greyish 7
 Epinotum blackish brown; pubescence on gaster golden yellow dorsally, greyish on sides *P. eupoecila*
7. Node coarsely punctate with faint traces of irregular rugae and a well-defined median longitudinal carina; black area of face confined to a small spot encircling ocelli *P. excavata*
 Node coarsely reticulate, not carinate; anterior half of face brownish black *P. froggatti*
8. Node entirely red; postpetiole and gaster shining *P. formosa*
 Node with a median longitudinal black stripe; postpetiole and gaster not shining *P. haematosticta*

PROMYRMECIA ABERRANS (Forel)

Fig. 92

Myrmecia aberrans Forel, 1900, Ann. Soc. Ent. Belg. **44**: 54, ♀; 1910, Rev. Suisse Zool. **18**: 9, ♀.

Myrmecia (*Promyrmecia*) *aberrans* Forel, Emery, 1911, Genera Insect. **118**: 19, pl. 1, fig. 10, ♀.

Promyrmecia aberrans (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 93, pl. 12, fig. 1, ♀.

Worker

Length: 12 mm.

Mandibles, clypeus, and antennae reddish yellow; head, mesonotum, sides of thorax, postpetiole, and gaster black, dorsum of pronotum and epinotum and whole of node bright red; legs including coxae brown, tarsi reddish brown.

Shining. Mandibles coarsely and obliquely striate. Head longitudinally striate in front, striae diverging outward behind and almost contouring eyes, more punctate-rugose behind at occipital border, clypeus longitudinally rugose. Pronotum with some obsolete longitudinal striae in middle, transverse in front, almost smooth at sides, numerous large shallow punctures. Mesonotum smooth in middle, some obsolete longitudinal striae at sides, punctate as on pronotum. Epinotum coarsely striate-rugose transversely. Node irregularly rugose, rugae obsolete in middle. Postpetiole, gaster, and all body densely and very finely punctate.

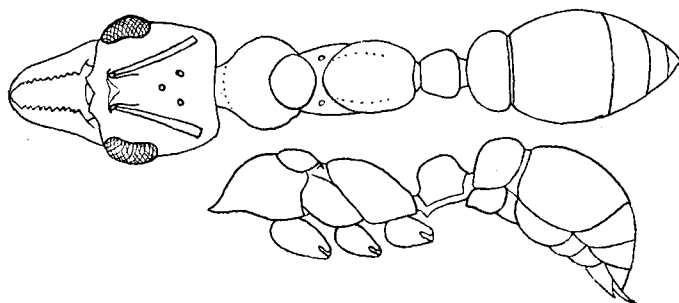


Fig. 92.—*Promyrmecia aberrans* (Forel). Dorsal and lateral view of worker.

Hair yellow, short, erect, abundant throughout, shorter and suberect on antennae and legs. Pubescence white, very fine and adpressed, forming a distinct covering on postpetiole and gaster but not hiding sculpture.

Head as long as broad, sides straight, occipital border concave at middle, angles broadly rounded. Mandibles about one-third shorter than head, outer border concave at middle, inner border almost straight to basal fourth then abruptly reduced to base, with nine short, broad teeth, ninth forming basal angle. Scapes as long as mandibles, not reaching occipital border by twice their width at apex; second segment of funiculus one-twelfth longer than first, third equal to first. Thorax twice as long as broad; pronotum twice as broad as long, sides and front strongly convex, dorsum flat or feebly convex; mesonotum as long as pronotum, one-sixth broader than long, convex in all directions, excision deep and narrow; epinotum one-fifth longer than broad, feebly convex transversely. Node one-sixth broader than long, slightly broader behind than in front, convex in all directions; in profile higher than long, anterior and posterior faces straight and vertical, dorsum feebly convex, borders rounded; ventral spine translucent,

broader than long, blunt. Postpetiole twice as broad as long, almost hemispherical, constriction wide. First segment of gaster broader than long, broader behind than in front.

Female

Unknown.

Male

Unknown.

South Australia: Gawlertown (type locality), Wilpena Pound.

Type in Forel collection, Natural History Museum, Geneva.

Readily distinguished by the black mesonotum on the bright red thorax.

PROMYRMECIA NOBILIS Clark

Figs. 93-95

Myrmecia (*Promyrmecia*) *aberrans* Clark (not Forel), 1925, *Vict. Nat.* **42** (6): 136, 140, ♀. Wheeler, 1933, *Colony-founding among Ants*, p. 50, ♀. Clark, 1934, *Mem. Nat. Mus. Melbourne* **8**: 9, pl. 1, figs. 1-2, ♀ ♀ ♂.

Promyrmecia nobilis Clark, 1943, *Mem. Nat. Mus. Melbourne* **13**: 97, pl. 12, figs. 2-4, ♀ ♀ ♂.

Worker

Length: 10-14 mm.

Black, top of pronotum, mesonotum, epinotum, and node red, mandibles and labrum yellowish red, points of teeth black, antennae and tarsi brownish; on some examples a reddish tinge on lateral borders of head behind.

Shining. Head longitudinally striate in middle, striae between frontal carinae continued from front of clypeus to occipital border; sides of clypeus and antennal depressions not striate, but finely and densely punctate, fine punctures continued

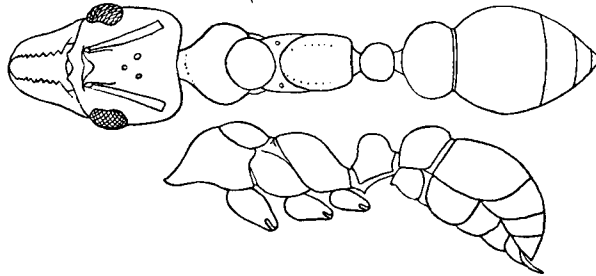


Fig. 93.—*Promyrmecia nobilis* Clark. Dorsal and lateral view of worker.

between striae on head; some large, scattered punctures on occipital border. Pronotum longitudinally striate in middle, longitudinally arched at sides above; mesonotum smooth and shining, with some scattered, shallow punctures; faint traces of fine longitudinal striae on some examples. Epinotum coarsely striate transversely, descending obliquely on sides; node circularly striate, with a central

longitudinal carina; postpetiole, gaster, scapes, and legs very finely and densely punctate.

Hair yellowish, sparse on head and body, more abundant on apical segments of gaster but short and erect; shorter and adpressed on tibiae and tarsus, tibiae also with some long bristle-like hairs on underside. Pubescence greyish, very fine and adpressed on clypeus and funiculus; more abundant on postpetiole and gaster, shorter and finer on sides of thorax.

Head very slightly broader than long, broader behind than in front, occipital border concave, angles broadly rounded. Mandibles short and broad, not as long as head, outer border feebly concave at middle; inner border nearly straight to basal third, thence strongly reduced to base; with twelve teeth, first two small, third, fifth, seventh, eighth, tenth, and eleventh strong and obtuse, tenth forming angle between the two apparent borders. Frontal carinae short, reaching posterior third of eyes. Clypeus strongly excised at middle in front, excision obtuse, sides straight, forming a sharp, tooth-like projection on each side. Labrum sharply rounded, projecting outward almost to points of clypeus. Scapes not reaching occipital border by one-fifth their length; first and second segments of funiculus equal, third somewhat shorter, apical as long as two preceding combined. Thorax twice as long as broad. Pronotum one and one-half times broader than long, broader in front than behind, slightly depressed above. Mesonotum almost circular, very slightly broader than long, convex and rounded above. Epinotum one and one-fifth longer than broad; in profile dorsum and declivity an even arch. Node circular, as broad as long and as broad in front as behind; stalk in front very short, barely one-third length of node; in profile a little higher than long, rounded above, anterior and posterior faces vertical. Postpetiole one and one-half times broader than long, broadest at middle. First segment of gaster broader than long, and broader behind than in front. Legs moderately long.

Female (Ergatoid)

Length: 16-18 mm.

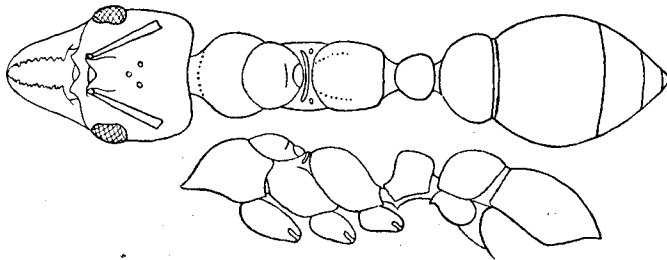


Fig. 94.—*Promyrmecia nobilis* Clark. Dorsal and lateral view of female.

Apart from great size and bulk, closely resembles worker. Colour identical, sculpture slightly coarser, pilosity similar. Scutellum very small and inconspicuous, metanotum indicated by a sharp ridge, no trace of wings but anterior wing sclerites indicated.

Male

Length: 13-14 mm.

Black, antennal scapes, first segment of funiculus, femora of all legs, anterior tibiae, and apical segments of tarsi red, middle and posterior tibiae brownish.

Mandibles shining, finely punctate. Head finely reticulate, coarser behind, with some large, shallow punctures. Pronotum similar. Mesonotum similar in front. Epinotum with coarse reticulations forming faint transverse rugae. Node irregularly rugulose, with a strong longitudinal central carina. Postpetiole and gaster finely and densely punctate.

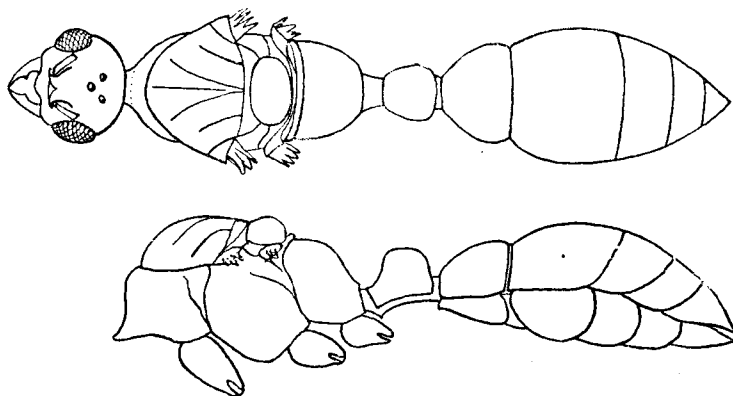


Fig. 95.—*Promyrmecia nobilis* Clark. Dorsal and lateral view of male.

Hair yellow, erect, long, and abundant except on antennae and legs. Pubescence white, very fine, short, and adpressed, particularly abundant on gaster.

Head broader than long, broader in front than behind, sides strongly convex, occipital border short and straight. Mandibles short, not raised. Scapes fully twice as long as first segment of funiculus; second segment four times as long as first. Pronotum short, strongly convex. Mesonotum convex in front, flattened behind, mayrian furrows distinct but not strongly impressed; parapsidal furrows sharply defined. Scutellum strongly convex above, twice as broad as long. Epinotum twice as broad as long, strongly convex. Node slightly broader than long, sides strongly convex. First segment of gaster much broader behind than in front. Legs slender. Genitalia retracted.

Victoria: Altona (type locality), Coburg, Broadmeadows, Bacchus Marsh, Geelong, Patho.

Holotype worker and allotype male in National Museum, Melbourne.

All the females found are similar to the worker and apart from their greater size are easily overlooked. The rudimentary scutellum is small and frequently appears as little more than an impression on the edge of the mesonotum. Ergatoid females occur with several species of the genus but winged forms are found also with the majority. Winged females have not been seen in any of the nests of *P. nobilis* so far examined.

As mentioned in a previous paper (Clark 1943*), Wheeler described several subspecies of *P. aberrans* and it is evident that the species he regarded as *P. aberrans* is the Victorian species *P. nobilis*.

Since the publication of that paper we have received from the Museum of Comparative Zoology, Harvard, cotypes of *P. formosa* and *P. haematosticta*. Examination of these cotypes shows they warrant full specific rank. As we have not yet seen specimens of the two forms *sericata* and *taylori* the descriptions of these are quoted from Wheeler.

PROMYRMECIA NOBILIS TAYLORI Wheeler

Myrmecia (*Promyrmecia*) *aberrans* Forel subsp. *taylori* Wheeler, 1933, Colony-founding among Ants, p. 53, ♀.

Promyrmecia aberrans Forel subsp. *taylori* Wheeler, Clark, 1943, Mem. Nat. Mus. Melbourne 13: 95, ♀.

"Length: 15 mm.

"Larger than *froggatti* but similarly coloured; body somewhat more opaque; the rugae strong on the head and thorax but less sharp than in the preceding forms, arcuate and transverse on the mesonotum, reticulate on the epinotum and petiole. Node of the latter more sharply cuboidal than in *froggatti*, postpetiole nearly twice as broad as long, like the gaster subopaque and finely punctate, with longer and denser, yellowish pubescence. Pilosity on the body longer and more abundant than in the preceding forms.

"Described from a single specimen taken by Frank H. Taylor in the Roma district, Queensland."

PROMYRMECIA NOBILIS SERICATA Wheeler

Myrmecia (*Promyrmecia*) *aberrans* Forel subsp. *sericata* Wheeler, 1933, Colony-founding among Ants, p. 53, ♀.

Promyrmecia aberrans Forel subsp. *sericata* Wheeler, Clark, 1943, Mem. Nat. Mus. Melbourne 13: 94, ♀.

"Length: 14 mm.

"Like *taylori* in coloration. Sculpture less pronounced, the rugae on the head and pronotum coarse but rounded and interspersed with large, elongate punctures. Mesonotum coarsely punctate, with only indistinct traces of fine transverse rugules. Epinotum anteriorly indistinctly rugose, petiole more coarsely and distinctly, the node of the latter broader than long, the postpetiole nearly as broad as in *taylori*, and the pilosity, which is whitish, as long and abundant. Appressed pubescence on the gaster and postpetiole golden yellow, decidedly longer and converging from each side to the middle line at the posterior border of each segment.

"Described from a single specimen taken by W. W. Froggatt at Wagga, New South Wales. Another specimen, perhaps to be regarded as representing a distinct variety of *sericata*, from Meningie, South Australia (L. H. Minchin),

* *Mem. Nat. Mus. Melbourne* 13: 93.

measures only 12 mm. and has the mesonotum coarsely, transversely and arcuately rugose with large interspersed punctures and the petiolar node longer and more coarsely rugose."

PROMYRMECIA FROGGATTI (Forel)

Figs. 96, 97

Myrmecia froggatti Forel, 1910, Rev. Suisse Zool. **18**: 9, ♀.

Myrmecia (Promyrmecia) froggatti Forel, Emery, 1911, Genera Insect. **118**: 19, ♀.

Myrmecia (Promyrmecia) aberrans Forel subsp. *froggatti* Forel, Wheeler, 1933, Colony-founding among Ants, p. 52, ♀.

Promyrmecia froggatti (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 96, pl. 13, fig. 5, ♀.

Worker

Length: 11-12 mm.

Dark red, postpetiole and gaster black, legs and front of face brownish black, mandibles, antennae, and tarsi yellow.

Shining. Mandibles strongly and obliquely striate. Head longitudinally striate-reticulate, striae straight middle of head, slightly diverging outward at sides and continued into antennal depressions; some large punctures on occipital border. Pronotum longitudinally and strongly striate. Mesonotum and epinotum transversely striate, continued obliquely on sides. Node coarsely reticulate. Postpetiole and gaster very finely punctate.

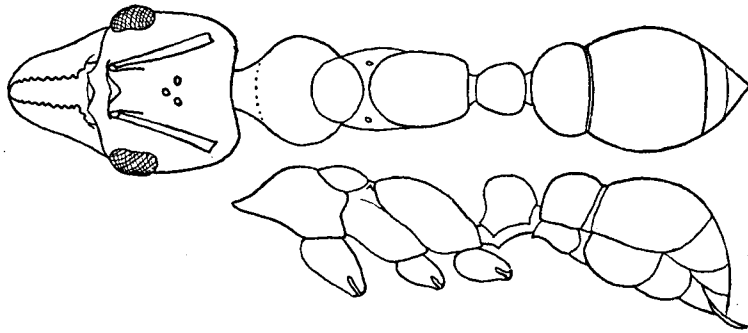


Fig. 96.—*Promyrmecia froggatti* (Forel). Dorsal and lateral view of worker.

Hair yellowish, erect, rather sparse throughout. Pubescence greyish, very fine and adpressed, most abundant on postpetiole and gaster.

Head broader than long, as broad in front as behind, occipital border concave, posterior angles rounded. Mandibles short and broad, outer border concave at middle; inner border nearly straight to basal third, with eleven teeth, first two small, third, fifth, ninth, and tenth large and blunt; ninth forming angle between the two apparent borders. Frontal carinae erect, nearly straight, reaching posterior margin of eyes. Scapes not reaching occipital border by

one-fifth their length; first segment of funiculus as long as second. Thorax fully twice as long as broad; pronotum twice as broad as long, broader in front than behind, dorsum flattened in middle. Mesonotum slightly broader than long, convex and rounded above. Epinotum one-third longer than broad, strongly arched from base to inferior posterior edge; declivity not defined. Node as broad as long, broader behind than in front, in profile higher than long, rounded above, stalk in front extremely short. Postpetiole one-third broader than long. First segment of gaster slightly broader than long, almost as broad behind as in front, sides convex.

Female (Previously Undescribed)

Length: 14.5 mm.

Very similar to worker but larger and more robust. Scapes shorter. Scutellum very small, sharply impressed on posterior edge of mesonotum; epinotum slightly

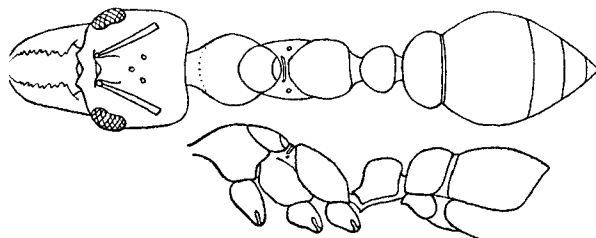


Fig. 97.—*Promyrmechia froggatti* (Forel). Dorsal and lateral view of female.

shorter and broader. Node very slightly broader than long. Postpetiole almost twice as broad as long.

Male

Unknown.

New South Wales: Manilla ♂ (type locality), Quirindi ♂, Belubula ♀ (A. Musgrave, Nov. 23, 1923).

Type in Forel collection, Natural History Museum, Geneva.

As noted by Forel, this species is close to *P. aberrans* but the sculpture in *P. froggatti* is larger and coarser, the head and node differently shaped, and the pubescence much more abundant. In both species the postpetiole and gaster have fine microscopic punctures often obscured by pubescence, but both segments are more shining in *P. froggatti* than in *P. aberrans*. The clypeus is much more excised and the clypeal projections more outwardly directed in *P. froggatti* and the labrum shorter and narrower, nearly square, not rounded as in *P. aberrans*.

PROMYRMECIA HAEMATOSTICTA Wheeler

Fig. 98

Myrmecia (*Promyrmecia*) *aberrans* Forel subsp. *haematosticta* Wheeler, 1933, Colony-founding among Ants, p. 51, ♀.

Promyrmecia aberrans Forel subsp. *haematosticta* Wheeler, Clark, 1943, Mem. Nat. Mus. Melbourne 13: 94, ♀.

Worker

Length: 10-13 mm.

Clypeus, posterior third of head, disk of pronotum, a spot on each side of mesonotum, top half of node blood red, postpetiole, gaster, and a longitudinal line on centre of node black, mesonotum, epinotum, and legs blackish brown, mandibles, antennae, and tarsi reddish yellow.

Head finely longitudinally striate in front, more striate rugose behind with numerous punctures on occiput. Pronotum longitudinally striate, striae widely spaced, mesonotum diagonally striate-rugose, epinotum more coarsely striate-rugose transversely. Node irregularly punctate-rugose, rugae more or less obsolete. Postpetiole and gaster microscopically reticulate.

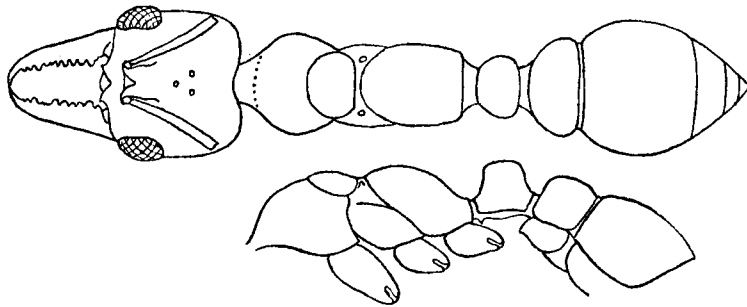


Fig. 98.—*Promyrmecia haematosticta* Wheeler. Dorsal and lateral view of worker.

Hair yellowish, very short and sparse on head and thorax, longer and more abundant on node, postpetiole, and gaster, finer and suberect on legs and antennae. Pubescence grey, very fine and adpressed, abundant on gaster, forming a thin but distinct covering on apical half.

Head very slightly broader than long, occipital border sharply excised at middle, sides straight in front, angles strongly convex. Mandibles one-fourth shorter than head, outer border feebly concave, almost straight, inner border with nine short, broad, blunt teeth, eighth forming a distinct angle. Scapes not as long as mandibles, first and second segments of funiculus equal length, one-third longer than third. Thorax twice as long as broad, pronotum twice as broad as long, mesonotum one-fifth broader than long, constriction narrow, epinotum one-third longer than broad. Node one-fourth broader than long, broadest behind; in profile one-fourth higher than long, anterior face straight and

vertical, posterior face very short, vertical, rounded into convex dorsum, stalk in front short, dropping acutely downward, ventral spine short and slender. Postpetiole almost twice as broad as long, sides and front strongly convex, constriction deep and wide. First segment of gaster one-sixth broader than long.

Female

Unknown.

Male

Unknown.

New South Wales: Uralla (W. M. Wheeler).

Type in Wheeler collection, Harvard.

Redescribed from a cotype received from the Museum of Comparative Zoology, Harvard.

PROMYRMECIA FORMOSA Wheeler

Fig. 99

Myrmecia (Promyrmecia) aberrans Forel subsp. *formosa* Wheeler, 1933, *Colony-founding among Ants*, p. 52, fig. 19, ♀.

Promyrmecia aberrans Forel subsp. *formosa* Wheeler, Clark, 1943, *Mem. Nat. Mus. Melbourne* 13: 94.

Worker

Length: 10-13 mm.

Clypeus, frontal area, posterior half of head, top of pronotum, mesonotum, epinotum, and whole of node blood red, postpetiole, gaster, sides of thorax, and a broad fascia on anterior half of head black, legs brown, tarsi reddish, mandibles and antennae reddish yellow.

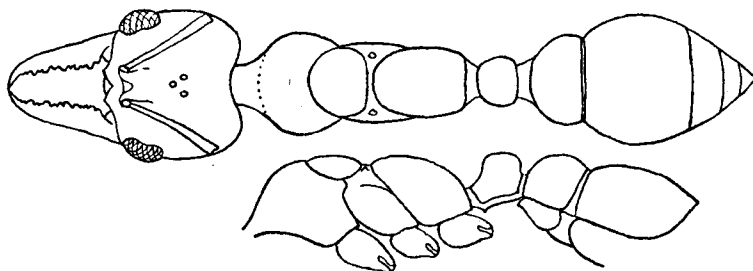


Fig. 99.—*Promyrmecia formosa* Wheeler. Dorsal and lateral view of worker.

Head finely striate-rugose longitudinally, diverging outward behind, occiput almost smooth, with numerous punctures. Pronotum longitudinally striate, mesonotum obliquely striate, epinotum coarsely striate-rugose transversely. Node circularly and rather weakly striate-rugose. Postpetiole and gaster microscopically punctate.

Hair yellowish, short and erect, rather sparse, longer and more abundant on apical half of gaster, very short and suberect on antennae and legs. Pubescence greyish, apparent only on apical half of gaster.

Head very slightly broader than long, deeply and sharply concave on occipital border, sides feebly convex, angles strongly convex. Mandibles one-fourth shorter than head, outer border feebly concave, inner border with nine large, more or less obsolete teeth, eighth forming a distinct basal angle. Scapes not as long as mandibles, not reaching occipital border by one-sixth their length, first and second segments of funiculus equal length, one-third longer than third. Thorax twice as long as broad; pronotum twice as broad as long, mesonotum very slightly broader than long, constriction deep, epinotum one-third longer than broad. Node one-fourth broader than long, in profile one-fourth higher than long, anterior face straight and vertical, posterior shorter, strongly rounded into convex dorsum, stalk in front short, dropping acutely downward in front, ventral spine short and sharp. Postpetiole one-third broader than long, hemispherical, constriction deep. First segment of gaster one-sixth broader than long.

Female

Unknown.

Male

Unknown.

New South Wales: Uralla (W. M. Wheeler).

Type in Wheeler collection, Harvard.

Redescribed from a cotype received from the Museum of Comparative Zoology, Harvard.

PROMYRMEDIA MAURA Wheeler

Figs. 100, 101

Myrmecia (Promyrmecia) aberrans Forel subsp. *maura* Wheeler, 1933, Colony-founding among Ants, p. 51, ♀.

Promyrmecia maura Wheeler, Clark, 1943, Mem. Nat. Mus. Melbourne 13: 95, pl. 12, figs. 6-7, ♂ ♀.

Worker

Length: 11-13 mm.

Black, mandibles, antennae, and tarsi reddish yellow, teeth of mandibles blackish brown, articulations of legs reddish brown.

Shining. Mandibles obliquely and coarsely striate. Head finely striate longitudinally. Pronotum and mesonotum longitudinally striate, coarser than on head. Epinotum more coarsely striate-rugose transversely, interstices densely reticulate. Node irregularly punctate-rugose, almost circularly rugose. Postpetiole and gaster densely and microscopically punctate.

Hair yellowish, sparse, short and erect, longer on clypeus and apex of gaster. Pubescence greyish, sparse throughout.

Head very slightly broader than long, as broad in front as behind, sides fully convex, occipital border deeply concave at middle, angles broadly rounded.

Mandibles fully their width shorter than head, outer border straight or feebly concave at middle, inner border straight to basal fourth, then abruptly reduced to base, with nine large broad teeth, first two smallest, ninth forming an angle between the two apparent borders. Scapes not reaching occipital border by

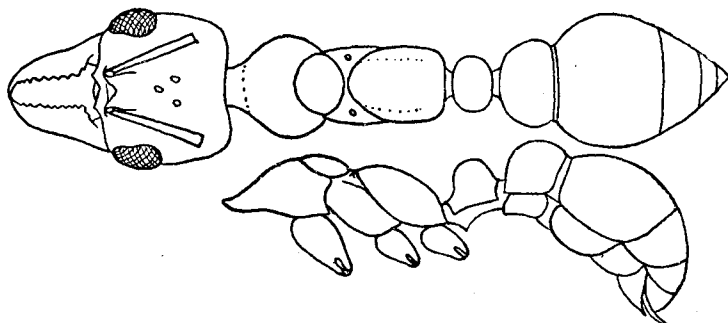


Fig. 100.—*Promyrmecia maura* Wheeler. Dorsal and lateral view of worker.

fully twice their thickness; second segment of funiculus as long as first; third slightly shorter. Thorax twice as long as broad; pronotum twice as broad as long, sides and front convex, dorsum flattened; mesonotum as long as pronotum, almost one-third broader than long, convex in all directions; excision deep and narrow; epinotum one-third longer than broad, convex transversely; in profile evenly convex from apex of pronotum to base of mesonotum, a very slight depression at pro-mesonotal suture, meso-epinotal excision deep and narrow; epinotum convex from base to foot of declivity. Node one-fifth broader than long, sides strongly convex, anterior and posterior borders feebly convex; in profile one-fifth higher than long, anterior and posterior faces straight, vertical, both bluntly rounded into slightly convex dorsum, ventral spine broad, blunt, and triangular. Postpetiole barely one and one-half times broader than long, hemispherical in front; constriction wide but not deep. First segment of gaster one-fifth broader than long. Legs short and robust.

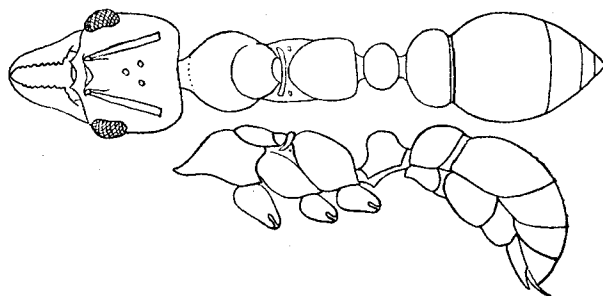


Fig. 101.—*Promyrmecia maura* Wheeler. Dorsal and lateral view of female.

Female

Length: 14-16 mm.

Larger and more robust than worker, colour identical, sculpture similar but coarser, pilosity longer and more abundant. Scutellum small, feebly impressed, about one-fifth length of mesonotum.

Male

Unknown.

New South Wales: Bathurst (type locality), Pilliga, Tarcutta, Gundagai, Monaro. *Australian Capital Territory*: Canberra.

Type worker in Wheeler collection, Harvard.

PROMYRMECIA EUPOECILA Clark

Figs. 102, 103

Promyrmecia eupoecila Clark, 1943, Mem. Nat. Mus. Melbourne 13: 98, pl. 12, fig. 8, ♀.

Worker (Previously Undescribed)

Length: 13 mm.

Head blood red, thorax and node darker, femora, postpetiole, and gaster black, a narrow brown transverse band on front of face extending from eye to eye, sides of mesonotum, epinotum, and all tibiae blackish brown, antennae and apical segments of tarsi yellowish red, mandibles yellow.

Mandibles coarsely, obliquely striate. Head longitudinally striate-rugose, more punctate-rugose at occipital border. Pronotum longitudinally striate-rugose, interstices punctate, mesonotum longitudinally striate-rugose diverging strongly outward in front and almost transverse. Epinotum transversely striate-rugose. Node irregularly punctate-rugose. Postpetiole and gaster smooth, microscopically punctate.

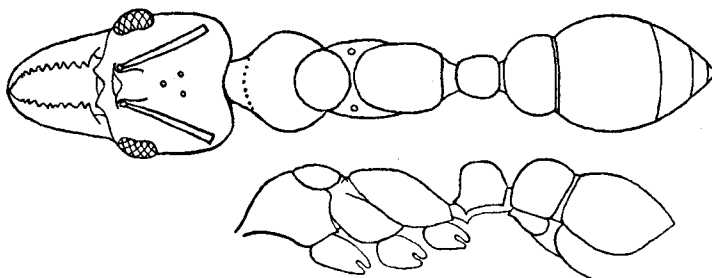


Fig. 102.—*Promyrmecia eupoecila* Clark. Dorsal and lateral view of worker.

Hair yellowish, very short and erect on head and thorax, longer and more abundant on node, postpetiole, and gaster, finer and suberect on antennae and legs. Pubescence grey, very fine, hardly apparent except on postpetiole and gaster, forming a distinct covering but not hiding sculpture, greyish on sides, golden yellow on top.

Head very slightly broader than long, sides convex, occipital border indented at middle, angles broadly rounded. Mandibles one-fourth shorter than head, outer border straight at middle, inner border with ten teeth, first two small, ninth forming basal angle. Scapes not reaching occipital border by fully twice their thickness, first and third segments of funiculus equal length, one-third shorter than second. Thorax fully twice as long as broad; pronotum almost twice as broad as long, mesonotum very slightly broader than long, almost circular, excision deep but not wide, epinotum almost one-third longer than broad. Node as long as broad, slightly broader behind than in front; in profile one-eighth higher than long, vertical, twice as high as posterior face, dorsum convex, ventral spine short and sharp. Postpetiole one-third broader than long, sides and front strongly convex, excision narrow. First segment of gaster one-sixth broader than long.

Female

Length: 14.5 mm.

Very similar to worker but larger and more robust. Scutellum very small, twice as broad as long, appearing embedded in mesonotum. Node slightly broader than long. Postpetiole almost twice as broad as long.

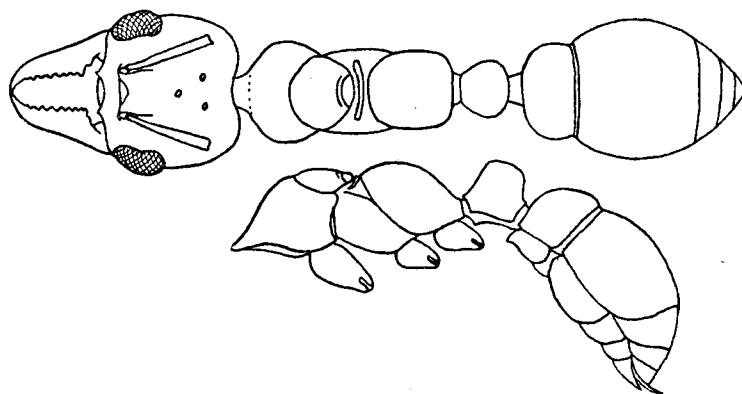


Fig. 103.—*Promyrmecia eupoecila* Clark. Dorsal and lateral view of female.

Male

Unknown.

South Australia: Adelaide (type locality), Meningie (H. Mincham, Jan. 1946). Holotype female in National Museum, Melbourne.

This species was originally described from the female only. A single worker in the collection of the Australian Museum, Sydney, belongs to this species.

PROMYRMECIA GREAVESI Clark

Fig. 104

Promyrmecia greavesi Clark, 1943, Mem. Nat. Mus. Melbourne 13: 99, pl. 12, fig. 9, ♀.

Worker

Unknown.

Female (Ergatoid)

Length: 15.5 mm.

Head, thorax, and node red, mandibles and antennae testaceous, legs brown, gaster black.

Mandibles strongly and coarsely striate diagonally and a long straight stria at base of teeth, base punctate only. Head finely striate-rugose longitudinally, very finely and densely punctate between rugae. Pronotum striate-rugose similar to head. Mesonotum coarsely and irregularly punctate-rugose. Metanotum shining. Epinotum very coarsely rugose, somewhat transverse on declivity. Node irregularly rugose with a central longitudinal carina. Postpetiole and gaster microscopically punctate.

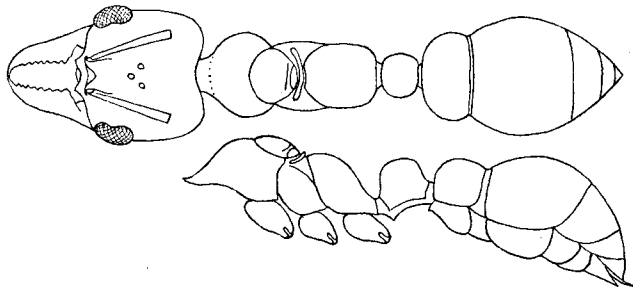


Fig. 104.—*Promyrmecia greavesi* Clark. Dorsal and lateral view of female.

Hair yellow, short and erect on head, antennae, thorax, nodes, and legs, long and fine on gaster, longer and coarser on mandibles and clypeus.

Head as broad as long, sides strongly rounded into occipital border; occipital border deeply indented, concave at middle. Mandibles one-third shorter than head, outer border straight, inner border with eight large, sharp teeth, eighth forming basal angle, one strong tooth on basal border. Clypeus projecting strongly in front, angles sharp, deeply excised in middle, sides straight. Frontal carinae as long as broad behind. Scapes reaching posterior fourth of head; first segment of funiculus one-fifth longer than second, remainder decreasing in length to apical, apical barely as long as two preceding combined. Thorax twice as long as broad; pronotum fully twice as broad as long, strongly convex in front and on sides flattened above; mesonotum circular, very slightly broader than long; scutellum small and narrow, no trace of wing stumps; metanotum small and erect; epinotum as long as broad, convex laterally. Node as long as

broad, circular, flattened on top, a weak longitudinal carina in centre; in profile as high as long, anterior and posterior faces straight, vertical, both rounded into feebly convex dorsum; ventral spine broad, short, and sharp. Postpetiole barely twice as broad as long, strongly convex in all directions. First segment of gaster broader than long, broadest behind, sides strongly convex. Legs long and robust.

Male

Unknown.

North Queensland: Mareeba (type locality).

Holotype female in National Museum, Melbourne.

PROMYRMECIA EXCAVATA n.sp.

Figs. 105, 106

Worker

Length: 12-13 mm.

Head, thorax, and node blood red, a small spot on centre of head, postpetiole, gaster, and legs black, mandibles yellow, teeth and apex brown, antennae and tarsi castaneous.

Mandibles coarsely striate obliquely. Head longitudinally striate, diverging outward behind, numerous large, shallow punctures on posterior fourth. Pronotum longitudinally striate, striae widely spaced, interstices punctate; mesonotum and epinotum transversely striate rugose, coarser on epinotum; node coarsely punctate and faint traces of irregular rugae and a well-defined longitudinal carina; postpetiole and gaster microscopically punctate.

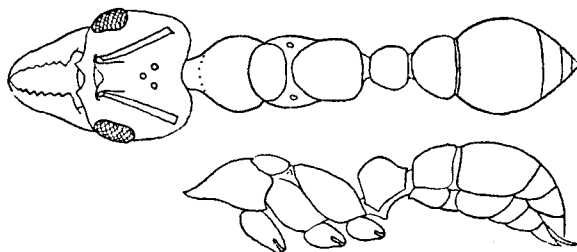


Fig. 105.—*Promyrmecia excavata* n.sp. Dorsal and lateral view of worker.

Hair yellow, sparse, short and erect throughout; pubescence greyish, adpressed, very fine, and short, confined to postpetiole and gaster.

Head very slightly broader than long, broadest in front, sides feebly convex, occipital border deeply indented at middle, angles broadly rounded. Mandibles almost one-third shorter than head, outer border concave at middle, inner border with ten broad teeth. Scapes short, barely as long as mandibles, not reaching occipital border by fully twice their thickness; second segment of funiculus one-third longer than first and twice as long as third. Thorax twice as long as

broad, pronotum one-third broader than long, convex in front and sides, dorsum flattened laterally; in profile all segments convex longitudinally, pro-mesonotal suture small but distinct, meso-epinotal suture deep, narrow at bottom, epinotal declivity strongly convex. Node as long as broad, very slightly broader behind, sides convex, anterior and posterior borders almost straight; in profile one-fifth higher than long, anterior face concave below, rounded into dorsum, posterior face short, rounded into dorsum, ventral spine long and very broad. Post-petiole fully one-third broader than long, strongly convex in all directions, almost semiglobular, constriction deep and narrow. First segment of gaster one-fifth broader than long, broadest behind. Legs robust.

Female (Ergatoid)

Length: 15 mm.

Similar to worker but larger and much more robust. Scutellum very small and indistinct.

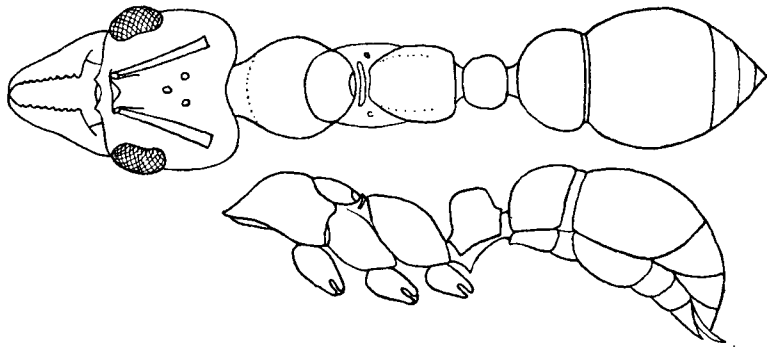


Fig. 106.—*Promyrmea excavata* n.sp. Dorsal and lateral view of female.

Male

Unknown.

New South Wales: Bundarra (T. Greaves).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

The deeply excavated occipital border distinguishes this species from all the others in the genus. The scutellum of the female is much more obsolete than in the other known females and is more like that of some species of *Chalcoponera* and *Phyracces*.

KEY TO SPECIES, PICTA GROUP

Workers

Inner border of mandibles straight to basal fifth, then sharply reduced to base, basal border edentate, rarely with an obsolete tooth; mesonotum finely transversely rugose *P. picta*

Inner border of mandibles straight to basal third, then sharply reduced to base, a large tooth near middle of basal border; mesonotum finely transversely striate *P. fucosa*

PROMYRMECIA PICTA (F. Smith)

Figs. 107-109

Myrmecia picta Smith, 1858, Cat. Hym. Brit. Mus. **6**: 146, ♀. Lowne, 1865, Entomologist **2**: 336, ♀.

Myrmecia (Myrmecia) picta Smith, Emery, 1911, Genera Insect. **118**: 21.

Myrmecia (Promyrmecia) picta Smith, Clark, 1927, Vict. Nat. **44** (2): 39, ♀ ♀ ♂; 1934, Mem. Nat. Mus. Melbourne **8**: 11, pl. 1, figs. 3-4, ♀ ♀ ♂.

Promyrmecia picta (Smith) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 100, pl. 12, figs. 10-13, ♀ ♀ ♂.

Worker

Length: 9-12 mm.

Black. Mandibles, clypeus, front of face to posterior margin of eyes yellow; antennae and anterior legs reddish yellow, intermediate and posterior legs brownish, tarsi lighter. Colour of thorax and nodes most variable, ranging from all black on some specimens to all red on others; on numerous individuals head, behind eyes, pronotum, and a spot on mesonotum black, node, edges of mesonotum, and a large portion of postpetiole red or reddish yellow. Gaster always black.

Mandibles shining, with scattered elongate punctures. Head longitudinally striate-rugose, finely and densely reticulate between striae. Pronotum transversely arched rugose, in some specimens almost longitudinally arched. Mesonotum finely rugose transversely, on a few examples almost smooth. Epinotum transversely, often irregularly, rugose, definitely striate on declivity. Node irregularly rugose. Postpetiole and gaster very finely and densely punctate.

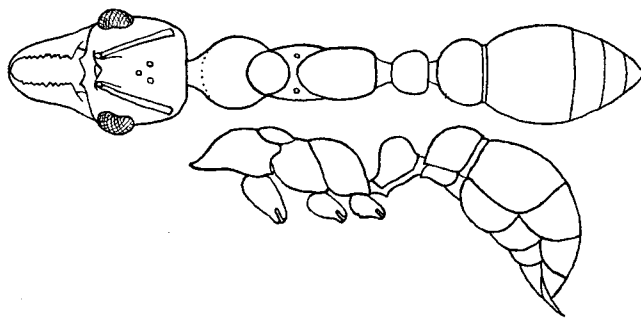


Fig. 107.—*Promyrmecia picta* (F. Smith). Dorsal and lateral view of worker.

Hair yellowish, erect, rather long and abundant throughout, none on scapes, longer and more abundant on apical segments of gaster than elsewhere.

Pubescence greyish, very fine, and abundant, particularly on postpetiole and gaster, frequently appearing as a greyish covering.

Head as long as broad, broader in front than behind, occipital border nearly straight, angles rounded. Mandibles not as long as head, outer border concave at middle, inner border nearly straight to basal fifth, thence sharply reduced to base, with nine teeth, first two small, third, fifth, seventh, and ninth twice as large, ninth forming angle between the two apparent borders; basal border usually edentate but in some examples an indication of a tooth. Frontal carinae short, almost parallel. Clypeus strongly excised in front, inner edges straight. Labrum projecting almost to points of clypeus, anterior border feebly rounded. Scapes not reaching occipital border; second segment of funiculus one-third longer than first and third, fourth to eighth equal, ninth and tenth shorter, apical as long as broad. Pronotum almost twice as broad as long, dorsal surface slightly rounded. Mesonotum circular, rounded above. Epinotum longer than broad, without a boundary between dorsum and declivity, latter short. Node broader than long, slightly broader behind than in front; in profile much higher than long, rounded above, stalk in front short, not half length of node, anterior face nearly vertical, posterior face sloping behind. Postpetiole one and three-fourths broader than long, much broader behind than in front, convex on sides and above. First segment of gaster broader than long. Legs long and moderately slender.

Female

Length: 13.5-14.5 mm.

Differs from worker only by larger size and in possessing wings. Colour more constant; occiput, pronotum, margins of other segments, and gaster blackish; mesonotum, scutellum, epinotum, node, and postpetiole red, legs uniformly

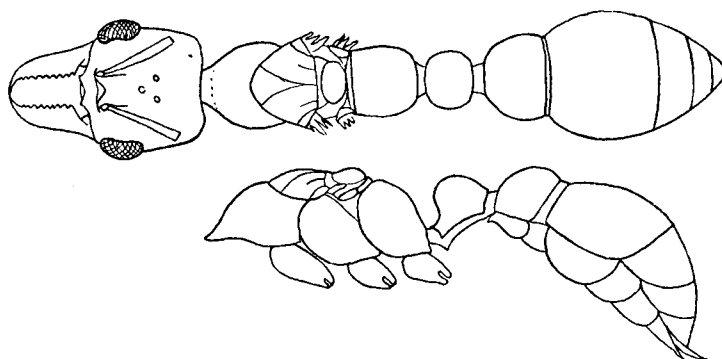


Fig. 108.—*Promyrmecia picta* (F. Smith). Dorsal and lateral view of female.

castaneous, except apical half of posterior femora brown, front of face bright yellow. Four corners of node more clearly defined, but not sharp. Wings hyaline. Ergatoid females also present.

Male

Length: 10-11 mm.

Black, mandibles, five basal segments of antennae, front of face, and all legs yellow, eight apical segments of antennae brown.

Head finely striate-rugose on middle, coarser at lateral and occipital borders. Mandibles shining, coarsely and sparsely punctate. Pronotum, mesonotum, scutellum, and epinotum coarsely reticulate-punctate. Node coarsely and irregularly rugose. Postpetiole and gaster very finely and densely punctate.

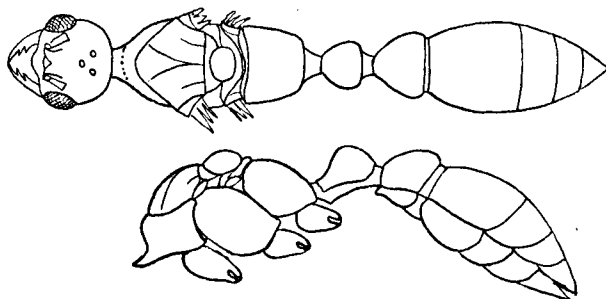


Fig. 109.—*Promyrmecia picta* (F. Smith). Dorsal and lateral view of male.

Hair greyish, long and suberect, longer and more abundant on head and thorax than on gaster, short and adpressed on legs, none on antennae. Pubescence greyish, short, most abundant on gaster.

Head broader than long, broader in front than behind; occipital border convex. Mandibles short, triangular, outer border convex, diverging behind. Clypeus long, convex, and rounded above, concave at middle in front. Antennae long and slender; scapes short, first segment of funiculus half as long as scapes, second three and one-half times as long as scapes, third slightly shorter than second, others nearly equal. Thorax barely twice as long as broad. Pronotum strongly rounded in front and above. Mesonotum large, convex, and rounded above, mayrian furrows distinct; a deep longitudinal suture extending from anterior border to near base; parapsidal furrows faintly defined. Scutellum broad, strongly convex. Epinotum strongly convex and rounded above, without a boundary between dorsum and declivity. Node slightly broader than long, almost circular, strongly convex above. Postpetiole broader than long, broadest just behind middle, strongly convex above and on sides. First segment of gaster broader than long. Legs long and robust.

Western Australia: Merriden, National Park, Mundaring, Yellowdine. *South Australia*: Adelaide (type locality), Mt. Lofty, Port Lincoln. *Victoria*: Maldon, Hattah, Wyperfield. *New South Wales*: Broken Hill, Narrabri.

Type in British Museum.

The colour varies considerably in the individuals of a single nest. Many specimens are entirely black with the exception of the mandibles, front of the

face, antennae, and anterior legs. Others have the thorax, petiole, and anterior half of postpetiole entirely red, or variously marked with red. The extent of yellow area on the front of the face also varies slightly; on some examples it does not pass the anterior margin of the eyes, whilst on others it extends well beyond the posterior margin. Although the colour varies considerably the sculpture, pilosity, and pubescence are constant. The same colour varieties occur in all nests obtained from each State.

PROMYRMECIA FUCOSA Clark

Figs. 110-112

Myrmecia (Promyrmecia) fucosa Clark, 1934, Mem. Nat. Mus. Melbourne 8: 15, pl. 1, figs. 5-6, ♀♀.

Promyrmecia fucosa Clark, 1943, Mem. Nat. Mus. Melbourne 13: 102, pl. 12, figs. 14-16, ♀♀♂.

Worker

Length: 10-11.5 mm.

Red. Posterior half of head and two apical segments of gaster black. Mandibles and front of face to middle of eyes yellow, antennae and anterior legs testaceous, middle and posterior legs brownish.

Mandibles smooth and shining, with some scattered, shallow punctures. Head longitudinally and irregularly rugose, densely and finely reticulate between rugae. Pronotum transversely arched-rugose. Mesonotum finely striate transversely. Epinotum transversely striate-rugose, coarser than on mesonotum but not as coarse as on pronotum. Node strongly and irregularly rugose. Postpetiole and gaster very finely and densely punctate.

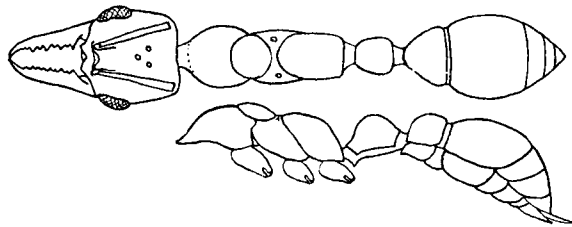


Fig. 110.—*Promyrmecia fucosa* Clark. Dorsal and lateral view of worker.

Hair greyish, long and erect, abundant on whole body except scapes, shorter and suberect on funiculus and legs. Pubescence greyish, long and abundant on postpetiole and gaster, forming a distinct covering, sometimes hiding sculpture; sparse elsewhere.

Head slightly longer than broad, broadest in front, occipital border feebly concave, angles rounded. Mandibles not as long as head; outer border almost straight to apical third; inner border nearly straight to basal third, then greatly

reduced to base; with nine teeth, third, fifth, seventh, eighth, and ninth twice as large as first two; eighth forming angle between the two apparent borders, ninth placed just in front of middle of basal border. Frontal carinae reaching posterior margin of eyes. Clypeus obtusely excised at middle in front; anterior corners produced as blunt, tooth-like angles. Labrum broadly rounded, extending outward to apex of clypeus. Scapes not reaching occipital border; first segment of funiculus slightly shorter than second, but longer than tenth. Thorax two and one-half times as long as broad; pronotum one-third broader than long, mesonotum circular, as long as broad, epinotum one-third longer than broad, boundary between dorsum and declivity feebly indicated. Node as long as broad, slightly broader behind than in front; in profile slightly longer than high, nearly flat above, anterior face vertical, posterior face descending in a gradual slope; stalk in front not quite half length of node. Postpetiole very slightly broader than long, much broader behind than in front. First segment of gaster as broad as long, slightly broader behind than in front.

Female

Length: 11-13 mm.

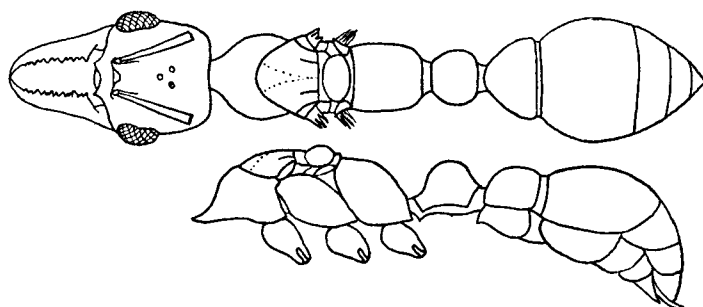


Fig. 111.—*Promyrmecia fucosa* Clark. Dorsal and lateral view of female.

Resembles worker, but much larger and winged. Sculpture slightly coarser on head, thorax, and node; colour similar, except that on two females examined the scutellum and sides of mesonotum brown or blackish.

Male

Length: 9 mm.

Head and thorax yellowish red; mandibles, antennae, node, postpetiole, gaster, and legs testaceous.

Head finely rugose, rugae longitudinal, diverging outward behind. Mandibles smooth and shining. Pronotum and epinotum transversely rugose. Scutellum and mesonotum irregularly rugose; node circularly rugose. Postpetiole and gaster very finely and densely punctate, with a few large, shallow punctures.

Hair yellow, short and erect on head, thorax, and node, longer and more abundant on gaster. Pubescence very abundant on gaster, whitish, short, and adpressed.

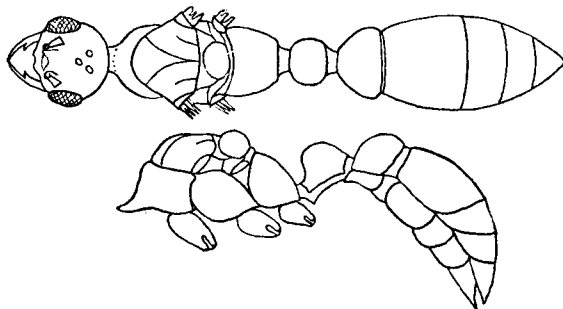


Fig. 112.—*Promyrmecia fucosa* Clark. Dorsal and lateral view of male.

Head broader than long, strongly convex behind eyes. Mandibles short, sharply pointed, with one large sharp tooth midway between point and inner angle, clypeus broadly rounded in front. Frontal carinae as long as broad behind, with a feeble median groove between them. Scape of antennae fully as broad as long, twice as long as first segment of funiculus, second segment three times as long as first. Thorax almost twice as long as broad. Pronotum short, sides and front strongly convex. Mesonotum as broad as long, mayrian and parapsidal furrows strongly impressed. Scutellum one-fourth broader than long. Epinotum twice as broad as long; in profile pronotum convex, raised abruptly, mesonotum raised and strongly convex, mayrian furrow deeply impressed. Scutellum dome-shaped; epinotum convex to bottom of declivity. Node one-fifth broader than long, convex in all directions; in profile one-fourth longer than high, anterior face straight and vertical, dorsum feebly convex, rounded into posterior face, ventral spine long and thorn-like. Postpetiole one and three-fourths broader than long, sides convex. First segment of gaster much broader than long, broadest behind, sides strongly convex. Legs long and slender.

Victoria: Lake Hattah (type locality), Ouyen, Sea Lake, Mildura, Wyperfield.
South Australia: Murray Bridge.

Holotype worker and allotype male in National Museum, Melbourne.

This species resembles *P. picta* (F. Smith) in size and colour but it is distinguished by the form of the mandibles, antennae, and nodes.

KEY TO SPECIES, CEPHALOTES GROUP

Workers

1. Gaster bicoloured 2
Gaster entirely yellowish red; mandibles with numerous large teeth on apical three-fourths, teeth on basal fourth very small, almost obsolete . *P. callima*

2. Gaster with first two segments yellowish red, last two segments black; mandibles with large teeth on apical three-fourths, basal fourth edentate *P. hilli*
- Gaster black except for a small yellowish-red patch on each side of first segment; mandibles with large teeth extending from base to apex *P. cephalotes*

PROMYRMECIA CEPHALOTES Clark

Figs. 113-115

Promyrmecia cephalotes Clark, 1943, Mem. Nat. Mus. Melbourne 13: 123, pl. 14, figs. 32-34, ♀ ♀ ♂.

Worker

Length: 13-14.5 mm.

Mandibles yellow, head and gaster black, antennae, thorax, node, postpetiole, a small patch on each side of first segment of gaster, and all legs yellowish red.

Mandibles striate-punctate on apical half and a row of shallow piligerous punctures along centre from base to apex. Head very finely striate longitudinally, very finely and densely reticulate between striae. Pronotum finely striate and reticulate as on head but striae more spaced, longitudinal in middle, arched on sides. Mesonotum much more finely striate, striae longitudinal but diverging outward in front. Epinotum rather coarsely striate transversely. Node circularly striate-rugose. Postpetiole and gaster very finely and densely punctate.

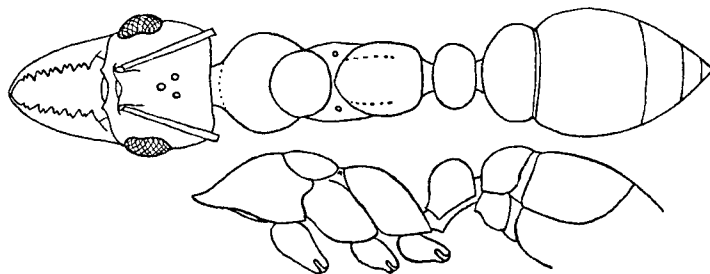


Fig. 113.—*Promyrmecia cephalotes* Clark. Dorsal and lateral view of worker.

Hair yellow, short and erect on head, thorax, and node, longer and more abundant on postpetiole and gaster, very short and sparse on antennae, longer and suberect on legs. Pubescence white, very fine and adpressed, longer and more abundant on gaster, forming a thin covering.

Head one-fifth broader than long, sides convex, occipital border straight or feebly concave. Mandibles as long as head, outer border feebly convex, inner border feebly convex, with five large, sharp, erect teeth. Frontal carinae as long as broad behind. Scapes exceed occipital border by fully their thickness; second

segment of funiculus one-fourth longer than first. Thorax twice as long as broad. Pronotum twice as broad as long, strongly convex in all directions. Mesonotum one-eighth broader than long, circular, convex above. Epinotum fully one-fourth longer than broad, convex laterally; in profile pronotum and mesonotum united in an even curve with a feeble indentation at suture, top of mesonotum scarcely higher than top of pronotum and epinotum. Meso-epinotal suture deep and wide. Epinotum straight in front, broadly rounded into declivity. Node one-fourth broader than long, convex in all directions; in profile slightly longer than high, anterior and posterior faces erect, short, broadly rounded into dorsum, ventral spine short and sharp. Postpetiole twice as broad as long, sides strongly convex. First segment of gaster one-eighth broader than long. Legs slender.

Female

Length: 18.5-19 mm.

Colour as in worker except first segment of gaster entirely red at base, shading to brown at apex of segment. Wings hyaline with a yellowish tinge. Sculpture similar but coarser. Hair longer and more abundant.

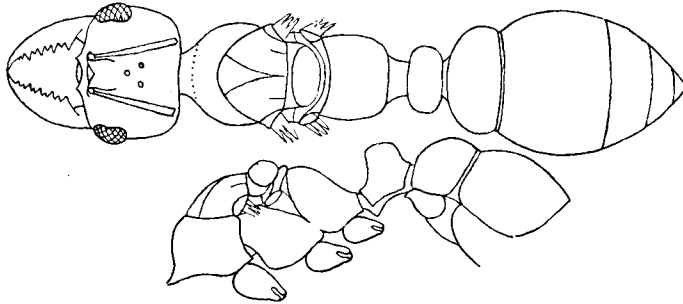


Fig. 114.—*Promyrmecia cephalotes* Clark. Dorsal and lateral view of female.

Head one-fourth broader than long, mandibles as long as head, broader and more convex than in worker. Scapes just reach posterior border. Node barely twice as broad as long, posterior and anterior faces straight, sides convex. Postpetiole twice as broad as long, strongly convex on front and sides. First segment of gaster one-fourth broader than long. Legs robust.

Male

Length: 14 mm.

Head, pronotum, mesonotum, and last three segments of gaster black. Mandibles brownish red, antennae, legs, sides, mesonotum, epinotum, node, postpetiole, and first segment of gaster yellowish red.

Hair white; erect, long, and abundant throughout. Pubescence white, very fine and adpressed, longer and more abundant on gaster.

Head very slightly broader than long, convex behind eyes. Mandibles short and broad, with three teeth. Scapes twice as long as broad and twice as long as first segment of funiculus, second segment three times longer than first. Thorax twice as long as broad. Pronotum four times broader than long,

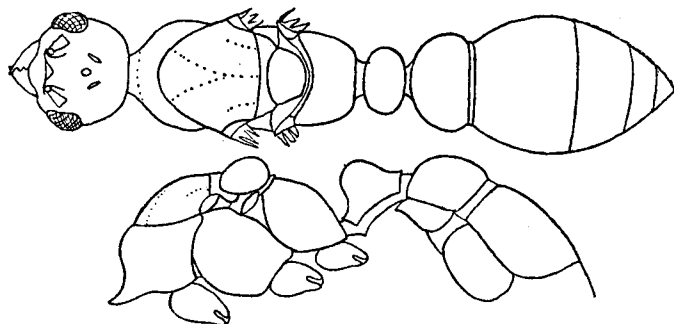


Fig. 115.—*Promyrmecia cephalotes* Clark. Dorsal and lateral view of male.

strongly convex. Mesonotum as long as broad, parapsidal furrows weakly impressed. Scutellum one-fourth broader than long, broadest in front. Epinotum twice as broad as long, convex laterally; in profile pronotum erect, strongly convex in front. Mesonotum high and convex, highest in middle. Scutellum dome-shaped. Epinotum straight on top, as long as, and rounded into, declivity. Node one-third broader than long, convex in all directions; in profile dome-shaped, ventral spine sharp, very short. Postpetiole one-third broader than long, sides strongly convex. First segment of gaster one-fourth broader than long. Legs long and slender.

South Australia: Cooper's Creek (type locality), Killalpannina.

Holotype worker and allotype male in National Museum, Melbourne.

PROMYRMECIA HILLI Clark

Fig. 116

Promyrmecia hilli Clark, 1943, Mem. Nat. Mus. Melbourne 13: 125, pl. 14, fig. 35, ♀.

Worker

Length: 14.5 mm.

Head and last two segments of gaster black, mandibles yellow, antennae, legs, thorax, node, postpetiole, and first two segments of gaster reddish yellow.

Mandibles finely striate, a row of large, piligerous punctures along centre. Head finely striate longitudinally, striae spaced, densely reticulate between. Pronotum longitudinally striate, striae larger and more widely spaced. Mesonotum finely striate longitudinally, striae obsolete, particularly behind. Epinotum coarsely striate transversely. Node circularly striate. Postpetiole and gaster microscopically reticulate.

Hair yellow, erect, short, and sparse throughout, six long hairs on dorsum of pronotum. Pubescence white, very fine and adpressed, very sparse, noticeable only on gaster.

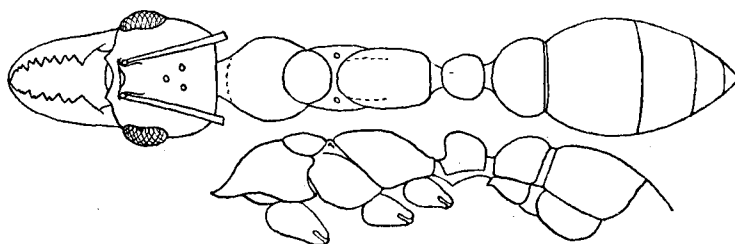


Fig. 116.—*Promyrmecia hilli* Clark. Dorsal and lateral view of worker.

Head very slightly broader than long, occipital border and sides feebly convex, angles broadly rounded. Mandibles as long as head, outer border straight or feebly convex, inner border with four large, sharp, erect teeth, with a small tooth between each, fourth at basal fourth, no teeth between it and base. Frontal carinae longer than broad. Scapes exceed occipital border by barely twice their thickness. Second segment of funiculus one-sixth longer than first. Thorax two and one-fourth longer than broad. Pronotum one-third broader than long, sides strongly convex, dorsum flattened in middle. Mesonotum circular, as long as broad. Epinotum one-third longer than broad; in profile pronotum and mesonotum combined evenly convex, pro-mesonotal suture feebly indicated, mesoepinotal suture deep and wide. Epinotum weakly convex above, broadly rounded into declivity. Node as long as broad, almost circular, but slightly broader behind than in front, convex in all directions; in profile longer than high, anterior face vertical, straight, posterior face short, rounded into dorsum, anterior edge blunt, ventral spine short and sharp. Postpetiole one-third broader than long, sides strongly convex. First segment of gaster one-fifth broader than long. Legs long and slender.

Female

Unknown.

Male

Unknown.

Central Australia: Finke River (type locality).

Holotype worker in National Museum, Melbourne.

PROMYRMECIA CALLIMA Clark

Fig. 117

Promyrmecia callima Clark, 1943, Mem. Nat. Mus. Melbourne 13: 125, pl. 14, fig. 36, ♀.

Worker

Length: 12.5-14 mm.

Head black, mandibles yellow, base of scapes, anterior edge of pronotum, and a spot on each side of mesonotum brown, apical half of scapes, funiculus, thorax, node, postpetiole, and gaster yellowish red, legs lighter, more yellowish.

Mandibles with a central row of large piligerous punctures, with a slight ridge at each side forming a shallow groove. Clypeus very finely and densely punctate, with indications of very faint longitudinal striae at sides. Head with very fine longitudinal striae widely spaced, spaces very finely and densely reticulate-punctate. Thorax more shining than head. Pronotum longitudinally arched striate, striae very widely but irregularly spaced. Mesonotum very densely and finely reticulate-punctate, with some obsolete longitudinal striae, more clearly defined at sides. Dorsum and declivity of epinotum transversely striate, striae very widely spaced. Node circularly striate-rugose, striae obsolete and almost longitudinal in centre. Postpetiole and gaster microscopically reticulate.

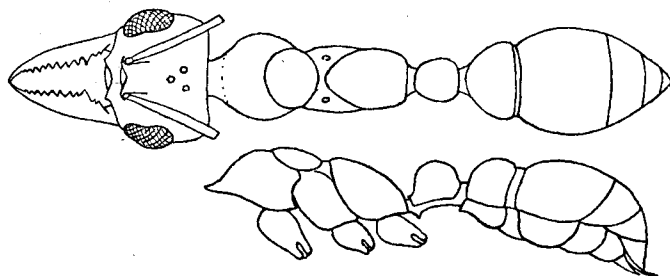


Fig. 117.—*Promyrmechia callima* Clark. Dorsal and lateral view of worker.

Hair yellow, very long and inclined inwards on top and under side of mandibles, rather short and sparse on head and thorax, with a few long, fine, and erect hairs sparsely scattered on thorax, more abundant on legs, longer and more abundant on apical segments of gaster, none on antennae except a few very short at apex of scapes. Pubescence white, very short and adpressed, longer and more abundant on gaster, forming a feeble covering.

Head one-fourth broader than long, sides and occipital border convex. Mandibles slightly longer than head, outer border feebly convex, inner border with numerous large, sharp, erect teeth on apical three-fourths, on basal fourth teeth small, almost obsolete. Frontal carinae as long as broad in front. Scapes exceed occipital border by almost one-sixth their length; second segment of funiculus one-fourth longer than preceding. Thorax slightly more than twice as long as broad. Pronotum twice as broad as long, strongly convex in all directions. Mesonotum very slightly broader than long, strongly convex, sides margined, meso-epinotal constriction deep and wide. Epinotum almost one-fourth longer than broad, bluntly rounded in front, dorsum flattened. In profile pronotum convex, raised abruptly, pronotum and mesonotum combined in an even curve, mesonotum dropping behind, meso-epinotal suture deep and wide, epinotum

strongly and evenly convex from base to foot of declivity. Node as long as broad, posterior border and sides strongly convex, anterior border weakly convex; in profile as long as high, anterior and posterior faces vertical, parallel, rounded into convex dorsum, ventral spine slender and sharp. Postpetiole one-fourth broader than long, sides strongly convex, reduced in front, very narrow, constriction between postpetiole and gaster sharply impressed. First segment of gaster broader than long, strongly convex. Legs long and robust.

Female

Unknown.

Male

Unknown.

Victoria: Kiata (type locality).

Holotype worker in National Museum, Melbourne.

This species resembles *P. cephalotes* Clark in the shape of the head. It is abundant on the desert country and is known locally as the red bull-ant. The nest is inconspicuous and indicated only by a few small holes scattered round the roots of small bushes; usually there is no mound.

KEY TO SPECIES, MANDIBULARIS GROUP

Workers

1. Postpetiole and gaster brown or yellowish brown 2
 Postpetiole and gaster black 3
2. Postpetiole and gaster with dense bright golden pubescence; first segment of gaster dark brown, remaining segments yellowish brown; legs reddish yellow *P. fulviculis*
 Postpetiole not pubescent; gaster with sparse white pubescence; first and second segments of gaster dark brown, remaining segments and all legs reddish brown *P. potteri*
3. Pubescence on gaster bright reddish gold, dense, hiding sculpture 4
 Pubescence on gaster bright gold, brassy, or yellow, never reddish, usually dense, hiding sculpture 5
4. Postpetiole longitudinally striate-rugose *P. mandibularis*
 Postpetiole microscopically punctate, never rugose *P. laevinodis*
5. Postpetiole densely pubescent; mandibles with teeth along basal half or two-thirds obsolete 6
 Postpetiole not at all or very sparsely pubescent; mandibles with teeth along basal two-thirds well defined though small, directed backwards 8
6. Dorsum of epinotum longitudinally striate-rugose, declivity transversely striate-rugose; mandibles with five large apical teeth, feebly curved backwards; large species, approximately 14 mm. 7

- Dorsum of epinotum punctate-rugose, declivity irregularly rugose, more transversely striate-rugose near base; mandibles with five erect apical teeth, third and fifth large, others much smaller; smaller species, approximately 11 mm. *P. fulvipes*
7. Mandibles, antennae, and legs black or brownish black *P. piliventris*
Mandibles, antennae, and femora red or brownish red *P. piliventris femorata*
8. Mandibles black, brown, or reddish brown, never yellow 9
Mandibles always yellow; antennae and legs brown, tarsi reddish *P. luteiforceps*
9. Pronotum irregularly rugose; epinotum coarsely punctate-rugose, sometimes with traces of transverse rugae at base of declivity *P. gilberti*
Pronotum longitudinally striate-rugose; epinotum coarsely punctate-rugose on anterior half, coarsely transversely striate-rugose on declivity *P. rectidens*

PROMYRMECIA MANDIBULARIS (Smith)

Figs. 118-120

Myrmecia mandibularis Smith, 1858, Cat. Hym. Brit. Mus. **6**: 145, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 726, ♀.

Myrmecia mandibularis Smith subsp. *aureorufa* Forel, 1910, Rev. Suisse Zool. **18**: 6, ♀.

Myrmecia (Pristomyrmecia) mandibularis Smith, Emery, 1911, Genera Insect. **118**: 21, pl. 1, fig. 11, ♀.

Myrmecia (Promyrmecia) mandibularis Smith, Wheeler, 1933, Colony-founding among Ants, p. 64.

Myrmecia (Promyrmecia) mandibularis Smith subsp. *postpetiolaris* Wheeler, 1933, Colony-founding among Ants, p. 65, ♀ ♀.

Promyrmecia mandibularis Smith, Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 137, pl. 17, figs. 91-93, ♀ ♀ ♂.

Worker

Length: 12-15 mm.

Black, mandibles, antennae, and legs brown, tarsi reddish; on some examples mandibles and legs quite reddish.

Shining. Mandibles longitudinally striate, coarsely on apical third. Head longitudinally striate, with large, shallow punctures between striae behind. Pronotum, mesonotum, and anterior of epinotum longitudinally striate-rugose behind, declivity transversely striate. Node longitudinally striate-rugose. Postpetiole much more finely longitudinally striate-rugose in front, more punctate-rugose behind, rugae appear more as elongate punctures. Gaster microscopically punctate.

Hair yellow, erect, abundant throughout, very long on mandibles and gaster, short and suberect on antennae, a little longer on legs. Pubescence very fine and whitish, very close lying, longer and more abundant on postpetiole and sides of gaster, forming a thin covering at middle of posterior border of postpetiole, pubescence bright golden red on gaster, long, dense, and adpressed, hiding sculpture.

Head slightly broader than long, sides convex, occipital border concave, angles rounded. Mandibles fully their width at base longer than head, outer border convex, inner border with four large, sharp, erect teeth at apex, teeth behind these becoming shorter and broader and obsolete to base. Scapes reach occipital

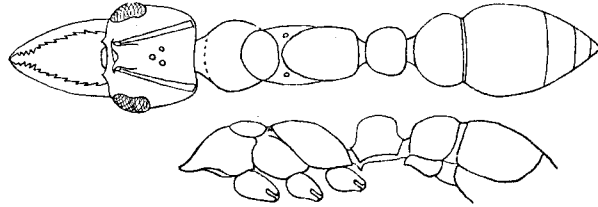


Fig. 118.—*Promyrmecia mandibularis* (F. Smith). Dorsal and lateral view of worker.

border, first and third segments of funiculus equal in length, second one and one-half times longer. Thorax fully twice as long as broad; pronotum almost twice as broad as long, sides and front strongly convex, dorsum flat, mesonotum as long as pronotum, about one-fourth broader than long, strongly convex in all directions, excision deep and narrow, epinotum one and one-half times longer than broad, bluntly rounded in front, dorsum convex. Node very slightly broader than long, broadest behind middle, one-fourth broader behind than in front, anterior and posterior borders straight, sides convex; in profile slightly higher than long, anterior face vertical, feebly convex, posterior face straight, both faces rounded into convex dorsum, ventral spine triangular, sharp. Post-petiole one and one-half times broader than long, broadest at posterior third, constriction deep and wide. First segment of gaster broader than long.

Female

Length: 15-15.5 mm.

Colour and pilosity as on worker, sculpture similar but much coarser.

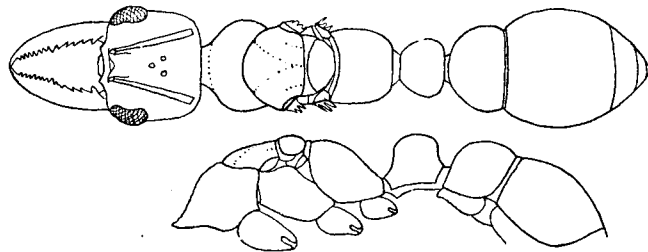


Fig. 119.—*Promyrmecia mandibularis* (F. Smith). Dorsal and lateral view of female.

Head one-eighth broader than long, occipital border and sides feebly convex, angles broadly rounded. Mandibles slightly longer than head, outer and inner

borders feebly convex, inner border with nine large, broad, sharp, erect teeth in front of middle, teeth behind these smaller and directed forward. Scapes barely reach occipital border. Thorax fully twice as long as broad; pronotum three times broader than long, mesonotum broader than long, broadly convex in front, mayrian furrows feebly indicated, parapsidal furrows weakly impressed, scutellum almost twice as broad as long, strongly convex, epinotum one and one-half times broader than long. Node one-fourth broader than long, broadest behind middle, anterior and posterior borders straight, sides strongly convex; in profile higher than long, anterior and posterior faces straight, vertical, rounded into feebly convex dorsum, ventral spine triangular, short, and sharp. Post-petiole one-third broader than long, strongly convex. First segment of gaster slightly broader than long, slightly broader behind than in front. Wings hyaline.

Male

Length: 11.5-12.5 mm.

Colour as on worker. Hair and pubescence longer and more abundant throughout. Sculpture more punctate-rugose, bottom of punctures densely and finely punctate.

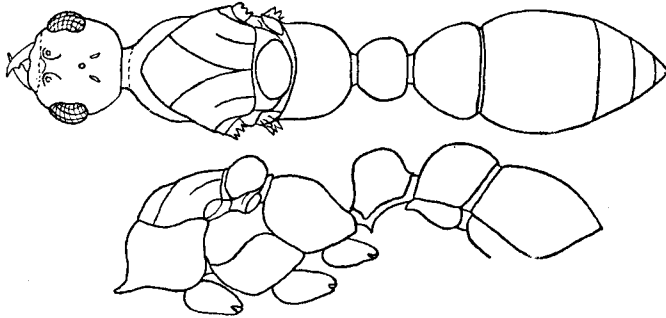


Fig. 120.—*Promyrmecia mandibularis* (F. Smith). Dorsal and lateral view of male.

Head as long as broad, occipital border short, straight, or feebly convex, sides strongly convex. Mandibles short, triangular, angle on inner border forming a sharp tooth. Scape twice as long as first segment of funiculus, second segment three times longer than scape. Thorax twice as long as broad, pronotum very short, eight and one-half times broader than long, mesonotum slightly broader than long, broadly rounded in front, mayrian and parapsidal furrows deeply impressed, scutellum one-third broader than long, epinotum one-third broader than long. Node one-fourth broader than long, convex in all directions; in profile higher than long, anterior and posterior faces vertical, rounded into feebly convex dorsum, ventral spine translucent, long and sharp, broad at base. Post-petiole barely one-third broader than long, broadest at basal third. First segment of gaster slightly broader than long, broader behind than in front. Wings hyaline.

South Australia: Adelaide (type locality), Mt. Lofty. *Western Australia:* Emu Park, Perth, Mundaring, Collie, Albany.

Type in British Museum.

PROMYRMECIA LAEVINODIS Clark

Figs. 121, 122

Promyrmecia laevinodis Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 139, pl. 17, figs. 94-95, ♂ ♀.

Worker

Length: 11-14 mm.

Black, mandibles, antennae, and legs reddish brown.

Mandibles finely striate longitudinally, with shallow elongate punctures between striae. Head finely striate longitudinally, interstices wide, with large, shallow punctures. Pronotum and mesonotum longitudinally striate, coarser than on head. Epinotum and node coarsely and irregularly rugose, declivity transversely striate. Postpetiole and gaster microscopically punctate; on some examples indications of a few large punctures, very feeble and obsolete.

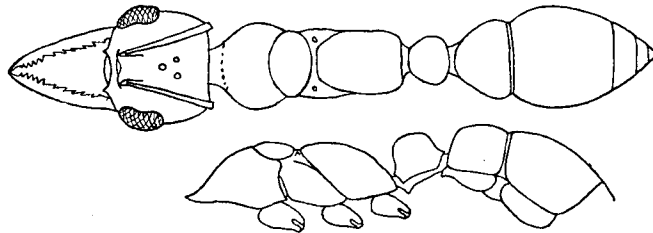


Fig. 121.—*Promyrmecia laevinodis* Clark. Dorsal and lateral view of worker.

Hair yellow, erect, rather sparse on head and thorax, longer and more abundant on postpetiole and gaster, short and suberect on legs. Pubescence white, very fine and adpressed, longer and more abundant on postpetiole and sides of gaster, bright reddish yellow on dorsum of gaster, long, hiding sculpture.

Head one-seventh broader than long, sides feebly convex, occipital border straight or feebly concave, angles broadly rounded. Mandibles about half their breadth longer than head, outer border straight at middle, convex at basal fourth, inner border with five erect, sharp teeth on apical fourth, thence to base teeth obsolete, almost effaced. Scapes exceed occipital border by their thickness, first and third segments of funiculus equal in length, second one-fourth longer than first. Thorax fully twice as long as broad, pronotum barely twice as broad as long, almost circular, dorsum flat, mesonotum as long as pronotum, one-third broader than long, oval, excision deep and narrow, epinotum one and one-half times longer than broad. Node one-sixth broader than long, broader behind than in front, sides strongly convex, anterior and posterior borders feebly

convex; in profile very slightly higher than long, anterior and posterior faces straight and vertical, rounded into feebly convex dorsum, ventral spine triangular, half as long as broad at base, blunt. Postpetiole one-fourth broader than long, broadest at posterior fourth, constriction deep and wide. First segment of gaster slightly broader than long.

Female

Length: 15-16 mm.

Colour and pilosity as on worker. Sculpture much coarser.

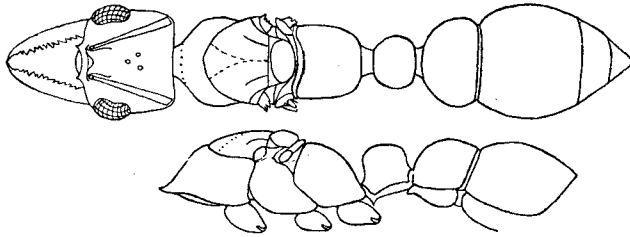


Fig. 122.—*Promyrmecia laevinodis* Clark. Dorsal and lateral view of female.

Head broader than long, occipital border feebly concave. Mandibles shorter than head, broad, outer borders straight at middle, inner border convex, with eight or nine large, broad, sharp, erect teeth on apical half, behind these three or four shorter, blunt, and directed forwards. Scapes not reaching occipital border by almost their thickness. Thorax twice as long as broad; pronotum three and one-half times broader than long, dorsum feebly convex, mesonotum one-sixth broader than long, parapsidal furrows feebly indicated, scutellum one-third broader than long, epinotum slightly broader than long, feebly convex transversely. Node one-seventh broader than long, broadest behind middle, anterior and posterior borders straight, sides convex. Postpetiole one and one-half times broader than long, strongly convex in all directions, constriction deep but not wide. First segment of gaster one-ninth broader than long. Wings hyaline.

Male

Unknown.

Western Australia: Armadale (type locality), Albany, Bunbury, Narrogin, Northcliff, Northam, Hopetoun, Kukerin, Pemberton. *South Australia*: Lucindale, Melrose, Kangaroo Island. *Victoria*: Mallee, Kiata.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA PILIVENTRIS (F. Smith)

Figs. 123-125

Myrmecia piliventris Smith, 1858, Cat. Hym. Brit. Mus. **6**: 146, ♀. Roger, 1860-61, Ent. Z. **5**: 36, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 727, ♀; 1876, J. Mus. Godeffroy **12**: 93, ♀♀.

Myrmecia (Pristomyrmecia) piliventris Smith, Emery, 1911, Genera Insect. **118**: 21, ♀♀.
Myrmecia (Promyrmecia) piliventris Smith, Wheeler, 1933, Colony-founding among Ants, p. 67, ♀.

Promyrmecia piliventris (Smith) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 140, pl. 17, figs. 84-86, ♀♀♂.

Worker

Length: 10-15.5 mm.

Black, mandibles, antennae, and legs dark brown, tarsi lighter, more reddish.

Mandibles obliquely striate on apical half, more finely striate and punctate on basal half. Head longitudinally striate in front, more striate-rugose behind, interstices very finely reticulate. Pronotum, mesonotum, anterior of epinotum and node longitudinally striate-rugose, declivity transversely striate-rugose, more coarsely than on head, interstices finely reticulate. Postpetiole and gaster microscopically punctate.

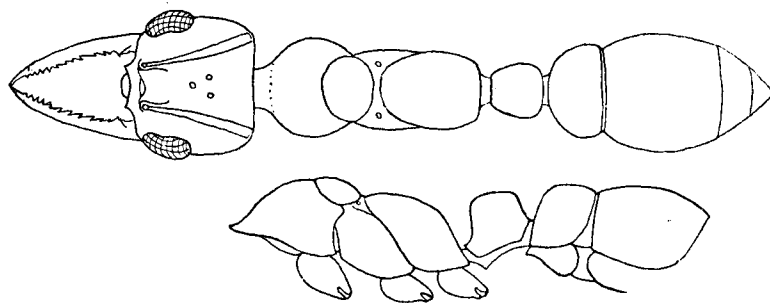


Fig. 123.—*Promyrmecia piliventris* (F. Smith). Dorsal and lateral view of worker.

Hair yellowish, erect, and abundant, particularly long on mandibles, clypeus, and apical segments of gaster, short and suberect on legs. Pubescence greyish, very fine and close-lying on antennae and legs, yellow, long, and forming a dense covering on postpetiole and gaster.

Head one-eighth broader than long, sides straight, occipital border feebly concave, angles broadly rounded. Mandibles slightly longer than head, outer border straight or feebly convex, inner border with five strong, sharp, erect teeth on apical fourth, then to base teeth short and directed backwards, sawtooth-like, almost obsolete. Scapes reach occipital border, first and third segments of funiculus equal in length, second almost one-fourth longer. Thorax fully twice as long as broad, pronotum almost twice as broad as long, sides and front strongly convex, dorsum flattened, mesonotum as long as pronotum, one-fourth broader

than long, dorsum feebly convex, meso-epinotal excision deep and wide, epinotum one-fifth longer than broad, almost flat transversely. Node very slightly broader than long, broadest at middle, broader behind than in front; in profile slightly higher than long, anterior and posterior faces straight and vertical, both rounded into feebly convex dorsum, ventral spine long, thin, and sharp, as long as broad at base. Postpetiole one-third broader than long, strongly convex in all directions, constriction deep but not wide. First segment of gaster very slightly broader than long, broader behind than in front.

Female

Length: 16-20 mm.

Colour as on worker. Sculpture coarser. Pilosity more abundant and longer, pubescence on postpetiole and gaster longer and more abundant, bright brass yellow.

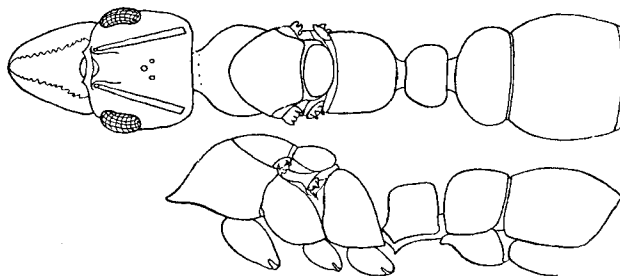


Fig. 124.—*Promyrmecia piliventris* (F. Smith). Dorsal and lateral view of female.

Head one-ninth broader than long, sides and occipital border straight, angles rounded. Mandibles much shorter than head, outer border straight or feebly convex, inner border strongly convex, with twelve long, sharp, erect teeth, broad at base. Scapes not reaching occipital border by fully their thickness. Node one-third broader than long, broadest just behind middle, anterior and posterior borders straight, sides convex. Postpetiole three-fifths broader than long, strongly convex. First segment of gaster broader than long, broadest in front of middle, broader behind than in front. Wings with a yellow tinge.

Male

Length: 11.5 mm.

Colour and pilosity as in worker, sculpture more punctate-reticulate.

Head as broad as long, strongly arched behind, semi-circular. Mandibles triangular, inner border with one large, sharp tooth at basal angle. Scapes not reaching posterior border of eyes, twice as long as first segment of funiculus, second segment three times longer than scape. Thorax barely twice as long as broad, pronotum very short, semi-circular, mesonotum broader than long,

parapsidal furrows sharply impressed, mayrian furrow sharply impressed in front, feebly impressed behind, scutellum slightly broader than long, dome-shaped, epinotum one-third broader than long, strongly convex. Postpetiole one-fifth

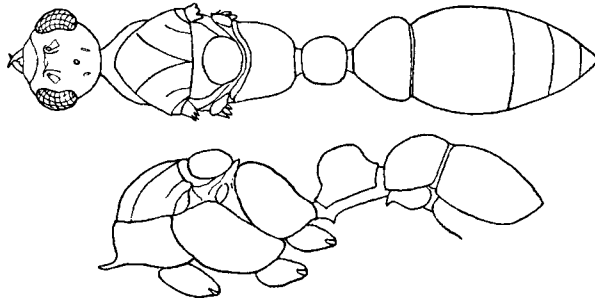


Fig. 125.—*Promyrmecia piliventris* (F. Smith). Dorsal and lateral view of male.

broader than long, broadest behind middle, bluntly rounded in front, constriction deep and wide. First segment of gaster broader than long, sides strongly convex. Wings with a yellowish tinge.

Australia (type locality). *New South Wales*: Sydney, Thornleigh, Peak Hill. *Queensland*: Stanthorpe, Fletcher. *Tasmania*: Burnie. *Victoria*: Frankston, Belgrave, Eltham, Broadmeadows.

Type in British Museum.

PROMYRMECIA PILIVENTRIS FEMORATA (Santschi)

Myrmecia (*Pristomyrmecia*) *piliventris* Smith var. *femorata* Santschi, 1928, Bull. Soc. Vaud. Sci. Nat. **56**: 466, ♀.

Myrmecia (*Promyrmecia*) *fulvipes* Roger var. *femorata* Santschi, Wheeler, 1933, Colony-founding among Ants, p. 70, ♀.

Promyrmecia piliventris (Smith) var. *femorata* (Santschi) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 142, pl. 17, figs. 88-90, ♀ ♀.

Myrmecia (*Promyrmecia*) *fulvipes* Roger subsp. *barbata* Wheeler, 1933, Colony-founding among Ants, p. 71, ♂ ♀.

Promyrmecia fulvipes Roger subsp. *barbata* Wheeler, Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 146, ♀ ♀.

The worker, male, and female of this form differ from *P. piliventris* only in having the coxae and femora reddish yellow. On some examples the whole of the legs is reddish yellow, but on most the tibiae are darker, brownish to almost black.

In recent years a considerable number of specimens have been received from various localities in New South Wales and Queensland, and examples from Dorrigo cannot be separated from the form from that locality described by Wheeler as *M. (P.) fulvipes barbata*. According to Wheeler this form differs in having the whole of the legs reddish yellow, but as mentioned above the colour of the legs varies considerably even in specimens from the same nest.

Victoria: Frankston (type locality), Belgrave, Eltham, Fern Tree Gully. *New South Wales*: Glen Innes, Ebor, Dorrigo, Macquarie Pass, Williams River. *Queensland*: Mt. Tamborine, Brisbane, Bribie Island, Stradbroke Island.

PROMYRMECIA RECTIDENS (Forel)

Figs. 126-128

Myrmecia piliventris Smith var. *rectidens* Forel, 1910, Rev. Suisse Zool. **18**: 5, ♀.

Myrmecia (Pristomyrmecia) piliventris Sm. var. *rectidens* Forel, Emery, 1911, Genera Insect. **118**: 21.

Myrmecia (Promyrmecia) piliventris rectidens Forel, Wheeler, 1933, Colony-founding among Ants, p. 68.

Promyrmecia piliventris rectidens (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 141, pl. 17, fig. 87, ♀.

Worker

Length: 9.5 mm.

Mandibles, antennae, and legs reddish brown, head, thorax, and node brownish black, postpetiole and gaster black.

Shining. Mandibles with a few coarse striae on apical third, almost smooth behind, a few shallow, elongate punctures. Head finely striate-rugose longitudinally. Pronotum and mesonotum longitudinally striate-rugose, much coarser than on head, epinotum coarsely punctate-rugose, more or less longitudinal on anterior fourth, irregular behind, transversely striate-rugose on declivity. Node coarsely and irregularly rugose, postpetiole and gaster microscopically punctate.

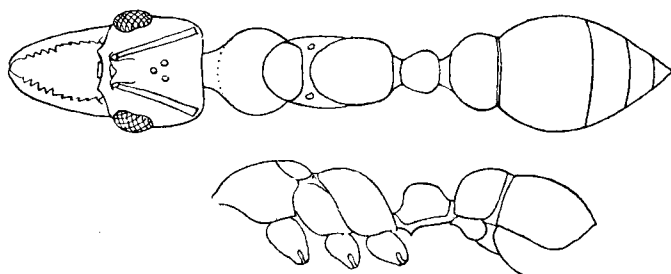


Fig. 126.—*Promyrmecia rectidens* (Forel). Dorsal and lateral view of worker.

Hair yellow, short and erect, sparse throughout, long and more numerous on clypeus, mandibles, and apical segments of gaster, short and suberect on scapes and legs. Pubescence apparent only on gaster where it forms a dense golden covering hiding sculpture.

Head almost as long as broad, sides feebly convex, occipital border feebly concave, angles broadly rounded. Mandibles as long as head, straight or very feebly convex, inner border with five large, sharp, erect teeth on apical third, behind these a series of very small backward-directed denticles. Scapes barely reaching occipital border, first and third segments of funiculus equal length, one-third shorter than second. Thorax fully twice as long as broad; pronotum

almost twice as broad as long, mesonotum one-third broader than long, mesoepinotal constriction deep and narrow, epinotum one-fifth longer than broad. Node as long as broad, broadest behind; in profile anterior and posterior faces straight, vertical, rounded into feebly convex dorsum, ventral spine long and slender. Postpetiole one-third broader than long, strongly convex, constriction wide but not deep. First segment of gaster one-fifth broader than long.

Female (Subapterous)

Length: 15 mm.

Colour and pilosity as on worker, sculpture coarser.

Head very slightly broader than long. Mandibles one-sixth shorter than head, teeth similar but larger than on worker. Scapes not reaching occipital border by

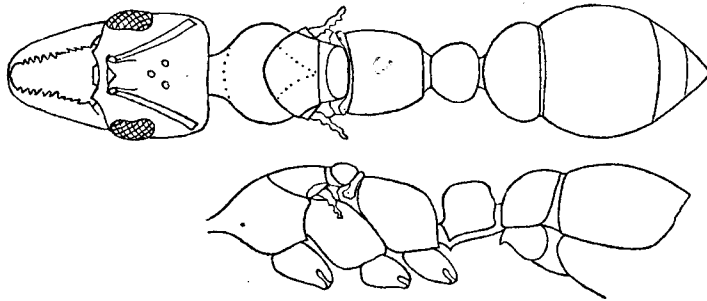


Fig. 127.—*Promyrmea rectidens* (Forel). Dorsal and lateral view of female.

fully their thickness. Pronotum almost three times broader than long. Mesonotum one-third broader than long, mayrian furrows feebly indicated. Scutellum twice as broad as long. Anterior wings vestigial, thread-like, 5 mm. long, no trace of posterior wings. Node one-ninth broader than long. Postpetiole one and three-fourths broader than long.

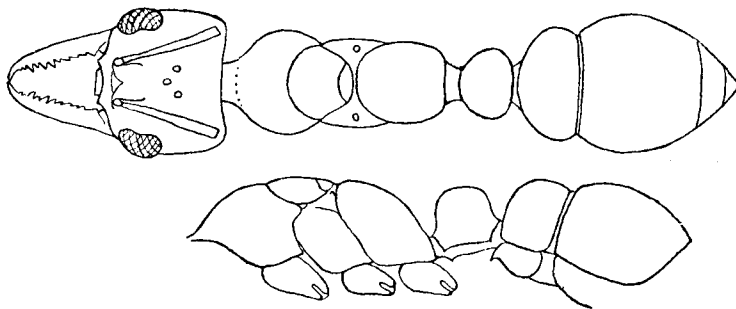


Fig. 128.—*Promyrmea rectidens* (Forel). Dorsal and lateral view of ergatoid female.

Female (Ergatoid)

Length: 16.5 mm.

Colour, sculpture, and pilosity as on wingless female, differing only as follows. Head slightly broader, angles not as broadly rounded, occipital border more concave. Mesonotum, including scutellum, as long as broad, almost circular, scutellum small, imbedded on posterior edge of mesonotum, three times broader than long, suture sharply defined, anterior wing insertions very feebly indicated, no trace of posterior wing sclerites. Node one-fifth broader than long, broadest just behind middle; in profile one-fifth higher than long, anterior and posterior faces vertical, feebly convex, both rounded into dorsum.

Male

Unknown.

New South Wales: Kingstown (type locality), Uralla, Warrah Creek, Barraba, Yanco, Bathurst, Durras Lake.

Type in Forel collection, Natural History Museum, Geneva.

In size and colour this form shows considerable variation, many workers being very similar to *P. piliventris*. Whilst the types have the mandibles, antennae, and legs brown, a large number have these portions black as in *P. piliventris*.

P. rectidens is readily separated from *P. piliventris* by the postpetiole, which is densely pubescent in *P. piliventris* and not at all or very sparsely so in *P. rectidens*. The dentition of the mandibles also differs in the two species.

PROMYRMECIA LUTEIFORCEPS (Forel)

Fig. 129

Myrmecia (*Pristomyrmecia*) *fulvipes* Roger race *gilberti* Forel var. *luteiforceps* Forel, 1915, Ark. Zool. 9 (16): 9, ♀.

Myrmecia (*Promyrmecia*) *gilberti* Forel var. *luteiforceps* Forel, Wheeler, 1933, Colony-founding among Ants, p. 74, ♀.

Promyrmecia luteiforceps (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne 13: 143, pl. 17, fig. 96, ♀.

Worker

Length: 12 mm.

Black, mandibles yellow, antennae and legs brown, tarsi reddish.

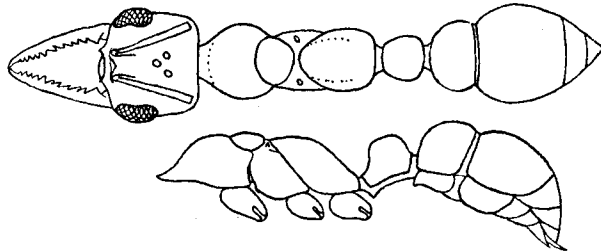


Fig. 129.—*Promyrmecia luteiforceps* (Forel). Dorsal and lateral view of worker.

Apical half of mandibles obliquely striate, basal half smooth and shining. Head finely striate-rugose longitudinally in front, irregularly rugose behind, interstices densely punctate-reticulate. Pronotum and mesonotum longitudinally

striate-rugose, more coarsely than on head, epinotum and node irregularly punctate-rugose, declivity transversely rugose, interstices and bottom of punctures densely punctate-reticulate. Postpetiole and gaster densely and finely punctate.

Hair yellowish, short and erect, long and abundant on mandibles, clypeus, and gaster, none on antennae, very short and suberect on legs. Pubescence yellowish, sparse except on gaster, where it forms a dense covering, some scattered pubescence on middle of posterior fourth of postpetiole.

Head slightly broader than long, sides feebly convex, occipital border straight or feebly concave, angles rounded. Mandibles longer than head, outer border straight, inner border with five large, sharp, erect teeth on apical third, teeth short, sharp, and directed backwards on basal two-thirds. Scapes not reaching occipital border by their thickness, second segment of funiculus one-fifth longer than first. Thorax fully twice as long as broad, pronotum one and one-half times broader than long, strongly convex, mesonotum one-fourth broader than long, oval, meso-epinotal excision deep, epinotum one-fourth longer than broad, feebly convex on top. Node a fraction broader than long, almost circular; in profile as high as long, anterior face vertical, feebly convex, rounded into dorsum, posterior face very short, broadly rounded into dorsum, ventral spine short and sharp, half as long as broad at base. Postpetiole barely one-third broader than long, almost semi-circular in front. First segment of gaster one-sixth broader than long, broader behind than in front.

North Queensland: Herberton.

Type in Natural History Museum, Stockholm.

PROMYRMECIA FULVICULIS (Forel)

Figs. 130-132

Myrmecia (*Pristomyrmecia*) *fulvipes* Roger race *fulviculis* Forel, 1913, Bull. Soc. Vaud. Sci. Nat. 49: 174, ♀.

Myrmecia (*Promyrmecia*) *fulvipes* Roger subsp. *fulviculis* Forel, Wheeler, 1933, Colony-founding among Ants, p. 70, ♀.

Promyrmecia fulviculis (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne 13: 144, pl. 17, fig. 97, ♀.

Worker

Length: 13-14.5 mm.

Head, thorax, and node black, mandibles and antennae reddish brown, postpetiole and anterior two-thirds of first segment of gaster brown, apical third of first segment and all following segments yellowish, legs, including coxae, reddish yellow.

Mandibles coarsely and obliquely striate on apical third, finely and longitudinally striate behind. Head finely and longitudinally striate-rugose, irregularly punctate-rugose behind, striae widely spaced, interstices densely reticulate. Thorax much more coarsely rugose, rugae almost longitudinal on pronotum and mesonotum, irregularly on epinotum and node. Postpetiole and gaster microscopically reticulate.

Hair yellow, erect, long, and fine throughout, coarser, shorter, and suberect on antennae and legs. Pubescence whitish, very fine and close lying, very dense, yellow, long, and adpressed on postpetiole and gaster, forming a dense golden covering hiding sculpture.

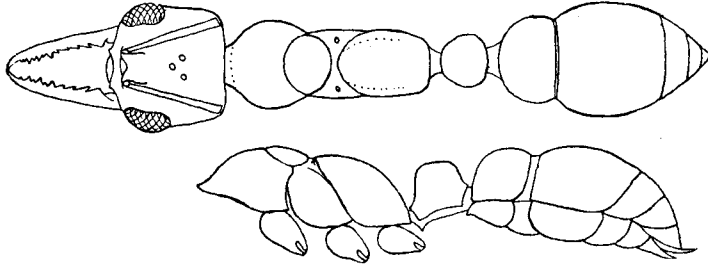


Fig. 130.—*PromyrmeCIA fulviculis* (Forel). Dorsal and lateral view of worker.

Head very slightly broader than long, sides and occipital border straight, angles broadly rounded. Mandibles slightly longer than head, outer border straight or feebly convex, inner border with five large, sharp, erect teeth on apical third, from these to base teeth widely spaced, short, and directed backward. Scapes reach occipital border, first and third segments of funiculus equal length, second two and one-fourth longer than first. Thorax fully twice as long as broad, pronotum one-third broader than long, strongly convex, mesonotum one-fifth broader than long, oval, epinotum about one-third longer than broad. Node one-sixth broader than long, broadest at middle, sides and posterior border strongly convex, anterior and posterior faces straight and vertical, rounded into convex dorsum, ventral spine triangular, sharp, half as long as broad at base. Postpetiole one-third broader than long, strongly convex in all directions, constriction deep and wide. First segment of gaster slightly broader than long.

Female (Dealated)

Length: 21 mm.

Colour, sculpture, and pilosity as on worker.

Head one-eighth broader than long, sides and occipital border straight or feebly convex, angles broadly rounded. Mandibles as long as head, teeth on apical half straight, erect, and sharp, on basal half teeth short and directed forward, basal tooth larger and directed backward. Scapes barely reach occipital border. Thorax twice as long as broad; pronotum three times broader than long, sides and front strongly convex; mesonotum one-fourth broader than long, mayrian furrows very feebly indicated, parapsidal furrows more strongly impressed; scutellum twice as broad as long, broadest in front; epinotum one-third broader than long, sides convex. Node one-fourth broader than long, convex

in all directions. Postpetiole three-fifths broader than long, sides and front strongly convex, constriction deep. First segment of gaster slightly broader than long, sides convex.

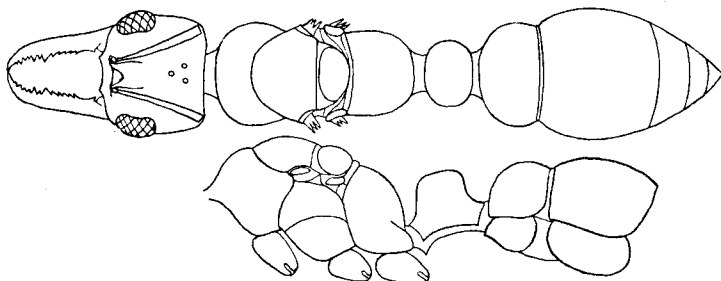


Fig. 131.—*Promyrmecia fulviculis* (Forel). Dorsal and lateral view of female.

Male

Length: 13.5-14 mm.

Colour, sculpture, and pilosity as on worker.

Head as long as broad, circular. Mandibles with three strong, sharp teeth. Scapes fully twice as long as first segment of funiculus, second segment of funiculus fully three times longer than first segment. Thorax twice as long as broad; pronotum three times broader than long, sides and front convex; mesonotum one-fifth broader than long, mayrian and parapsidal furrows sharply defined; wings hyaline, yellowish tinged; scutellum twice as broad as long,

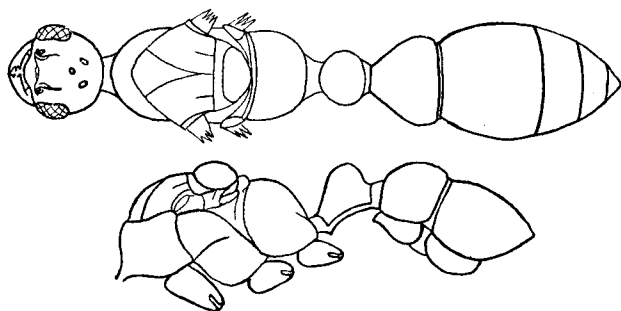


Fig. 132.—*Promyrmecia fulviculis* (Forel). Dorsal and lateral view of male.

broadest in front; epinotum one-third broader than long. Node one-seventh broader than long, almost circular; in profile slightly higher than long, anterior face convex sloping backward above, rounded into convex dorsum, posterior face vertical, convex; ventral spine short, broad, and sharp. Postpetiole one-fourth broader than long, sides convex, constriction deep and wide. First segment of gaster one-sixth broader than long, broadest behind, sides convex.

New South Wales: Sydney, Como, Lismore. *Queensland*: Brisbane, Fletcher, Stanthorpe, Bribie Island, Stradbroke Island, Mt. Tamborine.

Type in Forel collection, Natural History Museum, Geneva. Allotype male in Division of Entomology Museum, C.S.I.R.O., Canberra.

The male and female, described herein for the first time, are from Como, New South Wales, which is close to the original type locality of the worker.*

PROMYRMECIA FULVIPES (Roger)

Figs. 133-135

Myrmecia fulvipes Roger, 1861, Ent. Z. **5**: 36, ♀. Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 726, ♀; 1876, J. Mus. Godeffroy **12**: 93, ♀.

Myrmecia (Pristomyrmecia) fulvipes Roger, Emery, 1911, Genera Insect. **118**: 21. Forel, 1913, Bull. Soc. Vaud. Sci. Nat. **49**: 173, ♀.

Myrmecia (Promyrmecia) fulvipes Roger, Wheeler, 1933, Colony-founding among Ants, p. 69, ♀.

Promyrmecia fulvipes (Roger) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 145, pl. 16, figs. 81-83, ♀ ♀ ♂.

Worker

Length: 10-12 mm.

Black, mandibles and antennae brown, coxae and legs reddish yellow, tarsi slightly darker.

Apical half of mandibles obliquely striate-rugose, basal half almost smooth, with large, shallow, elongate punctures. Head longitudinally striate-rugose in front, more punctate-rugose behind, interstices finely punctate-reticulate. Pronotum, mesonotum, anterior fourth of epinotum, and node more coarsely striate-rugose, more or less longitudinally, remainder of epinotum irregularly or punctate-rugose, declivity irregularly rugose, more transversely striate-rugose near base. Postpetiole and gaster microscopically punctate.

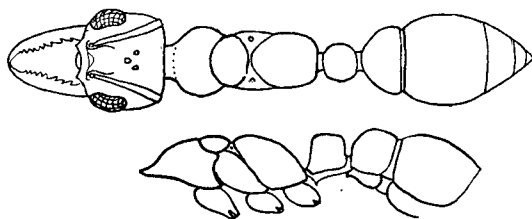


Fig. 133.—*Promyrmecia fulvipes* (Roger). Dorsal and lateral view of worker.

Hair yellow, erect, rather short except on mandibles, clypeus, and apical segments of gaster, much shorter and suberect on antennae and legs. Pubescence greyish yellow on postpetiole, longer and more abundant on middle of posterior third, brass yellow on gaster, longer and more abundant, forming a dense covering.

* See Clark, J. (1943).—*Mem. Nat. Mus. Melbourne* **13**: 145.

Head one-tenth broader than long, sides and occipital border feebly convex, angles rounded. Mandibles one-tenth shorter than head, outer border straight, inner border with five sharp, erect teeth on apical half, third and fifth twice as long as others, teeth on basal half short and directed backward sawtooth-like. Scapes just reach occipital border, first and second segments of funiculus equal length. Thorax twice as long as broad; pronotum twice as broad as long, convex in all directions, mesonotum one-third broader than long, strongly convex in all directions, meso-epinotal constriction deep and narrow, epinotum one-third longer than broad, feebly convex transversely. Node one-fifth broader than long, broadest just behind middle, strongly convex in all directions; in profile higher than long, anterior face straight, sloping gently backward, rounded into feebly convex dorsum, posterior face short, sloping slightly backward, rounded into dorsum, ventral spine long and sharp, as long as broad at base. Postpetiole one and one-half times broader than long, strongly convex, constriction behind deep and wide. First segment of gaster one-tenth broader than long, broader behind than in front.

Female

Length: 15 mm.

Colour, sculpture, and pilosity as in worker.

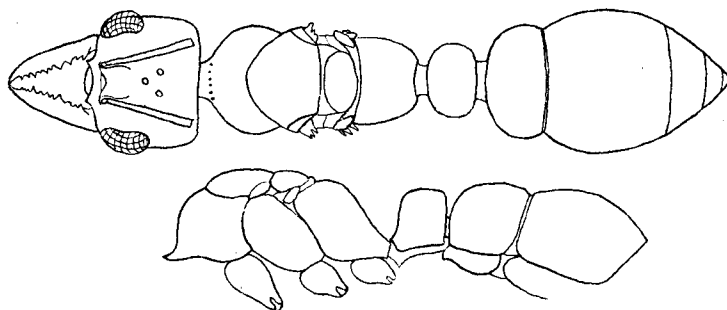


Fig. 134.—*Promyrmecia fulvipes* (Roger). Dorsal and lateral view of female.

Head fully one-sixth broader than long. Mandibles shorter than head, outer border feebly concave at middle, inner border strongly convex, with nine large, sharp, erect teeth on apical three-fourths, from ninth to base teeth smaller and broad. Node fully one-fourth broader than long, oval. Postpetiole one-third broader than long. First segment of gaster one-fourth broader than long. Wings hyaline, slightly yellowish.

Male

Length: 10.5 mm.

Colour as in worker. Sculpture similar but finer. Hair longer and more abundant throughout.

Head very slightly broader than long, sides and occipital border convex. Mandibles short, triangular, inner border with a sharp cutting edge, without teeth. Scapes slightly exceed middle of eyes, second segment of funiculus two and one-half times longer than scapes and eight times longer than first segment.

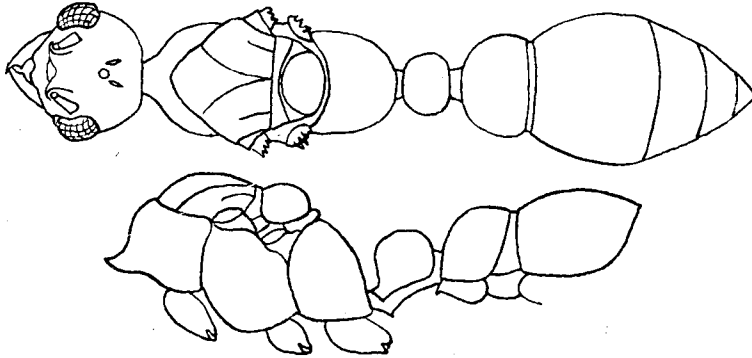


Fig. 135.—*Promyrmecia fulvipes* (Roger). Dorsal and lateral view of male.

Thorax fully twice as long as broad, pronotum short, strongly convex, mesonotum slightly broader than long, parapsidal and mayrian furrows impressed, scutellum one-fifth broader than long, strongly convex in all directions, epinotum almost twice as broad as long, convex transversely. Node one-fifth broader than long, broader behind than in front, broadest at middle; in profile higher than long, anterior face straight and vertical, dorsum convex, rounded into short posterior face, ventral spine long, slender, and sharp. Postpetiole one-third broader than long, constriction wide and deep. First segment of gaster one-fifth broader than long, broader behind than in front. Wings hyaline, slightly yellowish.

Australia (type locality). *Tasmania*: Hobart, Wynyard, Trevallyn, St. Patrick's River. *South Australia*: Murray Bridge. *Victoria*: Fern Tree Gully, Beaconsfield, Millgrove, South Morang, Grampians, Gellibrand. *New South Wales*: Batlow, Sydney, Uralla, Barrington Tops. *Australian Capital Territory*: Lee's Springs.

Type in K. Museum, Paris. Allotype male in collection of National Museum, Melbourne.

PROMYRMECIA FULVIPES COELATINODA Wheeler

Myrmecia (*Promyrmecia*) *fulvipes* subsp. *coelatinoda* Wheeler, 1933, Colony-founding among Ants, p. 72, ♀.

Promyrmecia fulvipes Roger subsp. *coelatinoda* Wheeler, Clark, 1943, Mem. Nat. Mus. Melbourne 12: 147.

(After Wheeler.)

Worker

"Length about 13 mm.

“Mandibles as in *barbata*, but the subapical teeth worn away, the serrate basal denticles very minute and indistinct. Petiole as in *barbata*, postpetiole one and one-half times as broad as long, semi-circular anteriorly, its posterior border somewhat emarginate in the middle. Gaster slender, the first segment nearly as long as broad. Sculpture as in *barbata*, but much more of the posterior portion of the epinotum transversely and the petiolar node more coarsely rugose. Unlike all the preceding forms of *fulvipes*, the postpetiole is sculptured, being sharply, longitudinally rugulose, with elongate foveolae between the rugules as in *M. mandibularis rugosa*. Pilosity somewhat less abundant than in *fulviculis*, the pubescence of the pelisse on the gaster of the same bright golden colour, but coarser, longer and less distinctly converging at the mid-dorsal line. On the postpetiole there is only a minute patch of golden pubescence at the emargination of the posterior border. Mandibles, antennae, legs and gaster red; head, thorax and petiole blackish red.

“Described from a single specimen from Belair, South Australia (J. W. Haacke). This subspecies is readily distinguished from all the other forms of *fulvipes* by its colour and its sculptured and posteriorly emarginate postpetiole.”

PROMYRMECIA POTTERI n.sp.

Fig. 136

Worker

Length: 12-13 mm.

Black, mandibles, antennae, legs, and two apical segments of gaster brown, tarsi lighter, more yellowish brown.

Apical third of mandibles coarsely striate, remainder smooth, with some fine, shallow punctures. Head finely striate-rugose, diverging outward behind, striae widely separated and with large, shallow punctures in interstices, larger and

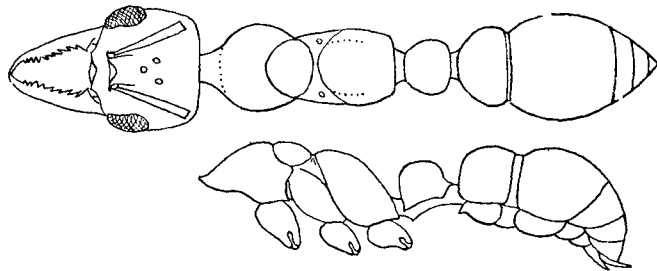


Fig. 136.—*Promyrmecia potteri* n.sp. Dorsal and lateral view of worker.

more abundant behind. Pronotum coarsely striate-rugose, more or less longitudinally but irregularly. Mesonotum longitudinally striate-rugose, epinotum and node coarsely and irregularly punctate-rugose. Postpetiole with large obsolete punctures, particularly behind, both postpetiole and gaster microscopically punctate.

Hair whitish, long, and fine, not abundant, short and suberect on legs, none on antennae. Pubescence white, very fine and adpressed, particularly on antennae and legs, longer and more abundant on postpetiole and gaster, forming a dense covering but not hiding sculpture.

Head one-ninth broader than long, sides and occipital border feebly convex, almost straight, angles rounded. Mandibles a fraction shorter than head, straight at middle, inner border with nine or ten teeth, first four erect, long, and sharp, from fifth to base short and directed backward, basal tooth longest. Scapes not reaching occipital border by almost their thickness, slightly shorter than mandibles, first and third segments of funiculus equal length, one-third shorter than second. Thorax twice as long as broad, pronotum barely twice as broad as long, sides and front strongly convex, flat on dorsum, mesonotum fully one-fourth broader than long, convex in all directions, constriction deep and wide, epinotum and declivity convex, without trace of a boundary, dorsum about as long as broad. Node very slightly broader than long, almost circular; in profile as high as long, anterior face straight and vertical, twice as long as posterior face, both faces rounded into convex dorsum, ventral spine broad, short, and sharp. Postpetiole one-third broader than long, sides and front strongly convex, constriction deep and wide. First segment of gaster slightly broader than long.

Female

Unknown.

Male

Unknown.

Victoria: Patho (H. A. Potter).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

Somewhat similar to *P. gilberti*, from which it is distinguished by the stronger mandibles, coarser sculpture, and white pubescence.

PROMYRMECIA GILBERTI (Forel)

Figs. 137, 138

Myrmecia fulvipes Roger var. *gilberti* Forel, 1910, Rev. Suisse Zool. **10**: 6, ♀.

Myrmecia (*Pristomyrmecia*) *fulvipes* Roger var. *gilberti* Forel, Emery, 1911, Genera Insect. **118**: 21.

Myrmecia (*Pristomyrmecia*) *fulvipes* Roger race *gilberti* Forel, 1913, Bull. Soc. Vaud. Sci. Nat. **49**: 173, ♀.

Myrmecia (*Pristomyrmecia*) *regina* Santschi, 1928, Bull. Soc. Vaud. Sci. Nat. **56**: 465, ♀.

Myrmecia (*Promyrmecia*) *gilberti* Forel, Wheeler, 1933, Colony-founding among Ants, p. 72, ♀ ♂.

Promyrmecia gilberti (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 136, pl. 16, figs. 79-80, ♀ ♀ ♂.

Worker

Length: 9.5-15 mm.

Black, mandibles, antennae, and legs brown, tarsi lighter.

Apical half of mandibles coarsely striate-rugose, basal half more finely striate-rugose, punctate between rugae. Head finely striate-rugose, longitudinally in front, more irregularly behind, rugae widely spaced, interstices very finely and densely reticulate-punctate. Pronotum irregularly and coarsely striate-rugose, mesonotum longitudinally striate-rugose, epinotum punctate-rugose, punctures very large and shallow, more striate-rugose transversely at base of declivity. Node irregularly and coarsely punctate-rugose, punctures large. Postpetiole and gaster densely and microscopically punctate, with scattered shallow, almost obsolete, punctures, more numerous on postpetiole.

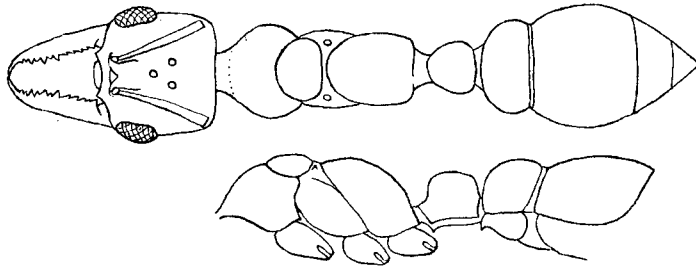


Fig. 137.—*Promyrmecia gilberti* (Forel). Dorsal and lateral view of worker.

Hair grey, long and erect, abundant throughout, but longer and more numerous on mandibles and apical segments of gaster, short and suberect on legs, sparse on antennae. Pubescence grey, very fine, and abundant; yellow, longer, more abundant, and hiding sculpture on gaster.

Head as long as broad, sides and occipital border straight or feebly convex, angles rounded. Mandibles about one-ninth shorter than head, outer border straight or feebly concave at middle, inner border with twelve teeth, first seven on apical half long, sharp, and erect, shorter and inclined backwards on basal half. Scapes not reaching occipital border by fully their thickness, second segment of funiculus one-third longer than first. Thorax fully twice as long as broad; pronotum twice as broad as long, sides and front strongly convex, mesonotum one-fourth broader than long, constriction between mesonotum and epinotum deep and wide, epinotum one-sixth longer than broad. Node as long as broad, broadest at middle, convex in all directions; in profile as high as long, anterior face straight or feebly convex, vertical, posterior face short and vertical, dorsum feebly convex, ventral spine long and sharp, broad at base. Postpetiole one and three-fourths broader than long, broadest just behind middle, strongly convex. First segment of gaster one-sixth broader than long, broader behind than in front, sides strongly convex.

Female

Length: 16.5 mm.

Colour as on worker. Sculpture coarser, more rugose, and ground reticulation more conspicuous. Hair longer and more abundant. Pubescence brass yellow,

abundant, very dense on gaster, finer and greyish yellow on posterior half of postpetiole.

Head slightly broader than long; outer border of mandible concave, inner border convex, with twelve teeth, second, fourth, sixth, eighth, and tenth much

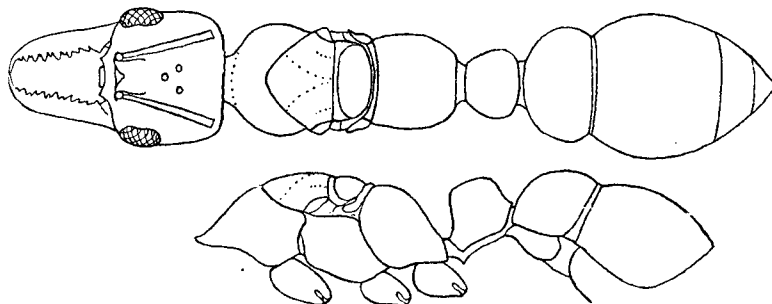


Fig. 138.—*Promyrmecia gilberti* (Forel). Dorsal and lateral view of female.

longer and broader than others. Scapes not reaching occipital border by fully their thickness. Parapsidal and mayrian furrows feebly indicated. Node one-fifth broader than long, very slightly broader behind than in front, broadest at middle. Postpetiole one-third broader than long. First segment of gaster one-eighth broader than long.

Male

(After Wheeler.)

"The male measures about 11.5 mm. and is more opaque than the male of *piliventris*, with much more finely rugose head, thorax and petiole. The head is proportionally smaller than in *piliventris* or *fulviculis*, the thorax, petiole and postpetiole distinctly narrower and less robust, the postpetiole as long as broad and gradually narrowed anteriorly. The pubescence on the gaster is like that of the worker; the wings are slightly smoky as in the males of *piliventris* and *fulviculis*, with yellowish-brown veins and darker brown pterostigma."

Queensland: Mackay (type locality), Koah, Townsville, Nanango, Burleigh Heads, Brisbane, Rockhampton, Bribie Island, Gin Gin, Blackall Range, Grandchester.

Type in Forel collection, Natural History Museum, Geneva.

KEY TO SPECIES, TEPPERI GROUP

Workers

1. Pubescence on gaster sparse 2
- Pubescence dense, golden yellow on three apical segments of gaster; blackish brown, mandibles, antennae, and legs brown *P. tepperi*

2. Thorax and node red, brownish, or yellowish 3
 Thorax and node black, funiculi and legs blackish brown, mandibles yellow *P. clarki*
3. Postpetiole reddish 4
 Postpetiole black, thorax and node bright red, mandibles yellow on basal half, reddish yellow on apical half, antennae and legs brown *P. swalei*
4. Legs, mandibles, and antennae yellow, thorax, node, and postpetiole reddish yellow *P. testaceipes*
 Legs, antennae, thorax, node, and postpetiole brownish red, mandibles yellow *P. dixonii*

PROMYRMECIA TEPPERI (Emery)

Figs. 139, 140

Myrmecia tepperi Emery, 1898, Rend. Acad. Bologna **1898**: 231, fig. 1, ♀ ♂.

Myrmecia (Myrmecia) tepperi Emery, 1911, Genera Insect. **118**: 21, ♀ ♂.

Promyrmecia tepperi Emery, Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 130, pl. 16, figs. 70-71, ♀ ♀ ♂.

Worker

Length: 10.5-12 mm.

Blackish brown, gaster black, mandibles, antennae, and legs brown.

Apical half of mandibles coarsely striate, basal half finely reticulate. Head longitudinally striate, very finely and densely reticulate between striae. Pronotum longitudinally arched striate-rugose, striae widely separated, spaces densely reticulate. Mesonotum more finely and closely striate longitudinally, reticulate between striae. Epinotum coarsely striate-rugose and reticulate longitudinally on top; declivity transversely rugose. Node irregularly, almost circularly, rugose. Postpetiole and gaster very finely and densely reticulate.

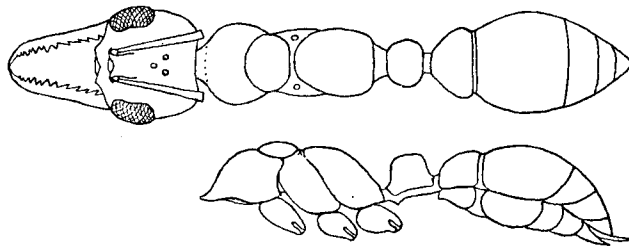


Fig. 139.—*Promyrmecia tepperi* (Emery). Dorsal and lateral view of worker.

Hair yellow, short and erect, long and more abundant on mandibles and apical segments of gaster, short and suberect on legs, none on antennae. Pubescence yellowish, very fine and adpressed, abundant throughout, more

abundant on dorsum of first segment of gaster but not hiding sculpture, golden yellow on three apical segments, long and abundant hiding sculpture.

Head very slightly broader than long, occipital border feebly concave, angles broadly rounded. Mandibles as long as head, outer border feebly concave; apical half of inner border with three large, sharp, erect teeth and five smaller teeth, teeth on basal half short, broad, and directed backward. Clypeus deeply excised in front. Scapes exceed occipital border by barely their thickness, second segment of funiculus one-sixth longer than first, remainder subequal. Thorax twice as long as broad, pronotum twice as broad as long, strongly convex in all directions, mesonotum one-fourth broader than long, sides strongly convex, feebly convex in front and behind, epinotum one-fifth longer than broad, flattened laterally above, sides and front feebly convex. Node one-fifth broader than long, convex in all directions; in profile anterior and posterior faces straight, vertical, dorsum feebly convex, borders rounded, ventral spine erect, short, and sharp. Postpetiole fully one-third broader than long, strongly convex in all directions, constriction wide but shallow. First segment of gaster slightly broader than long, broadest behind, sides strongly convex.

Female

Length: 14-15 mm.

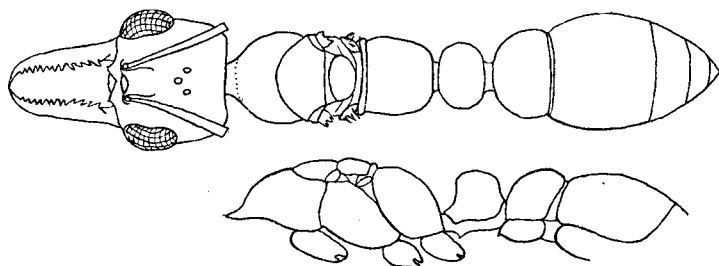


Fig. 140.—*Promyrmecia tepperi* (Emery). Dorsal and lateral view of female.

Colour, sculpture, and pilosity similar to worker. Larger and more robust. Wings hyaline with a yellow tinge.

Male

(After Emery.)

Length: 12.5 mm.

"The male differs from that of *M. pilosula* by the broader petiole and by the colour of the mandibles, antennae and legs."

South Australia: Wilpena Pound, Port Lincoln. *Western Australia*: Mundaring, Emu Rock. *Victoria*: Lake Hattah. *Australian Capital Territory*: Canberra.

Type female and male in Emery collection, Natural History Museum, Genoa.

PROMYRMECIA CLARKI Crawley

Figs. 141-143

Myrmecia clarki Crawley, 1922, Ann. Mag. Nat. Hist. (9) 9: 432, ♀.*Myrmecia (Promyrmecia) clarki* Crawley, Wheeler, 1933, Colony-founding among Ants, p. 61, fig. 23, ♀♀.*Promyrmecia clarki* (Crawley) Clark, 1943, Mem. Nat. Mus. Melbourne 13: 132, pl. 16, figs. 74-76, ♀♀ ♂.*Worker*

Length: 11-13 mm.

Black, funiculi and legs blackish brown, tarsi lighter, mandibles yellow.

Apical half of mandibles coarsely striate, basal half finely punctate-reticulate. Head finely striate-rugose longitudinally, very finely and densely reticulate between striae. Pronotum, mesonotum, and epinotum strongly striate longitudinally, declivity transversely striate. Node longitudinally striate-rugose. Postpetiole and gaster microscopically reticulate.

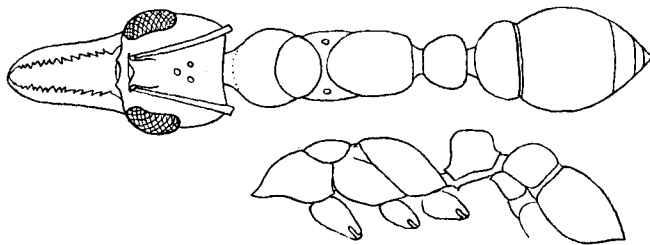


Fig. 141.—*Promyrmecia clarki* (Crawley). Dorsal and lateral view of worker.

Hair yellow, sparse, very short and erect, finer and suberect on legs. Very long and abundant at apex of gaster. Pubescence yellow, very fine, and short, forming a distinct covering on postpetiole and gaster but not hiding sculpture.

Head very slightly broader than long, occipital border feebly concave, sides convex, angles rounded. Mandibles slender, longer than head by their width at base, outer borders concave in middle, apical half of inner border with large, sharp, erect teeth, basal half with short, broad teeth directed backward. Scapes exceed occipital border by half their thickness, second segment of funiculus one-sixth longer than first, third as long as first, remainder subequal. Thorax fully twice as long as broad, pronotum twice as broad as long, sides and front strongly convex, dorsum flat laterally, mesonotum one-fourth broader than long, oval, convex in all directions, epinotum flat laterally. Node very slightly broader than long, strongly convex in all directions; in profile higher than long, stalk sloping down at an acute angle in front, anterior and posterior faces straight, vertical, dorsum feebly convex, angles rounded; ventral spine very short, erect, and sharp. Postpetiole almost twice as broad as long, sides and front strongly convex; constriction deep and narrow. First segment of gaster one-seventh broader than long, sides strongly convex.

Female

Length: 16-16.5 mm.

Colour, sculpture, and pilosity as in worker. Wings hyaline, nervures brown. Head somewhat similar but broader behind. Mandibles shorter and broader,

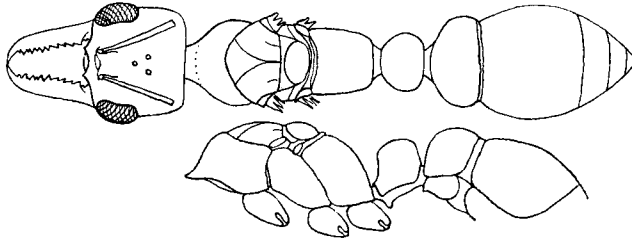


Fig. 142.—*Promyrmecia clarki* (Crawley). Dorsal and lateral view of female.

shorter than head, outer border straight, inner border with similar but larger and stronger teeth. Scapes not reaching occipital border by fully their thickness, second segment of funiculus one-fourth longer than first. Mesonotum with well-defined mayrian furrows. Node almost one and one-half times broader than long, anterior and posterior faces short and straight, sides strongly convex. Postpetiole twice as broad as long.

Male

Length: 11-12 mm.

Black, mandibles yellow, antennae and anterior legs reddish brown, middle and posterior legs brown. Wings hyaline.

Head, thorax, and node punctate-rugose, epinotal declivity transversely finely striate-rugose. Very finely and densely reticulate between punctures. Postpetiole and gaster microscopically reticulate.

Hair as in worker but not as abundant.

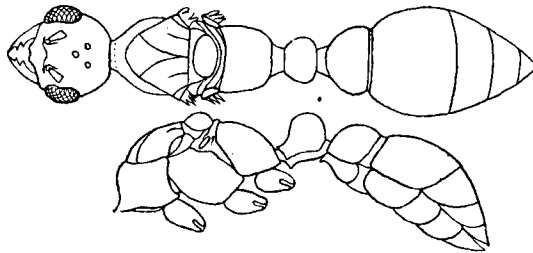


Fig. 143.—*Promyrmecia clarki* (Crawley). Dorsal and lateral view of male.

Head as long as broad, occipital border straight, sides convex, angles broadly rounded. Mandibles short, almost triangular, inner border with two large, sharp teeth behind apex, second forming a sharp angle to basal border. First segment of funiculus twice as long as scapes, second segment one-fifth shorter than first,

remainder subequal. Thorax twice as long as broad, pronotum five times as broad as long, strongly convex in front, mesonotum almost cone-shaped, one-fifth broader than long, mayrian and parapsidal furrows sharply impressed, scutellum almost as long as broad, broadest in front, strongly convex in all directions, epinotum one-fourth broader than long, flat laterally. Node one-third broader than long, convex in all directions; in profile high and dome-shaped, all faces convex, ventral spine very short and sharp. Postpetiole one-third broader than long, strongly convex behind, constriction deep. First segment of gaster one-fourth broader than long.

Western Australia: Mundaring Weir (type locality), Margaret River, Albany, Denmark, Armadale, Perth, Calgardup, Perup, Yallingup, Yanmah, Narrogin.

Type in Crawley collection, University Museum, Oxford. Allotype male in collection of National Museum, Melbourne.

PROMYRMECIA SWALEI (Crawley)

Figs. 144, 145

Myrmecia harderi Forel, race *swalei* Crawley, 1922, Ann. Mag. Nat. Hist. (9) 9: 429, ♂.

Myrmecia (Promyrmecia) mediorubra Wheeler (not Forel), 1933, Colony-founding among Ants, p. 58.

Promyrmecia swalei (Crawley) Clark, 1943, Mem. Nat. Mus. Melbourne 13: 133, pl. 16, figs. 72-73, ♀♀.

Worker

Length: 11-12.5 mm.

Head, postpetiole, and gaster black, thorax and node bright red, mandibles yellow on basal half, reddish yellow on apical half, antennae and legs brown, scapes darker.

Head longitudinally striate-rugose in front, punctate-rugose behind. Pronotum coarsely striate-rugose longitudinally. Mesonotum more irregularly rugose longitudinally. Epinotum irregularly rugose, transversely rugose on declivity. Node circularly rugose. Postpetiole and gaster microscopically reticulate.

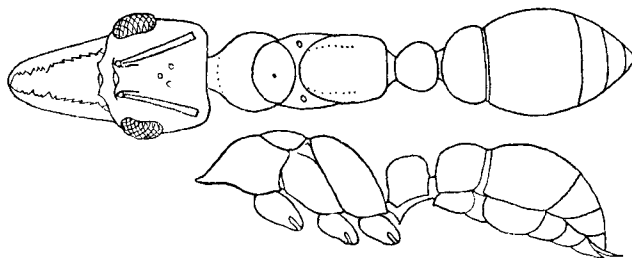


Fig. 144.—*Promyrmecia swalei* (Crawley). Dorsal and lateral view of worker.

Hair yellow, short and erect, longest on gaster, short and suberect on legs. Pubescence yellowish, very fine and adpressed, forming a thin covering on postpetiole and gaster but not hiding sculpture.

Head very slightly broader than long, sides strongly convex behind, occipital border concave, angles rounded. Mandibles as long as head, outer border straight or very feebly convex, inner border with two very large, sharp, erect teeth and four very small, sharp teeth on apical half, teeth on basal half short and irregular, more or less directed backward. Scapes not reaching occipital border by fully their thickness; first and second segments of funiculus equal in length, one-fifth longer than third, remainder subequal. Thorax fully twice as long as broad, pronotum twice as broad as long, convex in all directions, mesonotum one-fourth broader than long, oval, epinotum short, sub-bordered in front, flattened laterally. Node very slightly broader than long, all faces convex; in profile almost square, anterior face vertical, straight, twice as high as posterior face, dorsum feebly convex, angles rounded, ventral spine short, slender, and sharp. Postpetiole two-fifths broader than long, strongly convex, almost hemispherical in front; constriction deep and narrow. First segment of gaster one-seventh broader than long.

Female

Length: 15-16.5 mm.

Similar to worker but larger and more robust.

Head more square behind, sides not so convex, occipital border more narrowly concave. Mandibles stronger, outer border convex, teeth on apical half of inner

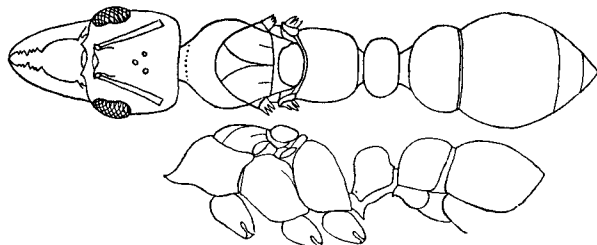


Fig. 145.—*Promyrmecia swalei* (Crawley). Dorsal and lateral view of female.

border larger, obsolete on basal border except one large tooth near base, followed by a smaller tooth. Node oval, two-fifths broader than long, sides and dorsum convex, anterior and posterior faces straight. Postpetiole one and two-thirds broader than long, almost oval, broadest at middle. First segment of gaster one-fifth broader than long.

Male

Unknown.

Western Australia: Albany (type locality), Perth, Mundaring, Ludlow, Serpentine River.

Type worker in Crawley collection, Oxford Museum, England.

PROMYRMECIA TESTACEIPES Clark

Fig. 146

Promyrmecia testaceipes Clark, 1943, Mem. Nat. Mus. Melbourne 13: 134, pl. 15, fig. 66, ♀.*Worker*

Length: 10-11 mm.

Head and gaster black, thorax and node reddish yellow, postpetiole more or less reddish yellow, generally with a large reddish spot on each side in front, mandibles, antennae, and legs yellow, apex of mandibles and base of scapes brown.

Basal half of mandibles smooth and shining, apical half with coarse oblique striae. Head longitudinally striate, finely and densely reticulate-punctate between striae. Clypeus almost smooth, some obsolete rugae at base. Pronotum and mesonotum striate, epinotum and node coarsely punctate-rugose, epinotal declivity transversely rugose; whole thorax and node finely punctate between striae and at bottom of punctures, postpetiole and gaster microscopically punctate.

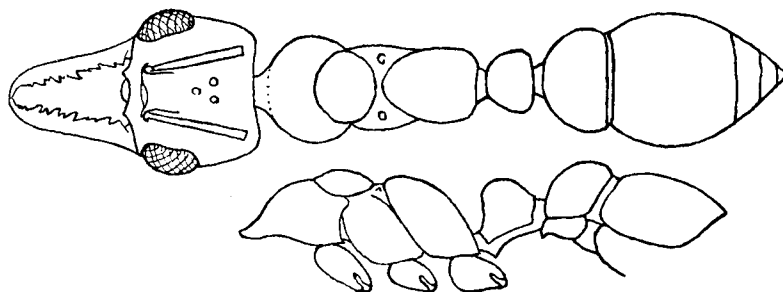


Fig. 146.—*Promyrmecia testaceipes* Clark. Dorsal and lateral view of worker.

Hair yellow, short and erect, abundant throughout, long and stout on underside of mandibles, long and fine on clypeus and apical segments of gaster, short and adpressed on antennae and legs. Pubescence whitish, very fine and adpressed, most abundant on postpetiole and gaster, forming a distinct covering but not hiding sculpture.

Head one-sixth broader than long, broadest in front, sides straight or very feebly convex, occipital border concave, angles strongly rounded. Mandibles slender, as long as head, outer border concave at middle, inner border with three large teeth on apical half, two smaller teeth between larger teeth, all slightly hook-shaped, directed backwards, basal half with only faint traces of teeth except at base, two large, blunt teeth directed backwards at base. Frontal carinae longer than broad, slightly wider behind than in front, widest at middle. Scapes not reaching occipital border by almost their thickness, first and third segments

of funiculus equal length, shorter than second. Thorax twice as long as broad, pronotum twice as broad as long, sides and front strongly convex, dorsum flatly convex, mesonotum one-sixth broader than long, convex in all directions, epinotum one-fourth longer than broad, broadly rounded in front. Node one-fifth broader than long, convex in all directions; in profile higher than long, top half of anterior face and posterior face straight, vertical, and parallel, basal half of anterior face sloping forward at an acute angle, dorsum feebly convex, ventral spine very short and slender. Postpetiole almost one-third broader than long, strongly convex in all directions; constriction between postpetiole and first segment of gaster deep and wide. First segment of gaster slightly broader than long, strongly convex.

Female

Unknown.

Male

Unknown.

Western Australia: Albany.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA DIXONI Clark

Figs. 147, 148

Promyrmechia dixonii Clark, 1943, Mem. Nat. Mus. Melbourne 13: 135, pl. 16, figs. 77-78, ♂ ♀.

Worker

Length: 9.5-10.5 mm.

Head and gaster black, mandibles yellow, antennae, thorax, node, postpetiole, and legs brownish red, base of scapes darker.

Basal half of mandibles finely punctate, apical half obliquely striate. Head longitudinally striate in front, longitudinally striate-rugose behind, interstices very finely and densely punctate. Pronotum longitudinally striate, mesonotum

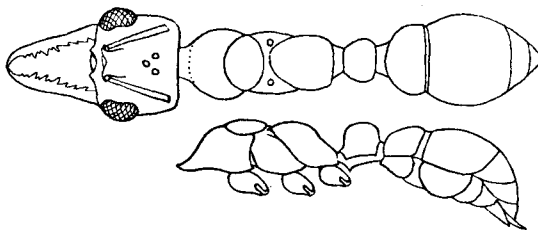


Fig. 147.—*Promyrmechia dixonii* Clark. Dorsal and lateral view of worker.

longitudinally striate-rugose. Epinotum and node coarsely punctate-rugose, declivity coarsely striate transversely. Postpetiole and gaster microscopically reticulate.

Hair yellow, erect, short, and sparse throughout, longer and more abundant on apical segments of gaster, a few much longer and stouter on mandibles, fine, short, and suberect on scapes and legs. Pubescence white, sparse except on postpetiole, gaster, and legs.

Head one-sixth broader than long, sides feebly convex, occipital border feebly concave, angles rounded. Mandibles slightly longer than head, outer border concave, inner border with three large, sharp teeth, feebly curved backward, in front and between each are two much smaller; teeth obsolete and directed backward behind third large tooth, two at extreme base slightly larger. Scapes not reaching occipital border by fully their thickness, first and third segments of funiculus equal length, very slightly shorter than second. Thorax twice as long as broad, pronotum twice as broad as long, strongly convex in all directions, mesonotum almost one-third broader than long, strongly convex, meso-epinotal constriction deep and wide, epinotum slightly longer than broad, almost straight in front. Node one-fifth broader than long, strongly convex in all directions; in profile one-fifth higher than long, anterior face high, straight, and vertical, posterior face short and vertical, dorsum convex, dropping behind and rounded into posterior face; ventral spine short and sharp. Postpetiole almost twice as broad as long, sides, front, and dorsum strongly convex, constriction narrow and deep. First segment of gaster broader than long, sides and dorsum strongly convex.

Female (Dealated)

Length: 12 mm.

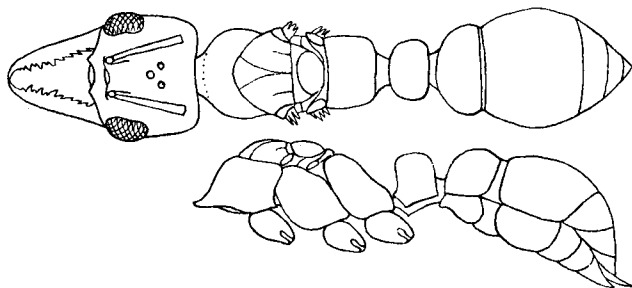


Fig. 148.—*Promyrmea dixoni* Clark. Dorsal and lateral view of female.

Colour and pilosity as in worker, sculpture coarser. Mandibles and scapes shorter, node and postpetiole much broader.

Male

Unknown.

Victoria: Eltham (type locality). *New South Wales*: Albury. *Australian Capital Territory*: Canberra.

Holotype worker in National Museum, Melbourne.

KEY TO SPECIES, VARIANS GROUP

Workers

1. Postpetiole some combination of red, yellow, and brown, never black; legs red, yellow, or reddish brown 2
 Postpetiole black; legs, mandibles, and antennae black or dark brown *P. goudiei*
2. Pubescence abundant on entire gaster 3
 Pubescence very sparse on first segment of gaster, more abundant on three apical segments; epinotal declivity transversely striate; mandibles, basal half of scapes and apical half of funiculus dark reddish brown, apical half of scapes and basal half of funiculus yellow *P. marmorata*
3. Epinotal declivity irregularly transversely rugose 4
 Declivity finely transversely striate; mandibles and antennae yellow *P. shepherdii*
4. With a prominent longitudinal carina midway between frontal carinae; mandibles and antennae dark yellowish brown *P. varians*
 Without a prominent carina between frontal carinae; mandibles yellow, antennae yellowish red *P. wilsoni*

PROMYRMECIA VARIANS (Mayr)

Figs. 149, 150

Myrmecia varians Mayr, 1876, J. Mus. Godeffroy **12**: 94, ♀.*Myrmecia (Myrmecia) varians* Mayr, Emery, 1911, Genera Insect. **118**: 21, ♀.*Myrmecia rufonigra* Crawley, 1921, Ann. Mag. Nat. Hist. (9) **7**: 87, ♀.*Promyrmecia varians* (Mayr) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 126, pl. 15, figs. 68-69, ♀♀.*Worker*

Length: 11-12.5 mm.

Head, thorax, and gaster black, mandibles and basal half of scapes yellowish brown, apex and teeth more reddish, apical half of scapes, funiculus, and legs yellowish red, node and postpetiole red.

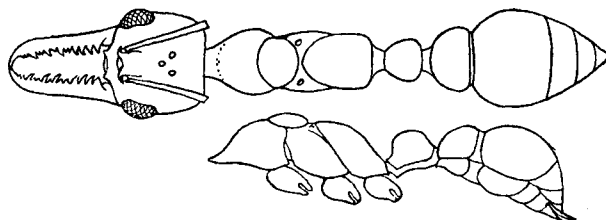


Fig. 149.—*Promyrmecia varians* (Mayr). Dorsal and lateral view of worker.

Head finely striate longitudinally in front, more striate-rugose behind, very finely and densely punctate between striae, a prominent carina midway between

frontal carinae. Pronotum and mesonotum finely striate-rugose longitudinally. Epinotum transversely rugose. Node irregularly rugose, spaces between rugae on thorax and node finely and densely punctate. Postpetiole and gaster very finely and densely punctate.

Hair yellow, long and erect, abundant on mandibles, clypeus, thorax, node, postpetiole, and gaster, sparse on head, none on antennae, very short and suberect on legs. Pubescence very fine and adpressed, white, abundant throughout, forming a distinct covering on gaster but not hiding sculpture.

Head as long as broad, sides feebly convex, occipital border straight or feebly concave, angles rounded. Mandibles one-eleventh longer than head, outer border concave, inner border with fourteen teeth, third, sixth, ninth, tenth, eleventh, and twelfth long, sharp, and curved backward, others smaller and straight, twelfth forming a distinct angle. Scapes exceed occipital border by their thickness, second segment of funiculus one-sixth longer than first, remainder subequal. Thorax fully twice as long as broad, pronotum one-third broader than long, convex in all directions, mesonotum one-fourth broader than long, convex, epinotum about one-fifth longer than broad. Node as long as broad, very slightly broader behind than in front; in profile as high as long, anterior face short and vertical, rounded into dorsum, posterior face and dorsum united in a convexity, ventral spine short and sharp. Postpetiole one-third broader than long, sides strongly convex, constriction deep and wide. First segment of gaster broader than long, broader behind than in front, sides strongly convex.

Female

Length: 15-16 mm.

Larger and more robust than worker. Colour similar, sculpture coarser, pilosity longer and more abundant. Mandibles shorter and broader, teeth erect

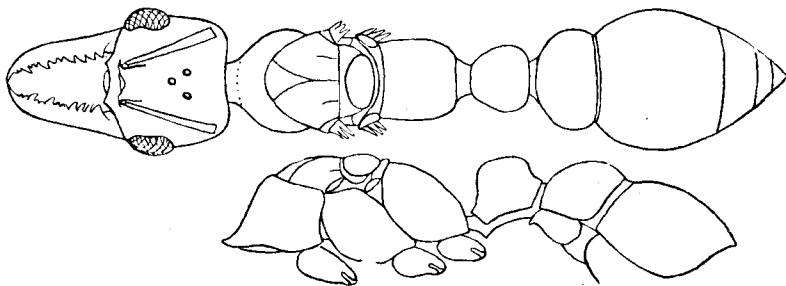


Fig. 150.—*Promyrmecia varians* (Mayr). Dorsal and lateral view of female.

on apical half, inclined backwards on basal half. Scapes not reaching occipital border by almost their thickness. Node larger. Postpetiole hemispherical, one-third broader than long.

Male

Unknown.

Queensland: Peak Downs (type locality), Rockhampton, Bowen, Townsville, Gayndah.

The colour of this species is extremely variable. On some examples the whole thorax is black, on others it is red; most examples have the thorax more or less marked with red.

In a previous revision (*Mem. Nat. Mus. Melbourne*, 1943) the numbering of Plate XV is incorrect. From Figure 62 to Figure 69 the numbers were transposed; the correct numbers are given in this monograph under the species concerned. *P. varians* should read Figures 68-69 instead of 67-68 in the *Memoirs*.

PROMYRMECIA WILSONI Clark

Fig. 151

Promyrmecia wilsoni Clark, 1943, *Mem. Nat. Mus. Melbourne* 13: 127, pl. 15, fig. 69, ♂.

Worker

Length: 12.5-14 mm.

Head and gaster black, mandibles, labrum, and apex of clypeus yellow, antennae, thorax, node, postpetiole, and legs yellowish red.

Head, pronotum, mesonotum, and anterior third of epinotum finely striate-rugose longitudinally, declivity of epinotum transversely rugose, node irregularly rugose. Apical half of mandibles strongly striate longitudinally, finely punctate near base. Postpetiole and gaster finely and densely punctate.

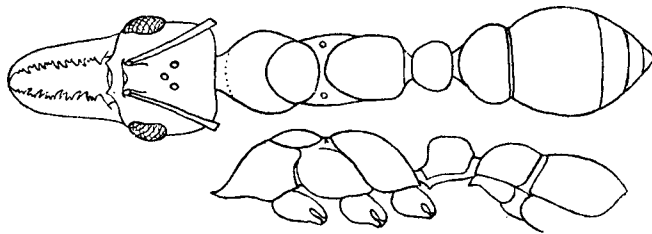


Fig. 151.—*Promyrmecia wilsoni* Clark. Dorsal and lateral view of worker.

Hair yellow, fine, and erect, long and abundant throughout, short and suberect on legs, none on antennae. Pubescence yellowish, very fine and adpressed, most abundant on postpetiole and gaster, but not hiding sculpture.

Head slightly broader than long, sides and occipital border straight or very feebly convex, angles rounded. Mandibles a fraction longer than head, outer border concave at middle, inner border with fifteen teeth, third, fifth, sixth, eighth, ninth, eleventh, twelfth, and fifteenth large, sharp, and directed backwards. Scapes exceed occipital border by fully their thickness, second segment of

funiculus barely one-sixth longer than first, remainder subequal. Thorax twice as long as broad, pronotum twice as broad as long, convex in all directions, mesonotum one-sixth broader than long, convex, constriction between mesonotum and epinotum deep and wide, epinotum almost as long as broad. Node one-fifth broader than long, almost circular; in profile as high as long, anterior face short and vertical, dorsum convex, rounded into posterior face, ventral spine short and sharp. Postpetiole almost one-fourth broader than long, sides strongly convex; constriction wide and shallow. First segment of gaster one-fourth broader than long.

Female

Unknown.

Male

Unknown.

North Queensland: Mutchilba (type locality). *New South Wales*: Narrabri, Wee Waa (W. W. Froggatt).

Holotype worker in National Museum, Melbourne.

In *Mem. Nat. Mus. Melbourne*, 1943, p. 127 and plate 15, the figure number was wrongly given as 66. It should be Figure 69.

PROMYRMECIA SHEPHERDI Clark

Figs. 152-154

Promyrmecia shepherdi Clark, 1943, *Mem. Nat. Mus. Melbourne* 13: 128, pl. 15, figs. 50-52, ♀ ♀ ♂.

Worker

Length: 10-11 mm.

Head and gaster blackish brown, apex of pronotum and anterior coxae brown, mandibles, anterior edge of clypeus, labrum, and antennae yellow, apical segment brown, thorax, node, postpetiole, and all legs reddish yellow.

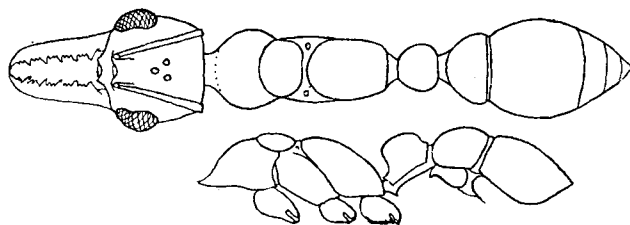


Fig. 152.—*Promyrmecia shepherdi* Clark. Dorsal and lateral view of worker.

Apical half of mandibles striate, basal half reticulate-punctate. Head finely striate-rugose, densely reticulate between striae. Pronotum, mesonotum, and anterior half of epinotum longitudinally striate, posterior half of epinotum and

declivity transversely striate. Node circularly rugose with a strong central longitudinal stria. Postpetiole and gaster densely and very finely punctate-reticulate.

Hair yellow, short and erect, abundant throughout, shorter and suberect on legs, none on antennae. Pubescence white, very fine and adpressed, forming a fine covering on postpetiole and gaster but not hiding sculpture.

Head as long as broad, occipital border straight or feebly convex, sides convex, posterior angles rounded. Mandibles as long as head, outer border feebly concave, inner border straight, with five large, sharp teeth and two small teeth between each. Scapes just reaching occipital border, first and second segments of funiculus equal length. Thorax two and one-fifth longer than broad, mesoepinotal suture deep and wide, pronotum one and three-fourths broader than long, sides and front strongly convex, dorsum flatly convex, mesonotum barely one-fourth broader than long, sides and front convex, posterior edge concave in middle, epinotum strongly convex in front, almost flat laterally. Node very slightly broader than long, circular; in profile as high as long, anterior and posterior faces short, rounded into convex dorsum, ventral spine short, broad, and sharp. Postpetiole one-third broader than long, sides strongly convex, constriction deep and wide. First segment of gaster much broader than long, broadest behind, sides strongly convex.

Female

Length: 14.5-15 mm.

Colour, sculpture, and pilosity similar to worker. Wings hyaline with a yellowish tinge, veins brown.

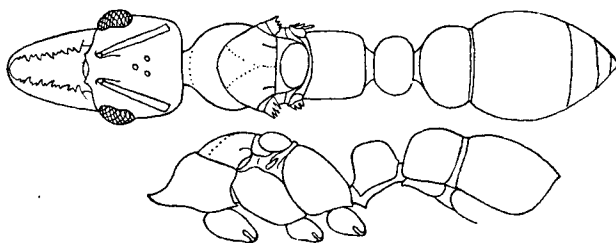


Fig. 153.—*Promyrmechia shepherdi* Clark. Dorsal and lateral view of female.

Head slightly broader than long, sides feebly convex behind, occipital border feebly concave, angles broadly rounded. Mandibles shorter than head, outer border straight, inner border convex, teeth large. Scapes not reaching occipital border by more than their thickness, second segment of funiculus very slightly longer than first. Mesonotum with mayrian furrows faintly indicated, parapsidal furrows sharply impressed. Node oval, fully one and one-half times broader than long.

Male

Length: 12 mm.

Head, pronotum, mesonotum, scutellum, postpetiole, and gaster brownish black, mandibles, antennae, and legs reddish yellow, sides, epinotum, and node yellowish red. Wings hyaline with yellowish tinge.

Sculpture as in worker but slightly finer. Pilosity similar but longer and slightly more abundant.

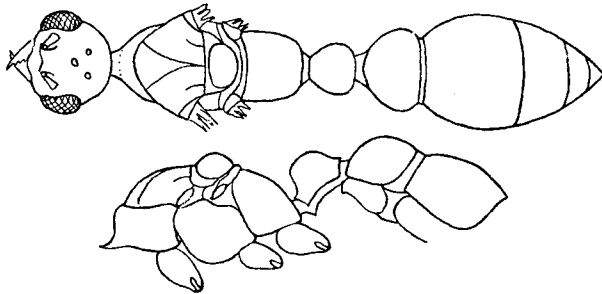


Fig. 154.—*Promyrmecia shepherdi* Clark. Dorsal and lateral view of male.

Head, across eyes, almost one-fifth broader than long, broadly convex behind. Mandibles small, narrow, and sharp-pointed, with three small teeth. Clypeus convex above and in front. Antennae slender. First segment of funiculus two and one-half times longer than scape, remaining segments subequal. Thorax barely twice as long as broad, pronotum short, fully four times broader than long, strongly convex in all directions, mesonotum one and one-half times broader than long, mayrian and parapsidal furrows strongly impressed, scutellum almost one-third broader than long, convex in all directions. Node one-sixth broader than long, broadest behind, all faces convex; in profile as high as long, anterior face vertical, slightly convex, rounded into dorsum; ventral spine short and sharp. Postpetiole broader than long, broadest and strongly convex at basal third, constriction broad and shallow. Gaster slender.

New South Wales: Broken Hill (type locality), Dubbo. *South Australia*: Finke River, Murray Bridge. *Victoria*: Nhill.

Holotype worker and allotype male in National Museum, Melbourne.

PROMYRMECIA GOUDIEI Clark

Figs. 155, 156

Promyrmecia goudiei Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 129, pl. 15, figs. 48-49, ♀♀.

Worker

Length: 12.5-14 mm.

Black, node red, mandibles, antennae, and legs brown, tarsi reddish, in some examples epinotum slightly reddish.

Head, pronotum, mesonotum, and anterior fourth of epinotum finely striate-rugose longitudinally, rest of epinotum transversely rugose. Node irregularly rugose. Postpetiole, gaster, and all spaces between rugae on head and thorax very finely and densely reticulate.

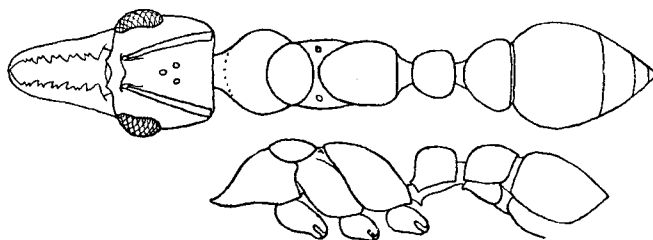


Fig. 155.—*Promyrmecia goudiei* Clark. Dorsal and lateral view of worker.

Hair yellowish, long, erect, and abundant throughout, shorter on legs, a few short bristle-like hairs at apex of scapes. Pubescence white, very fine and adpressed, longer and more abundant on postpetiole and gaster, yellowish and forming a distinct covering but not hiding sculpture on centre of gaster.

Head as long as broad, sides feebly convex, occipital border concave in middle, angles broadly rounded. Mandibles as long as head, outer border concave, inner border with twelve teeth, third, fifth, eighth, tenth, and eleventh large, sharp, and directed very slightly backward. Scapes just reach occipital border, first and third segments of funiculus equal length, second almost one-third longer, apical not as long as two preceding combined. Thorax twice as long as broad, pronotum twice as broad as long, strongly convex in all directions, mesonotum one-fourth broader than long, epinotum broadly convex in front, flatly convex laterally. Node slightly broader than long, convex in all directions; in profile as high as long, anterior face short and vertical, posterior face short and convex, continuous with dorsum, ventral spine short and sharp. Postpetiole one-third broader than long, sides strongly convex, constriction deep and wide. First segment of gaster one-fifth broader than long, strongly convex.

Female

Length: 14 mm.

Colour, sculpture, and pilosity as in worker. Wings hyaline, nervures brown.

Head slightly broader than long. Mandibles broader, outer border straight, teeth larger and broader. Scapes not reaching occipital border by fully their thickness. Thorax barely twice as long as broad, pronotum three times broader than long, convex in all directions, mesonotum almost one-third broader than long, broadly convex in front and above, parapsidal furrows sharply impressed, mayrian furrow feebly indicated, scutellum one-third broader than long, with a transverse impression in middle, epinotum almost twice as broad as long. Node

about one-fourth broader than long, strongly convex in all directions. Post-petiole twice as broad as long, strongly convex in front, constriction deep and wide. First segment of gaster fully one-fourth broader than long.

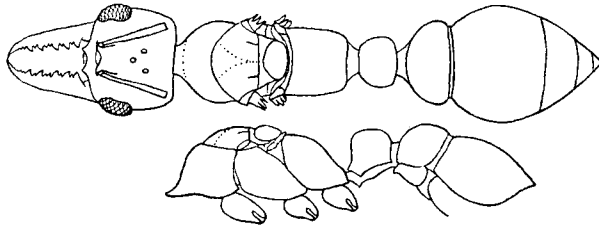


Fig. 156.—*Promyrmea goudiei* Clark. Dorsal and lateral view of female.

Male

Unknown.

Victoria: Sea Lake (type locality), Redcliffs, Hattah.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA MARMORATA n.sp.

Fig. 157

Worker

Length: 11-12.5 mm.

Head, pronotum, mesonotum, metanotum, and gaster black, epinotum, node, postpetiole, and legs yellowish red, mandibles brown or blackish brown on basal half, lighter at apex, basal half of scapes and apical half of funiculus brown, apical half of scapes and basal half of funiculus yellow.

Mandibles smooth on basal half, obliquely rugose on apical half, punctures large and deep. Head finely and longitudinally striate-rugose. Pronotum striate

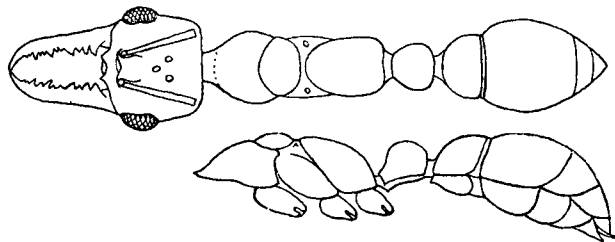


Fig. 157.—*Promyrmea marmorata* n.sp. Dorsal and lateral view of worker.

longitudinally, striae widely spaced, mesonotum longitudinally striate-rugose, epinotum transversely and more coarsely rugose. Node irregularly rugose; post-petiole and gaster microscopically reticulate-punctate.

Hair yellow, short, erect, and very sparse on head and thorax, longer and more abundant on node, postpetiole, and gaster. Pubescence very fine, sparse, and adpressed, white on sides of gaster, bright golden yellow on dorsum of first and second segments and on clypeus and front of face to middle of eyes.

Head very slightly broader than long, sides and occipital border nearly straight, angles broadly rounded. Mandibles a fraction longer than head, outer border feebly concave, inner border with five large, sharp teeth interspaced with finer teeth. Scapes barely reach occipital border. First and third segments of funiculus equal length, one-fourth shorter than second. Thorax two and one-fifth longer than broad, pronotum one-third broader than long, front and sides strongly convex, dorsum very feebly convex laterally, almost flat, mesonotum one-third broader than long, front and sides strongly convex, posterior border straight or very feebly concave, dorsum convex in all directions, constriction deep and sharp, epinotum one-fourth longer than broad, feebly convex laterally. Node slightly broader than long, broadest behind, convex in all directions; in profile as high as long, anterior face concave, posterior face very short, rounded into dorsum. Postpetiole one-third broader than long, strongly convex in all directions, constriction deep and sharp. First segment of gaster as long as broad, broadest at middle.

Female

Unknown.

Male

Unknown.

Victoria: Patho (H. A. Potter).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

In size and general appearance much like *P. goudiei* but distinguished by the colour, shape of the head, mandibles, and node.

KEY TO SPECIES, URENS GROUP

Workers

1. Node irregularly rugose 2
Node densely reticulate; thorax densely reticulate with traces of transverse rugae on pronotum and epinotum *P. rubicunda*
2. Postpetiole and gaster microscopically punctate 3
Postpetiole and gaster microscopically reticulate 4
3. Mandibles broad, broadest at basal fourth and sharply reduced to base and apex; pronotum irregularly rugose, densely reticulate; antennae and legs reddish yellow or reddish brown *P. urens*
Mandibles slender, almost parallel from base to apical third; pronotum coarsely striate-rugose; antennae and legs dark brown *P. nigra*

4. Small species (4.4.5 mm.); mandibles as long as head; mesonotum coarsely reticulate; antennae and legs brown or reddish brown *P. exigua*
Larger species (6.9 mm.); mandibles shorter than head 5
5. Mesonotum coarsely reticulate; femora and tarsi reddish yellow *P. infima*
Mesonotum longitudinally striate-rugose; femora black, tarsi brownish yellow *P. dichospila*

PROMYRMECIA URENS (Lowne)

Figs. 158, 159

Myrmecia urens Lowne, 1865, Entomologist **2**: 336, ♀.

Myrmecia pumilio Mayr, 1866, Verh. zool.-bot. Ges. Wien **16**: 896, ♀.

Myrmecia picta Mayr (not Smith), 1876, J. Mus. Godeffroy **12**: 94, ♀. Forel, 1900, Ann. Soc. Ent. Belg. **44**: 54, ♀.

Myrmecia (*Myrmecia*) *picta* Emery, 1911, Genera Insect. **118**: 21. Viehmeyer, 1924, Ent. Mitt. **13**: 222, ♀.

Myrmecia (*Promyrmecia*) *urens* Lowne, Clark, 1927, Vict. Nat. **44**: 39. Wheeler, 1933, Colony-founding among Ants, p. 62. Clark, 1934, Mem. Nat. Mus. Melbourne **8**: 13-14.

Promyrmecia urens (Lowne) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 103, pl. 15. figs. 56-58, ♀ ♀.

Worker

Length: 6.8 mm.

Black, basal half of mandibles and labrum yellow, apical half reddish yellow; antennae, anterior tibiae, apical half of femora, and all tarsi reddish or reddish yellow, other tibiae and femora brown. Colour of thorax and node varies considerably among individuals in every nest, large numbers with dorsum of pronotum, epinotum, and node red, head, postpetiole, and gaster always black.

Apical half of mandibles obliquely striate, basal half finely reticulate and with numerous large, shallow punctures. Head finely and longitudinally striate, striae widely spaced, interstices densely reticulate. Pronotum irregularly rugose, mesonotum with faint traces of rugae, epinotum irregularly rugose, with a more or less transverse direction, node irregularly rugose, entire thorax and node very densely reticulate. Postpetiole and gaster microscopically punctate.

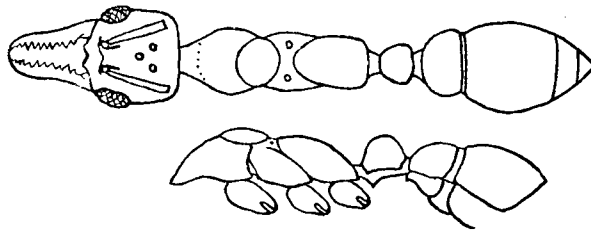


Fig. 158.—*Promyrmecia urens* (Lowne). Dorsal and lateral view of worker.

Hair yellow, long, erect, and abundant, shorter and suberect on legs. Pubescence white, very fine and adpressed, longer and more abundant on postpetiole and gaster but not hiding sculpture.

Head as long as broad, sides and occipital border feebly convex, angles rounded. Mandibles fully their width at base shorter than head, outer border concave, inner border convex, with four large, sharp, erect teeth, each preceded by two smaller teeth, fourth forming a slight angle, followed by two small denticles. Scapes fully their width at apex shorter than head, first and second segments of funiculus equal length, third one-fifth shorter. Thorax two and one-half times longer than broad, pronotum one-third broader than long, dorsum feebly convex transversely, mesonotum as long as pronotum, circular, as long as broad, excision deep but not wide, epinotum one-third longer than broad, convex transversely. Node as long as broad, broadest behind middle, convex in all directions; in profile slightly higher than long, anterior face straight, sloping backward, sharply rounded into dorsum, posterior face short, convex, and continuous with dorsum, ventral spine slender and sharp. Postpetiole one-fourth broader than long, constriction deep. First segment of gaster broader than long, much broader behind than in front.

Female

Length: 8.9 mm.

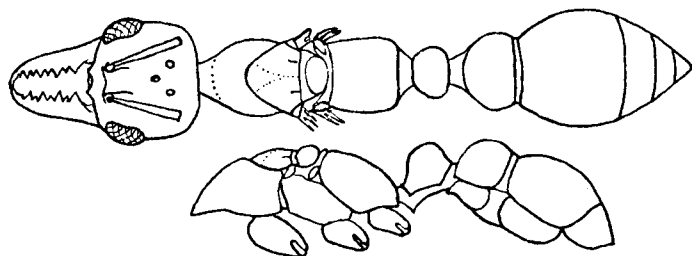


Fig. 159.—*Promyrmecia urens* (Lowne). Dorsal and lateral view of female.

Colour, sculpture, and pilosity as on worker. Occipital angles more broadly rounded. Mandibles shorter, broader, and teeth stronger. Scapes slightly shorter. Node one-fourth broader than long. Postpetiole one-third broader than long. Wings hyaline. Ergatoid females common in all nests.

Male

Unknown.

New South Wales: Sydney (type locality), Como, Manilla, Pilliga Scrub, Lismore. *Queensland*: Fletcher, Milmerran, Peak Downs. *Victoria*: Cann River, Bendigo, Lake Hattah, Portland. *South Australia*: Mt. Lofty, Port Lincoln. *Tasmania*: Launceston.

Type in Lowne collection.

PROMYRMECIA INFIMA (Forel)

Figs. 160-162

Myrmecia picta Smith var. *infima* Forel, 1900, Ann. Soc. Ent. Belg. **44**: 54, ♀; 1907, Fauna Sudwest Austral. **1**: 267.

Myrmecia (*Myrmecia*) *picta* Smith var. *infima* Forel, Emery, 1911, Genera Insect. **118**: 21.

Myrmecia (*Promyrmecia*) *infima* Forel, Wheeler, 1933, Colony-founding among Ants, p. 62.

Clark, 1934, Mem. Nat. Mus. Melbourne **8**: 14.

Promyrmecia infima (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 105, pl. 15, figs. 59-61, ♀ ♀ ♂.

Worker

Length: 6-8 mm.

Head, pronotum, mesonotum, postpetiole, and gaster black. Mandibles yellow, apical third darker, clypeus, antennae, and legs reddish yellow, base of scapes darker, epinotum and node red.

Mandibles striate, obliquely at apex, five large, shallow punctures on inner edge of apical half. Head very finely and longitudinally striate-rugose, densely reticulate between rugae. Pronotum circularly rugose. Mesonotum rather coarsely reticulate, without striae or rugae. Epinotum and declivity transversely striate-rugose. Node irregularly rugose. Postpetiole and gaster microscopically reticulate.

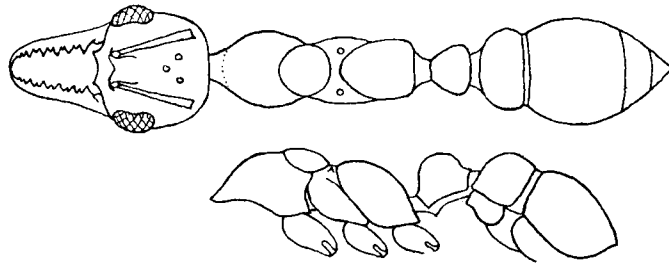


Fig. 160.—*Promyrmecia infima* (Forel). Dorsal and lateral view of worker.

Hair yellow, long and erect, abundant throughout, short and suberect on legs. Pubescence greyish, very fine and adpressed, forming a slight covering on postpetiole and gaster but not hiding sculpture.

Head as long as broad, sides and occipital border feebly convex, angles broadly rounded. Mandibles shorter than head by fully their width at base, outer border feebly concave, inner border convex, with five large, sharp, erect teeth each preceded by a smaller tooth. Scapes barely as long as mandibles, not reaching occipital border by fully their thickness; first and second segments of funiculus equal length, longer than third. Thorax two and one-half times longer than broad, pronotum one-fourth longer than broad, convex in all directions; mesonotum circular, as long as broad, meso-epinotal excision deep and wide; epinotum one-fifth longer than broad, dorsum feebly convex transversely. Node one-eighth

broader than long, almost circular; in profile higher than long, almost dome-shaped above, ventral spine short, sharp, broader than long. Postpetiole twice as broad as long, hemispherical, constriction deep and wide. First segment of gaster one-eighth broader than long.

Female

Length: 8 mm.

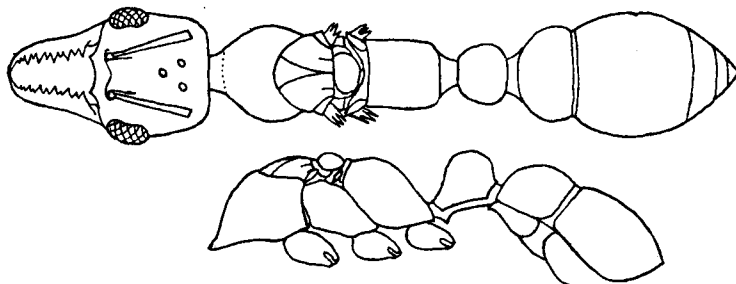


Fig. 161.—*PromyrmeCIA infima* (Forel). Dorsal and lateral view of female.

Differs from worker only in being larger, more robust, and winged. Sculpture slightly coarser, scapes and femora slightly darker.

Male

Length: 7-8 mm.

Colour, sculpture, and pilosity as on worker. Head as broad as long, almost circular. Mandibles with three large, sharp teeth behind apex. Second segment of funiculus three times longer than scapes and five times longer than first segment. Thorax twice as long as broad. Pronotum three times as broad as long, strongly convex in all directions; mesonotum one-sixth broader than long, mayrian and parapsidal furrows sharply impressed. Scutellum almost as long as broad, strongly convex, epinotum broader than long, convex transversely. Node

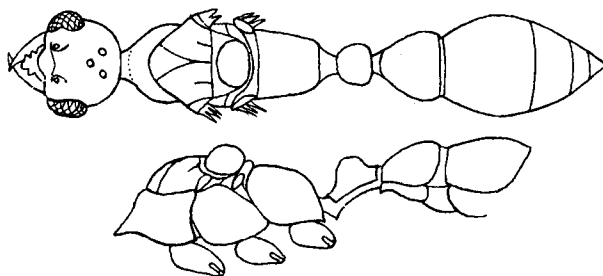


Fig. 162.—*PromyrmeCIA infima* (Forel). Dorsal and lateral view of male.

very slightly broader than long, broadest behind middle, convex in all directions; in profile slightly higher than long, dome-shaped, ventral spine very short and sharp. Postpetiole one-fifth broader than long, broadest at posterior fourth,

greatly reduced in front; constriction deep. First segment of gaster one-seventh broader than long, broader behind than in front. Legs long and slender.

Western Australia: Perth (type locality), Fremantle, Rottnest Island, Albany, Denmark.

Type worker in Forel collection, Natural History Museum, Geneva; allotype male in National Museum, Melbourne.

PROMYRMECIA RUBICUNDA Clark

Fig. 163

Promyrmecia rubicunda Clark, 1943, Mem. Nat. Mus. Melbourne 13: 107, pl. 15, fig. 62, ♀.

Worker

Length: 5.5-6.5 mm.

Head, pronotum, mesonotum, and gaster black, mandibles and labrum yellow, funiculus, epinotum, node, postpetiole, and legs reddish yellow, scapes brown.

Mandibles smooth and shining, with six large, shallow punctures on apical half at base of teeth. Head very delicately striate longitudinally, densely reticulate between striae. Thorax and node densely reticulate, pronotum and epinotum with traces of transverse rugae; postpetiole and gaster microscopically punctate.

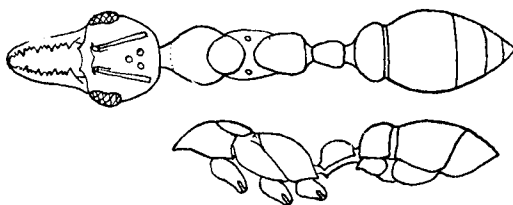


Fig. 163.—*Promyrmecia rubicunda* Clark. Dorsal and lateral view of worker.

Hair yellow, erect, rather sparse except on apex of gaster; short and suberect on legs. Pubescence white, very fine and adpressed, forming a thin silky covering on postpetiole and gaster, not hiding sculpture.

Head as long as broad, occipital border short and straight, sides convex, angles broadly rounded. Mandibles as long as head, outer border straight or very feebly concave, inner border convex, with four large, sharp, erect teeth each preceded by two small denticles. Scapes not reaching occipital border by fully their thickness, first and third segments of funiculus equal length, second one-fifth longer. Thorax two and one-third longer than broad. Pronotum one and three-fourths broader than long, convex in all directions; mesonotum as long as pronotum, circular, as long as broad, excision deep and wide; epinotum one-fourth longer than broad, convex transversely. Node very slightly longer than broad, slightly broader behind than in front, sides feebly convex, anterior border strongly convex, posterior border almost straight; in profile longer than high,

anterior face short and vertical, rounded into rather flattened dorsum, posterior face convex, very short, ventral spine short, blunt, and broad. Postpetiole twice as broad as long, almost hemispherical; constriction deep and wide. First segment of gaster broader than long.

Female

Unknown.

Male

Unknown.

South Australia: Ooldea.

Holotype worker in National Museum, Melbourne.

In the original description of this species (Clark 1943) the figure number was wrongly given as 65; it should read 62.

PROMYRMECIA NIGRA (Forel)

Figs. 164, 165

Myrmecia picta Smith var. *nigra* Forel, 1907, Fauna Sudwest Austral. 1: 267, ♀.

Myrmecia (Myrmecia) picta Smith var. *nigra* Forel, Emery, 1911, Genera Insect. 118: 21.

Myrmecia (Promyrmecia) infima Forel var. *nigra* Forel, Wheeler, 1933, Colony-founding among Ants, p. 63, ♀.

Promyrmecia nigra (Forel), Clark, 1943, Mem. Nat. Mus. Melbourne 13: 106, pl. 15, figs. 63, 64, ♀♀.

Worker

Length: 7-9.5 mm.

Black, apical half of mandibles brown, basal half reddish yellow; antennae and legs brown, apical half of funiculus and tarsi reddish. Colour of thorax and node varies considerably among individuals of each nest, majority with pronotum, epinotum, and node more or less marked with red, many examples with these segments entirely red; postpetiole and gaster always black.

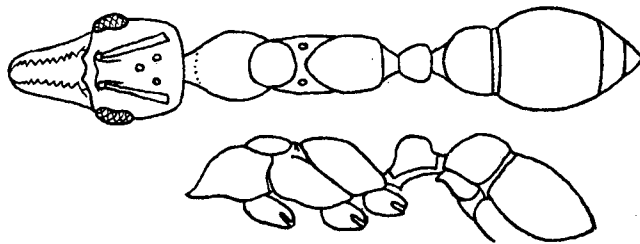


Fig. 164.—*Promyrmecia nigra* (Forel). Dorsal and lateral view of worker.

Apical half of mandibles with five large, deep punctures, basal half finely punctate. Head finely striate-rugose, transversely arched; mesonotum finely striate-rugose longitudinally and very densely reticulate; epinotum more coarsely rugose transversely; node irregularly rugose; postpetiole and gaster microscopically punctate.

Hair yellow, long, slender, and erect, abundant throughout, shorter and sub-erect on legs. Pubescence white, very fine and adpressed, abundant throughout, longer on postpetiole and gaster but not hiding sculpture.

Head as long as broad, sides and occipital border feebly convex, angles broadly rounded. Mandibles shorter than head by fully their width at base; outer border feebly concave, inner border convex, with ten large, sharp, erect teeth, second, fourth, and ninth smallest. Scapes not reaching occipital border by fully their thickness, second segment of funiculus one-eighth longer than first. Thorax two and one-half times longer than broad; pronotum one-fourth broader than long, mesonotum as long as broad, circular, strongly convex above, meso-epinotal constriction deep and narrow; epinotum one-fifth longer than broad. Node one-sixth broader than long, broadest behind, feebly convex in all directions; in profile higher than long, anterior face high, sloping backward and rounded into dorsum, posterior face short, convex, almost one and three-fourths broader than long, hemispherical in front; constriction deep and wide. First segment of gaster broader than long, broadest behind.

Female

Length: 9.5-11 mm.

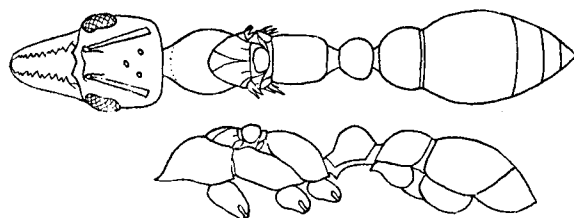


Fig. 165.—*Promyrmecia nigra* (Forel). Dorsal and lateral view of female.

Colour as on worker; sculpture coarser; pilosity and pubescence longer and more abundant. Differs from worker in being larger, more robust, and possessing wings.

Male

Unknown.

Western Australia: Perth (type locality), Kukerine, Darlington, Stathams, Northcliffs, Yallingup, Albany, Pemberton, Manjimup, Geraldton.

Type worker in Museum of Natural History, Hamburg.

This species is widely distributed and very abundant from Albany up to Geraldton. The colour of the thorax and node varies from all black on some individuals to almost all red on others. The same series of colour variations occur in all nests.

In a previous paper (Clark 1943) the figure number was wrongly given as 62, 63; this should read 63, 64.

PROMYRMECIA EXIGUA Clark

Fig. 166

PromyrmeCIA exigua Clark, 1943, Mem. Nat. Mus. Melbourne 13: 107, pl. 15, fig. 65, ♀.*Worker*

Length: 4-4.5 mm.

Head and gaster blackish brown, mandibles yellow, antennae, pronotum, mesonotum, and legs brown or reddish brown, tarsi of front and middle legs reddish yellow, epinotum and node red.

Mandibles smooth and shining. Head finely and irregularly reticulate-rugose, faint traces of longitudinal striae on middle. Thorax and node more coarsely reticulate-rugose, rugae almost obsolete on mesonotum, somewhat arched on pronotum. Postpetiole and gaster microscopically reticulate.

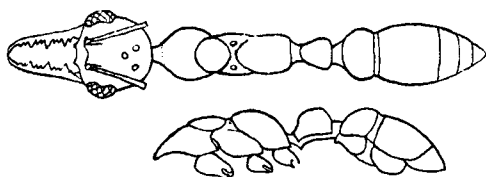


Fig. 166.—*PromyrmeCIA exigua* Clark. Dorsal and lateral view of worker.

Hair whitish yellow, erect, long, and abundant on body, shorter and suberect on legs. Pubescence grey, very fine and adpressed, long and more abundant on postpetiole and gaster but not hiding sculpture.

Head as long as broad, sides and occipital border convex, angles very broadly rounded. Mandibles fully as long as head, outer border concave at middle, inner border convex, with six large, sharp, erect teeth, first three large teeth each preceded by two small denticles. Scapes not reaching occipital border by fully their thickness, first and second segments of funiculus equal length, third one-seventh shorter. Thorax two and one-half times longer than broad; pronotum one-third broader than long, strongly convex in all directions, mesonotum circular, as long as broad, meso-epinotal excision deep, epinotum one-fourth longer than broad, feebly convex transversely. Node as long as broad, pear-shaped, broadest behind; in profile as high as long, anterior and posterior faces short and vertical, both rounded into convex dorsum, ventral spine short and sharp. Postpetiole as long as node, one and three-fourths broader than long, sides and front strongly convex, constriction sharp and deep. First segment of gaster one-fourth broader than long, broader behind than in front.

Female

Unknown.

Male

Unknown.

Victoria: Lake Hattah (type locality).

Holotype worker in National Museum, Melbourne.

This is the smallest species in the genus. In colour and sculpture it somewhat resembles *P. urens* Lowne, but the structure is quite different.

In the original description of this species (Clark 1943) the figure number was wrongly given as 64; this should read 65.

PROMYRMECIA DICHOSPILA Clark

Figs. 167-169

Myrmecia (*Promyrmecia*) *dichospila* Clark, 1938, Proc. Roy. Soc. Vict. **50** (2): 359, fig. 2, ♀ ♀ ♂.

Promyrmecia dichospila Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 108, pl. 15, figs. 53-55, ♀ ♀ ♂.

Worker

Length: 7-9 mm.

Black, dorsum of node and a large spot on epinotum red, mandibles yellow at base, reddish yellow towards apex, teeth brown, labrum reddish yellow, scapes brown, funiculus reddish yellow, tarsi and apex of tibiae brownish yellow.

Mandibles finely striate-reticulate with a row of large, deep punctures along inner borders. Head finely striate-rugose longitudinally, densely and finely reticulate, not striate. Pronotum striate-rugose, transversely arched. Mesonotum striate-rugose longitudinally. Epinotum and node coarsely and irregularly rugose. Postpetiole and gaster very finely reticulate.

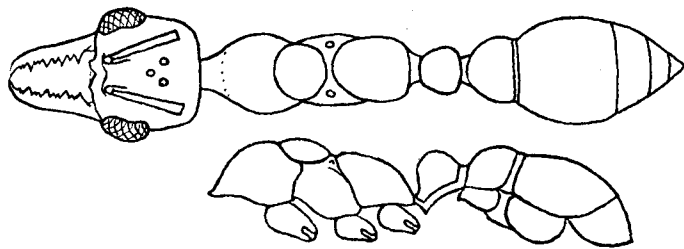


Fig. 167.—*Promyrmecia dichospila* Clark. Dorsal and lateral view of worker.

Hair yellowish, long, and erect, particularly on clypeus and last three segments of gaster, none on antennae, very short and sparse on legs. Pubescence greyish, very fine and adpressed, long and abundant on gaster.

Head as long as broad, sides and occipital border straight, angles broadly rounded. Mandibles one-fifth shorter than head, outer border concave, inner border strongly dentate, third, fifth, seventh, and ninth teeth twice as large as others, ninth forming a slight angle. Scapes not reaching occipital border by twice their thickness; first and second segments of funiculus equal length, third

one-fourth shorter. Thorax two and one-half times longer than broad, pronotum one-third broader than long, strongly convex in all directions, mesonotum circular, as long as broad, epinotum slightly longer than broad, strongly convex transversely. Node slightly broader than long, fully twice as long as stalk in front, convex in all directions; in profile slightly higher than long, apical third straight and vertical, sloping gradually to apex of stalk in front, dorsum convex, rounded into posterior face, ventral spine long, broad, and sharp, directed forward. Postpetiole almost one-third broader than long, broadest at middle, strongly convex in all directions; constriction deep and wide. Gaster one and two-thirds longer than broad. First segment of gaster one-fifth broader than long, much broader behind than in front, sides convex.

Female

Length: 11 mm.

Colour, sculpture, and pilosity similar to worker. Mandibles broader and straighter, teeth larger. Pronotum twice as broad as long, convex in all directions. Mesonotum short, one-fourth broader than long, sides and front semi-circular, convex both ways on top, parapsidal furrows distinct. Wing stumps

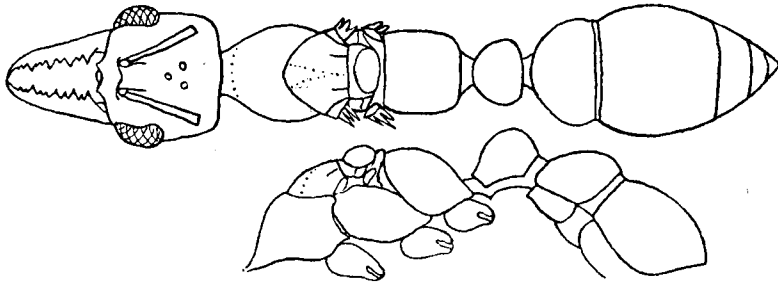


Fig. 168.—*Promyrmecia dichospila* Clark. Dorsal and lateral view of female.

present. Scutellum circular, as long as broad, dome-shaped above. Epinotum feebly convex transversely. Node one-fifth broader than long. Postpetiole almost twice as broad as long.

Male

Length: 9.5 mm.

Head and gaster black, thorax, node, postpetiole, and legs brownish yellow, mandibles and scapes brown, funiculus yellowish red.

Head finely punctate-reticulate, more coarsely punctate behind. Thorax and node finely and densely reticulate, with numerous large, shallow punctures scattered throughout, coarser and more abundant on epinotum. Postpetiole and gaster finely and densely reticulate. Pilosity as in worker but erect hairs longer.

Head almost one-third broader than long, strongly convex behind. Mandibles short, with four strong, sharp teeth. Clypeus broad, convex above, concave in middle in front. Frontal area large, triangular. Frontal carinae one-third longer than broad in front. Scapes two and one-half times longer

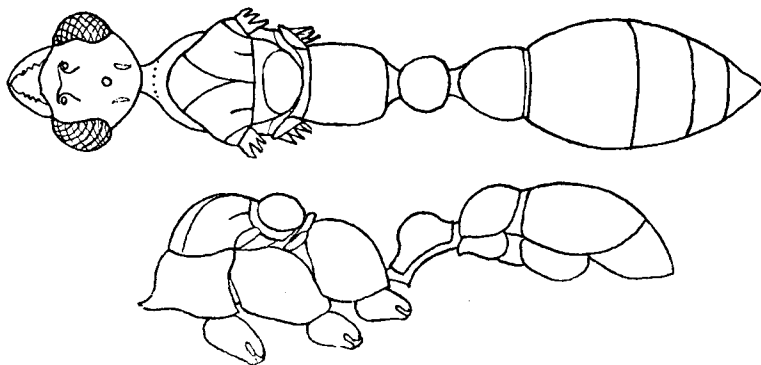


Fig. 169.—*Promyrmecia dichospila* Clark. Dorsal and lateral view of male.

than first segment of funiculus, second segment six times longer than first, remainder subequal to apical. Thorax two and one-half times longer than broad. Pronotum short, strongly convex. Mesonotum one-fifth broader than long, convex in front, mayrian and parapsidal furrows and frontal groove in centre deeply impressed. Scutellum one-third broader than long, anterior edge feebly convex, sides and posterior edge strongly convex. Epinotum strongly convex transversely. Node circular, as long as broad, fully four times as long as stalk in front, in profile like node of worker but ventral spine straight. Postpetiole as long as broad, almost three and one-half times broader behind than in front, sides straight to basal third, then strongly convex. Gaster fully twice as long as broad. First segment almost one-third broader than long, much broader behind than in front. Genitalia retracted. Wings hyaline.

South Australia: Reevesby Island.

Holotype worker and allotype male in National Museum, Melbourne.

In a previous paper (Clark 1943) the size of the female was given as 24.5-26 mm. The correct size is 11 mm.

KEY TO SPECIES, PILOSULA GROUP

Workers

1. Head and gaster black, thorax, node, and postpetiole black or red 2
- Head, gaster, and postpetiole dark brown, thorax and node reddish brown *P. dispar*

2. Node, thorax, and postpetiole entirely black 3
 Node red, thorax and postpetiole black, red, or bicoloured; pubescence on
 gaster sparse 9
3. Pubescence on gaster dense; mandibles black, brown, reddish brown, or
 yellowish brown 4
 Pubescence on gaster sparse; mandibles yellow 8
4. Pubescence more or less tinged with red 5
 Pubescence yellow, never reddish 6
5. Dorsum of gaster covered with reddish-gold pubescence; mandibles, antennae,
 and legs black or brownish, tarsi reddish *P. michaelsoni*
 Colour as in *P. michaelsoni* but pubescence on gaster more yellowish or
 brassy *P. michaelsoni queenslandica*
6. Postpetiole microscopically punctate or reticulate 7
 Postpetiole longitudinally striate; legs, mandibles, and antennae reddish
 brown *P. ruginodis*
7. Legs, including middle and posterior coxae, yellow; pronotum, mesonotum,
 and node longitudinally striate *P. chrysogaster*
 Legs brown, tarsi reddish brown; pronotum and mesonotum longitudinally
 striate-rugose, node irregularly punctate-rugose *P. cydista*
8. Anterior tibiae, all tarsi and antennae yellow; postpetiole microscopically
 punctate-reticulate *P. pilosula*
 Legs and antennae brown, tarsi reddish brown; postpetiole irregularly
 longitudinally striate-rugose *P. celaena*
9. Thorax entirely red 10
 Thorax bicoloured 12
10. Postpetiole black marked with red; node without a median carina 11
 Postpetiole entirely black; node with a strong median longitudinal
 carina *P. chasei*
11. Postpetiole finely and densely reticulate; mesonotum longitudinally striate;
 legs reddish yellow *P. elegans*
 Postpetiole longitudinally striate-rugose; mesonotum feebly, irregularly
 rugose; legs brown *P. harderi*
12. Postpetiole black, more or less rugose 13
 Postpetiole red, microscopically reticulate 14
13. Pronotum entirely red; postpetiole superficially punctate-rugose . . . *P. maloni*
 Pronotum black and red; postpetiole finely longitudinally rugose . . . *P. scabra*
14. Epinotum entirely light red; antennae and legs reddish yellow . . . *P. occidentalis*
 Dorsum of epinotum blood red, rest black; antennae and legs reddish
 brown *P. opaca*

PROMYRMECIA PILOSULA (F. Smith)

Figs. 170-172

Myrmecia pilosula Smith, 1858, Cat. Hym. Brit. Mus. **6**: 146, ♀ ♀ ♂. Roger, 1861, Ent. Z. **5**: 35. Mayr, 1862, Verh. zool.-bot. Ges. Wien **12**: 726.

Formica forficata Latreille, 1802, Fourmis, p. 216, pl. 8, fig. 50, ♀.

Myrmecia (*Myrmecia*) *pilosula* Smith, Emery, 1911, Genera Insect. **118**: 21.

Myrmecia (*Halmamyrmecia*) *pilosula* Smith, Wheeler, 1922, Biol. Bull. **42**: 195, ♀.

Myrmecia (*Promyrmecia*) *pilosula* Smith, Clark, 1925, Vict. Nat. **42**: 140. Wheeler, 1933, Colony-founding among Ants, p. 56, ♀.

Promyrmecia pilosula (Smith) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 109, pl. 14, figs. 37-39, ♀ ♀ ♂.

Worker

Length: 12-14 mm.

Black, mandibles, antennae, tibiae, and tarsi yellow.

Apical half of mandibles with a large longitudinal groove and some coarse oblique striae. Head longitudinally striate, striae very fine and widely spaced, densely and finely punctate between striae. Pronotum longitudinally striate in middle, circular at sides, striae larger and closer than on head. Mesonotum longitudinally striate, sometimes more striate-rugose, anterior fourth of epinotum longitudinally rugose, remainder, including declivity, transversely rugose. Node circularly rugose with a longitudinal central carina. All interstices very finely and densely punctate-reticulate. Postpetiole and gaster microscopically punctate-reticulate.

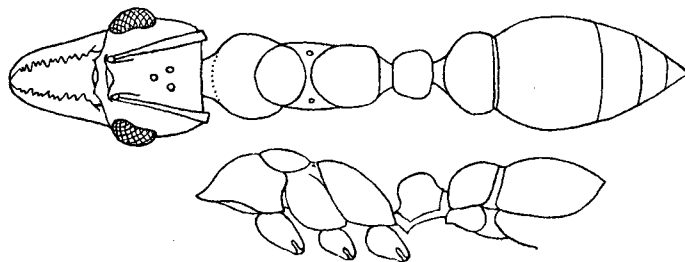


Fig. 170.—*Promyrmecia pilosula* (F. Smith). Dorsal and lateral view of worker.

Hair greyish, short, erect, moderately abundant throughout, longer and more abundant on gaster, very long and inclined on top and underside of mandibles, none on antennae, very short and suberect on legs. Pubescence white, very fine and short, adpressed, abundant throughout, longer and more abundant on postpetiole and gaster, forming a distinct covering but not hiding sculpture.

Head one-sixth broader than long, feebly concave behind, sides convex, angles rounded. Mandibles not quite as long as head, outer border straight or feebly concave, inner border with four large, sharp, erect teeth, each separated by a small, sharp tooth. Scapes exceed occipital border by their thickness, first and

third segments of funiculus equal in length, one-tenth shorter than second, apical almost twice as long as preceding. Thorax barely twice as long as broad; pronotum twice as broad as long, sides and front convex, dorsum flattened or feebly concave; mesonotum one-sixth broader than long, strongly convex in all directions; epinotum one-eighth longer than broad; dorsum flattened. Node one-fifth broader than long, convex in all directions; in profile one-fifth higher than long, almost dome-shaped above, all faces convex, ventral spine long and stout, blunt. Postpetiole barely twice as broad as long, strongly convex in all directions; constriction wide and deep. First segment of gaster one-sixth broader than long.

Female

Length: 14-16 mm.

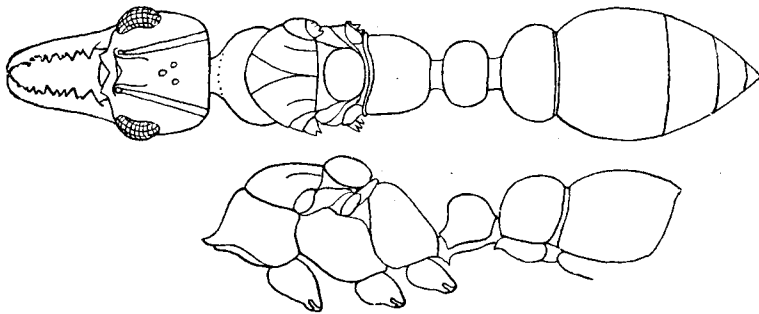


Fig. 171.—*Promyrmecia pilosula* (F. Smith). Dorsal and lateral view of female.

Colour and pilosity as on worker; sculpture coarser, more irregular. Node one and three-fourths broader than long, sides convex, anterior and posterior faces straight or feebly convex.

Male

Length: 11-12 mm.

Colour as on worker.

Mandibles shining, superficially punctate. Head behind eyes coarsely punctate, punctures large and shallow, front of head and bottoms of punctures very finely and densely punctate. Thorax and node irregularly punctate, punctures large and shallow, obsolete in places, whole, including postpetiole and gaster, very finely and densely punctate.

Hair grey, very long and abundant throughout, shorter on legs. Pubescence white, slightly yellowish on gaster, very fine and abundant.

Head one-fifth broader than long, greatly reduced behind. Mandibles triangular, with one large tooth at centre between apex and base of inner border. Scapes twice as long as first segment of funiculus, second segment of funiculus five times as long as first, third segment four and one-half times longer than first.

Thorax twice as long as broad, pronotum four times broader than long, mesonotum with sharply defined mayrian and parapsidal furrows, scutellum as long as broad, broadest in front. Node slightly broader than long, convex in all directions; in profile higher than long, dome-shaped, higher in front, stalk half as long as node, ventral spine long, slender, and sharp. Postpetiole one-third broader than long, broadest at posterior third, constriction deep and wide; first segment of gaster one-eighth broader than long. Wings hyaline.

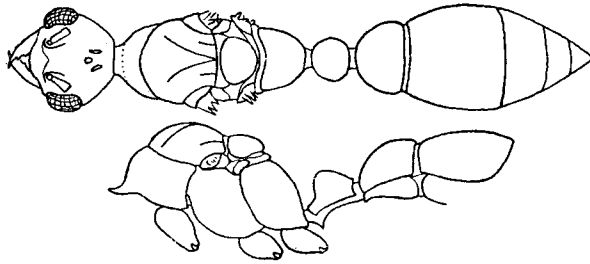


Fig. 172.—*Promyrmecia pilosula* (F. Smith). Dorsal and lateral view of male.

Tasmania: Hobart (type locality). *Western Australia*: Albany, Mundaring, Denmark. *South Australia*: Mt. Lofty, Normanville, Aldgate, Kangaroo Island. *Victoria*: Whole State. *New South Wales*: Whole State. *Queensland*: Bunya Mt., Fletcher, Stanthorpe, Mt. Tambourine, Millmerran.

Type in British Museum.

Very abundant in all the eastern States. Popularly known as the "black jumper," this is the most common and widely distributed species in the genus. In Western Australia it is quite common in Albany and surrounding district, but it is rare farther north. In Queensland it ranges north to Rockhampton.

PROMYRMECIA MICHAELSENI (Forel)

Figs. 173, 174

Myrmecia michaelсени Forel, 1907, Fauna Sudwest. Austral. 1: 267, ♀.

Myrmecia (Myrmecia) michaelсени Forel, Emery, 1911, Genera Insect. 118: 21, ♀. Vieh-meyer, 1924, Ent. Mitt. 13: 221.

Myrmecia michaelсени Forel var. *perthensis* Crawley, 1922, Ann. Mag. Nat. Hist. (9) 9: 431, ♀.

Myrmecia (Promyrmecia) michaelсени Forel, Wheeler, 1933, Colony-founding among Ants, p. 59.

Promyrmecia michaelсени (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne 12: 111, pl. 13, figs. 17-18, ♀ ♀.

Worker

Length: 10-12 mm.

Black, mandibles, antennae, and legs brown, tarsi reddish.

Mandibles smooth, some obsolete striae near tips. Head finely striate longitudinally, very finely and densely punctate between striae. Pronotum and mesonotum finely striate longitudinally. Epinotum more coarsely striate, longitudinal in front, irregular behind and transverse on declivity. Node irregularly rugose with a longitudinal direction. Postpetiole and gaster densely and microscopically punctate.

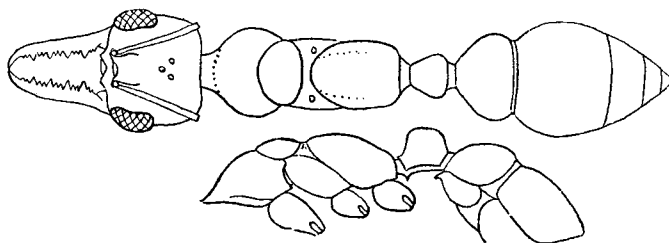


Fig. 173.—*Promyrmecia michaelseni* (Forel). Dorsal and lateral view of worker.

Hair whitish or yellow, moderately long, abundant, and erect throughout, much longer on clypeus and apical segments of gaster, hardly apparent on antennae except at apex of scapes. Pubescence white, very fine and adpressed on head, thorax, antennae, and legs, longer and more abundant on postpetiole and sides of gaster, top of gaster covered with long golden-red pubescence hiding sculpture.

Head slightly broader than long, occipital border straight or feebly concave, angles rounded. Mandibles very slightly longer than head, outer border feebly concave, inner border with thirteen teeth, third, seventh, ninth, and tenth large and sharp, others small and sharp. Scapes just reaching posterior border of head, first segment of funiculus as long as second, apical as long as first but shorter than two preceding combined. Thorax twice as long as broad, pronotum twice as broad as long, sides and front strongly convex, depressed above, mesonotum one-third broader than long, sides and front strongly convex, weakly convex behind, meso-epinotal depression deep, epinotum one-third longer than broad, convex in all directions. Node as broad as long, much broader behind than in front, sides and posterior border convex, anterior border short and straight; in profile as high as long, anterior and posterior faces straight, vertical, dorsum concave, angles blunt, ventral spine long, broad, and sharp. Postpetiole one-third broader than long, strongly convex in front. First segment of gaster one-sixth broader than long, strongly convex.

Female

Length: 13.5-15 mm.

Colour, sculpture, and pilosity as in worker. Larger and more robust. Mandibles similar but larger and broader. Node one-fourth broader than long. Postpetiole one-third broader than long. Wings with a slight brownish tinge.

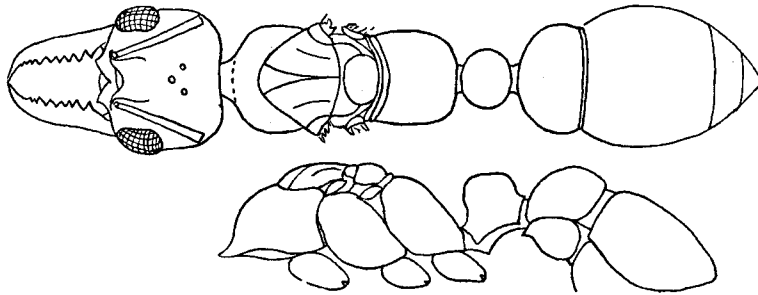


Fig. 174.—*Promyrmecia michaelsoni* (Forel). Dorsal and lateral view of female.

Male

Unknown.

Western Australia: Albany (type locality), Denmark, Nornalup, Bridgetown, Armadale, Perth, Mundaring, Perup.

Type worker in Natural History Museum, Hamburg.

PROMYRMECIA MICHAELSONI QUEENSLANDICA (Forel)

Myrmecia michaelsoni: Forel r. *queenslandica* Forel, 1915, Ark. Zool. **9** (16): 4, ♀.

Myrmecia michaelsoni subsp. *overbecki* Viehmeyer, 1924, Ent. Mitt. **13**: 222, ♂ ♀.

Promyrmecia michaelsoni (Forel) subsp. *queenslandica* (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 112, pl. 13, fig. 19, ♂ ♀.

Worker

Length: 11-13 mm.

Colour as in *P. michaelsoni* Forel. Sculpture coarser, more rugose. Hair longer and more abundant. Pubescence on gaster not so bright red, more yellowish red. Mandibles as long as head. Scapes not reaching occipital border by fully their thickness; segments of funiculus thicker. In general more robust than *P. michaelsoni*.

Female

Length: 15.5 mm.

(After Viehmeyer.)

Mandibles somewhat shorter but broader, not longer than head, fine ridge at base of teeth much more distinct than in worker. Petiole distinctly broader than long, posterior face in profile concave. Wings missing.

Male

Unknown.

Queensland: Lamington Plateau (type locality), Fletcher, Stanthorpe. *New South Wales*: Lismore, Grafton, Trial Bay.

Type worker in Natural History Museum, Stockholm.

PROMYRMECIA RUGINODIS Clark

Figs. 175-177

Promyrmechia ruginodis Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 113, pl. 13, figs. 20-22, ♀ ♀ ♂.

? *Myrmecia michaelsoni* subsp. *rugosa* Wheeler, not Clark, 1933, Colony-founding among Ants, p. 60 (*nomen nudum*).

? *Myrmecia mandibularis* subsp. *rugosa* Wheeler, 1933, Colony-founding among Ants, p. 72 (*nomen nudum*).

Worker

Length: 12-14 mm.

Black, mandibles, antennae, and legs reddish brown.

Mandibles finely punctate-reticulate, three or four fine striae near apex and a row of large, deep punctures along inner edge at base of teeth. Head finely and longitudinally striate-rugose, large, shallow punctures between rugae, whole surface very finely and densely punctate. Pronotum and mesonotum finely striate longitudinally, shining between striae. Epinotum longitudinally striate in front, transversely striate behind. Top of node longitudinally striate-rugose. Postpetiole striate longitudinally, densely punctate between striae. Gaster very finely and densely punctate.

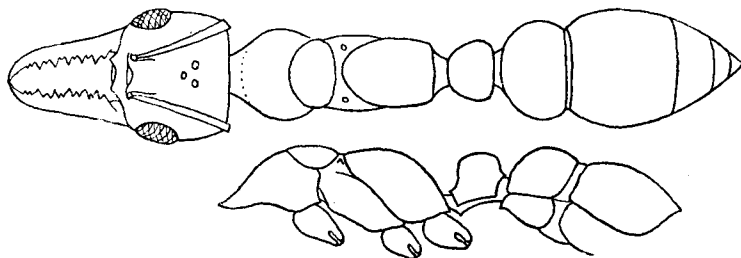


Fig. 175.—*Promyrmechia ruginodis* Clark. Dorsal and lateral view of worker.

Hair yellow, long and erect, rather sparse on head and thorax, longer and abundant on node, postpetiole, and gaster. Short and suberect on legs. None on antennae, except a few at apex of scapes. Pubescence yellow, very fine and adpressed, longer and abundant on postpetiole and gaster, hiding sculpture on middle of first segment.

Head one-eighth broader than long, sides and occipital border feebly convex, angles broadly rounded. Mandibles as long as head, outer border feebly concave, inner border with six large, sharp teeth and a smaller tooth between each. Frontal carinae as long as broad behind. Scapes reaching posterior border, first segment of funiculus slightly shorter than second, apical as long as second, remainder sub-equal. Thorax barely twice as long as broad, pronotum twice as broad as long, convex in all directions, mesonotum one-third broader than long, oval, epinotum twice as long as broad. Node one-third broader than long, broadest behind, convex in all directions; in profile anterior face straight above, sloping forward from middle below, posterior face feebly concave, or straight, dorsum convex, angles rounded, ventral spine short and sharp. Postpetiole one-third broader than long, sides strongly convex. First segment of gaster one-eighth broader than long.

Female

Length: 15 mm.

Colour and pilosity as in worker, sculpture coarser particularly on mandibles,

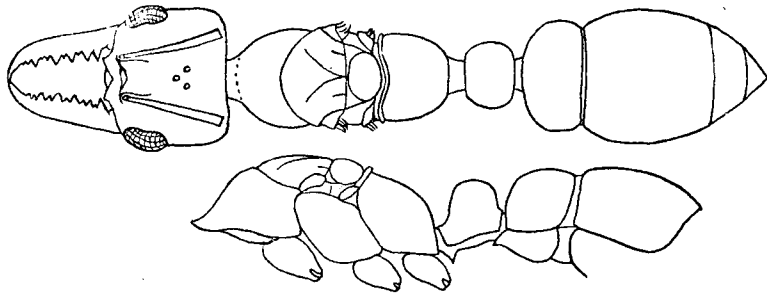


Fig. 176.—*Promyrmecia ruginodis* Clark. Dorsal and lateral view of female.

head, and node. Mandibles broader, outer border straight, teeth longer. Head square behind. Node one-fourth broader than long, oval. Postpetiole almost twice as broad as long. In all other respects similar to worker.

Male

Length: 11.5 mm.

Black, mandibles, antennae, and legs brown, tarsi lighter. Wings hyaline, nervures yellow.

Mandibles finely striate on outer border, smooth and shining in middle and inner border. Head finely rugose, very finely and densely punctate between rugae. Pronotum, scutellum, mesonotum, and node irregularly punctate-rugose, very densely punctate between rugae. Epinotum transversely rugose. Postpetiole finely but sharply rugose, very finely and densely punctate, gaster similarly finely punctate.

Hair whitish, abundant, long and erect throughout, short and suberect on legs, none on antennae. Pubescence white, very fine and adpressed, most abundant on postpetiole and gaster, yellowish and longer on middle of gaster but not hiding sculpture.

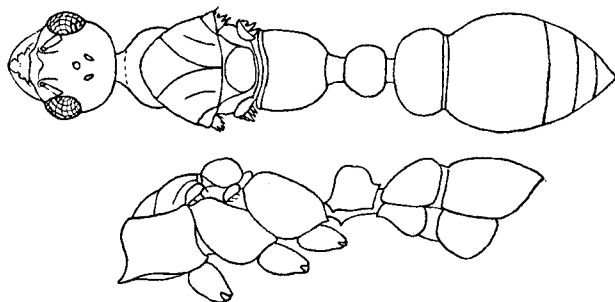


Fig. 177.—*Promyrmecia ruginodis* Clark. Dorsal and lateral view of male.

Head one-sixth broader than long, strongly convex behind eyes. Mandibles short and triangular, with three strong, sharp teeth. Scapes one-fourth longer than broad, almost twice as long as first segment of funiculus, second segment five times longer than first. Thorax barely twice as long as broad, pronotum five times broader than long, strongly convex, mesonotum one-fourth broader than long, mayrian furrows sharply but not deeply impressed, parapsidal furrows sharply impressed, scutellum one-third broader than long. Node one-sixth broader than long, almost circular; in profile anterior face sloping gradually backward, posterior face short and straight, dorsum convex, both edges rounded, ventral spine short and sharp. Postpetiole almost twice as broad as long, sides strongly convex. First segment of gaster one-fifth broader than long.

Western Australia: Perth (type locality), Mundaring, Armadale, Ludlow, Calgardup, Yallingup, Yanmah, Bushmead, Witchcliff.

Holotype worker and allotype male in National Museum, Melbourne.

Wheeler in his "Colony-founding among Ants" (1933) refers on page 60 to *Myrmecia michaelsoni* subsp. *rugosa* Clark and on page 72 to *Myrmecia mandibularis* subsp. *rugosa* Clark. Apparently both names allude to the one form, although assigned to different species. The name *rugosa* has never been published except for Wheeler's references and is therefore *nomen nudum*.

PROMYRMECIA CHRYSOGASTER Clark

Fig. 178

Promyrmecia chrysogaster Clark, 1943, Mem. Nat. Mus. Melbourne 13: 114, pl. 13, fig. 23, ♀.

Worker

Length: 9 mm.

Black, mandibles, antennae, and anterior coxae brown, legs, including middle and hind coxae, yellow.

Mandibles with coarse obsolete striae in middle of dorsum, finely reticulate on basal third. Head finely striate longitudinally. Thorax and node longitudinally striate, more coarsely than on head, epinotal declivity transversely striate. Postpetiole and gaster microscopically punctate.

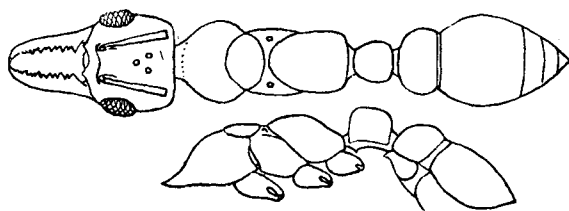


Fig. 178.—*Promyrmea chrysogaster* Clark. Dorsal and lateral view of worker.

Hair yellow, fine, long, erect, and abundant throughout, shorter on legs, none on antennae except at apex of scapes. Pubescence white, very fine and adpressed throughout, long and very abundant on postpetiole, yellow on gaster, long and adpressed, forming a golden covering hiding sculpture.

Head as long as broad, sides and occipital border straight, angles broadly rounded. Mandibles as long as head, outer border strongly concave in middle, inner border with six large, sharp, erect teeth with a small tooth between each. Frontal carinae as long as broad. Scapes not reaching occipital border by fully their thickness. Second segment of funiculus one-fifth longer than first. Thorax twice as long as broad, pronotum twice as broad as long, sides and front convex, mesonotum one-third broader than long, oval, epinotum one-fifth longer than broad. Node as long as broad, convex in all directions; in profile slightly higher than long, anterior face sloping backward, convex, rounded into convex dorsum, posterior face slightly concave, top edge rounded, ventral spine short and blunt. Postpetiole one-third broader than long, sides and front strongly convex. First segment of gaster broader than long, sides convex.

Female

Unknown.

Male

Unknown.

Queensland: Brisbane.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA CYDISTA Clark

Fig. 179

Promyrmea cydista Clark, 1943, Mem. Nat. Mus. Melbourne 13: 115, pl. 13, fig. 24, ♀.

Worker

Length: 9-12 mm.

Black, basal half of mandibles yellow, apical half yellowish brown, antennae and legs brown, tarsi reddish brown.

Basal half of mandible smooth, microscopically reticulate, apical half with four or five large, shallow, elongate punctures. Head very finely striate longitudinally, interstices wide, densely and finely reticulate, and with scattered shallow punctures. Pronotum and mesonotum longitudinally striate-rugose, coarser than on head, epinotum and node coarsely and irregularly punctate-rugose, all interstices finely and densely reticulate. Postpetiole and gaster microscopically reticulate.

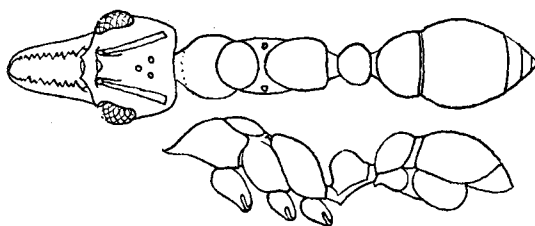


Fig. 179.—*PromyrmeCIA cydista* Clark. Dorsal and lateral view of worker.

Hair yellow, short and erect, abundant throughout, longer on apical segments of gaster, sparse, short and suberect on legs, a few at apex of scapes. Pubescence whitish, very fine and adpressed throughout, yellow, longer and more abundant on postpetiole but not hiding sculpture, long and forming a dense covering on gaster.

Head very slightly broader than long, sides feebly convex, occipital border feebly concave, angles broadly rounded. Mandibles shorter than head, outer border feebly concave, inner border with five large, sharp, erect teeth, with two smaller teeth preceding each large tooth. Scapes not reaching occipital border by their thickness, first and third segments of funiculus equal in length, second very slightly longer. Thorax twice as long as broad, pronotum almost twice as broad as long, sides and front strongly convex, dorsum flattened, mesonotum one-fifth longer than pronotum and one-sixth broader than long, constriction deep and wide, epinotum as long as broad, feebly convex transversely. Node one-fourth broader than long, broadest behind, anterior and posterior borders straight or feebly convex, sides strongly convex; in profile dome-shaped, higher than long, ventral spine thorn-like, sharp. Postpetiole one-third broader than long, broadest behind middle, constriction deep and wide. First segment of gaster one-fifth broader than long.

Female

Unknown.

Male

Unknown.

New South Wales: Lismore (type locality), Dorrigo, Wahroonga, Sydney.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA CHASEI (Forel)

Fig. 180

Myrmecia chasei Forel, 1894, Ann. Soc. Ent. Belg. **38**: 235, ♀.

Myrmecia (*Myrmecia*) *chasei* Forel, Emery, 1911, Genera Insect. **118**: 21, ♀.

Myrmecia pilosula Smith subsp. *mediorubra* Forel, 1910, Rev. Suisse Zool. **18**: 7, ♀.

Myrmecia (*Myrmecia*) *pilosula* Smith subsp. *mediorubra* Forel, Emery, 1911, Genera Insect. **118**: 21, ♀.

Myrmecia (*Myrmecia*) *chasei* Forel, Crawley, 1922, Ann. Mag. Nat. Hist. (9) **9**: 431, ♀.

Myrmecia (*Promyrmecia*) *mediorubra* Forel, Wheeler, 1933, Colony-founding among Ants, p. 58, ♀.

Promyrmecia chasei Forel, Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 115, pl. 13, figs. 25-27, ♀ ♀ ♂.

Worker

Length: 12-15.5 mm.

Head, postpetiole, and gaster black, antennae and legs brown, mandibles, apical segments of funiculus, and tarsi yellow, thorax and node light red.

Front half of mandibles striate, base smooth, finely punctate. Head finely striate longitudinally, striae widely spaced, very fine and densely punctate between striae. Pronotum, mesonotum, and front of epinotum sculptured as on head but striae large, epinotal declivity transversely striate, node circularly striate with a strong central longitudinal carina. Postpetiole and gaster densely and microscopically punctate.

Hair whitish, short and erect, abundant throughout. Pubescence white, very fine and adpressed on head and thorax, long and more abundant on postpetiole and gaster, on middle of first segment yellowish and dense, almost hiding sculpture.

Head very slightly broader than long, straight or feebly concave behind, angles broadly rounded. Mandibles a fraction longer than head, outer border straight, inner border with five large, erect teeth, with a smaller tooth between each. Frontal carinae erect, longer than broad behind. Scapes reaching occipital border, second segment of funiculus one-third longer than first. Thorax twice as long as broad, pronotum fully twice as broad as long, strongly convex all ways, mesonotum almost one-fourth broader than long, epinotum one and one-half times longer than broad. Node one and one-half times broader than long, oval; in profile higher than long, anterior face short and vertical, posterior edge sharply rounded, ventral spine short and sharp. Postpetiole twice as broad as long, sides and front strongly convex. First segment of gaster one-sixth broader than long.

Female

Length: 22-24 mm.

Colour as in worker, but a brown spot on each side of dorsum of scutellum and one on each side of dorsum of node. Wings hyaline. Sculpture and pilosity similar, but pubescence darker and more abundant on gaster.

Head one-fifth broader than long, occipital border straight or feebly concave, sides feebly convex, angles broadly rounded. Mandibles as long as head, outer

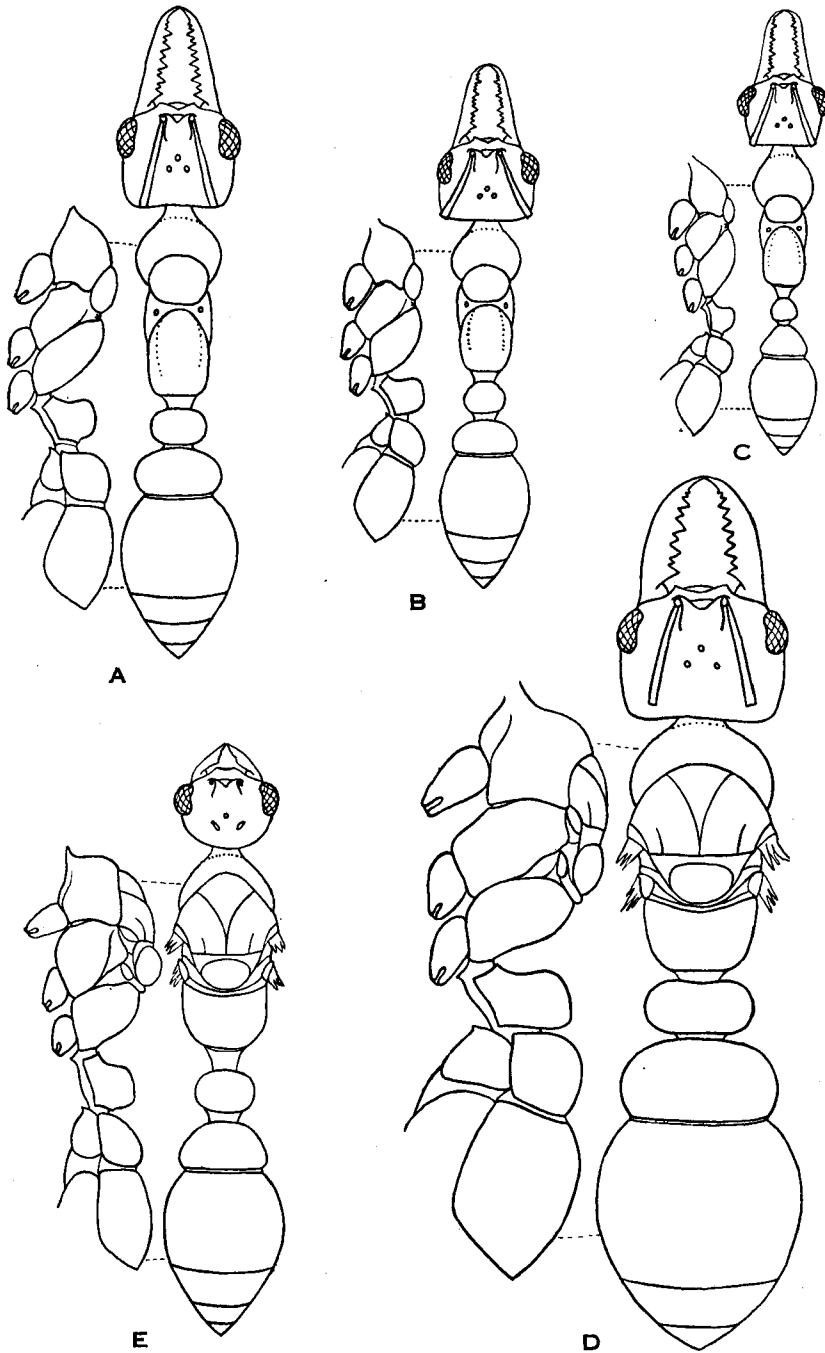


Fig. 180.—*Promyrmecia chasei* (Forel). Dorsal and lateral view of *A*, typical worker; *B*, normal worker; *C*, small worker; *D*, female; *E*, male.

border convex, inner border with five large, sharp, erect teeth with a smaller tooth between each. Scapes not reaching occipital border by fully twice their thickness, second segment of funiculus very slightly longer than first. Mayrian furrows indicated but not impressed. Node twice as broad as long, broader behind than in front, sides strongly convex, posterior border feebly convex, anterior border concave in middle. Postpetiole twice as broad as long, almost oval. First segment of gaster broader than long.

Male

Length: 14.5 mm.

Black, a large spot on each side of pronotum, whole of mesonotum, epinotum, and node yellowish red, mandibles and legs blackish brown, antennae and tarsi reddish brown.

Head, thorax, and node coarsely punctate-reticulate, postpetiole and gaster very densely and finely punctate.

Hair yellowish white, erect, long, and abundant throughout, pubescence white, very fine and adpressed, very abundant on postpetiole and gaster but not hiding sculpture, darker on middle of first segment.

Head very slightly broader than long, strongly convex behind eyes. Mandible with three strong, sharp teeth. Frontal carinae as long as broad behind. Scapes one-third longer than broad, twice as long as first segment of funiculus, second segment of funiculus six times longer than first. Thorax twice as long as broad, pronotum five times broader than long, sides and front convex, mesonotum slightly broader than long, sides and front convex in all directions, mayrian and parapsidal furrows deeply impressed, scutellum one-third broader than long, broadest in front, epinotum almost twice as broad as long, convex laterally. Node one-third broader than long, oval; in profile longer than high, anterior face straight, sloping gradually backward, posterior face short, convex, rounded into convex dorsum, anterior edge bluntly rounded. Postpetiole barely twice as broad as long, sides strongly convex. First segment of gaster almost one-fourth broader than long.

Western Australia: Perth (type locality), Mundaring, Armadale, Bridgetown, Denmark, Albany, Wooroloo, Mt. Dale, Picton, Emu Rock, Salmon Gums, Kukerin, Garden Island, Rottnest Island.

Type worker in Natural History Museum, Geneva; allotype male in National Museum, Melbourne.

There is much difference in the size of the workers from the same nest. The typical form described by Forel is the large robust worker with broad node, one and one-half times broader than long, but the most abundant examples are more slender with the node only slightly broader than long. It was to this form that Forel applied the name *mediorubra*. The great disparity in size between the female and worker, and also the extremes of variation among the workers, are unequalled among other *Promyrmecea*.

Viehmeyer* (1914) recorded workers of *mediorubra* from Killalpaninna, South Australia. The brief remarks given by Viehmeyer do not apply to Forel's species and are inadequate to permit a decision to be made as to the correct identity of the specimens.

PROMYRMECIA CHASEI LUDLOWI (Crawley)

Myrmecia chasei Forel, var. *ludlowi* Crawley, 1922, Ann. Mag. Nat. Hist. (9) 9: 431, ♀; 1925, Ann. Mag. Nat. Hist. 16: 578, ♂.

Promyrmecia chasei (Forel) var. *ludlowi* (Crawley) Clark, 1943, Mem. Nat. Mus. Melbourne 13: 117, ♀♀ ♂.

Worker

Length: 12-15 mm.

Similar to *P. chasei* Forel in all details except colour. Mandibles, antennae, and legs brown, tarsi reddish, head, postpetiole, and gaster black, thorax black on neck of pronotum, a large spot on centre of mesonotum, lower half of mesosternum, and metasternum.

Female

Length: 22 mm.

Colour darker than *P. chasei*, otherwise similar. One fully-developed female from Ludlow has no trace of wings.

Male

Length: 14 mm.

Similar to male of *P. chasei* Forel.

Western Australia: Ludlow (type locality), Armadale.

Type in Crawley collection, University Museum, Oxford.

PROMYRMECIA HARDERI (Forel)

Figs. 181, 182

Myrmecia harderi Forel, 1910, Rev. Suisse Zool. 18: 8, ♀.

Myrmecia (*Myrmecia*) *harderi* Forel, Emery, 1911, Genera Insect. 118: 21, ♀.

Promyrmecia harderi (Forel) Clark, 1943, Mem. Nat. Mus. Melbourne 13: 118, pl. 13, figs. 28-29, ♀♀.

Worker

Length: 10.5 mm.

Head and gaster black, mandibles yellow, antennae and tarsi reddish yellow, legs, coxae, and base of mesosternum brown, thorax, node, and centre of postpetiole yellowish red.

Mandibles smooth and shining on basal half, coarsely striate on apical half. Head very finely striate longitudinally, finely reticulate between striae. Mesonotum feebly and irregularly rugose, rugae almost longitudinal, densely reticulate. Epinotum and node much more coarsely and irregularly rugose. Postpetiole longitudinally striate-rugose. Gaster microscopically punctate.

* Arch. Naturgesch. 79: 28.

Hair yellow, short and erect on head, thorax, and legs, longer and more abundant on node, postpetiole, and gaster. Pubescence white, very fine and adpressed, much longer and more abundant on gaster but not hiding sculpture.

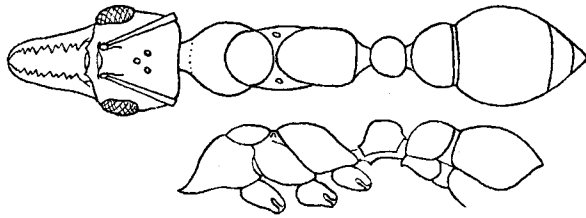


Fig. 181.—*Promyrmecia harderi* (Forel). Dorsal and lateral view of worker.

Head very slightly broader than long, occipital border feebly concave, sides convex. Mandibles as long as head, slender, outer border concave, inner border with five large, short, erect teeth, with a smaller tooth between each. Scapes just reaching occipital border, second segment of funiculus barely one-fourth longer than first. Thorax fully twice as long as broad, pronotum twice as broad as long, sides and front strongly convex, dorsum flattened, mesonotum very slightly broader than long, almost circular, epinotum one-third longer than broad. Node as long as broad, circular, convex on top; in profile longer than high, anterior face short, rounded into dorsum, posterior face and dorsum united convex, ventral spine very short, sharp. Postpetiole one-fourth broader than long, convex from base to apex. First segment of gaster very slightly broader than long.

Female

Length: 14.5 mm.

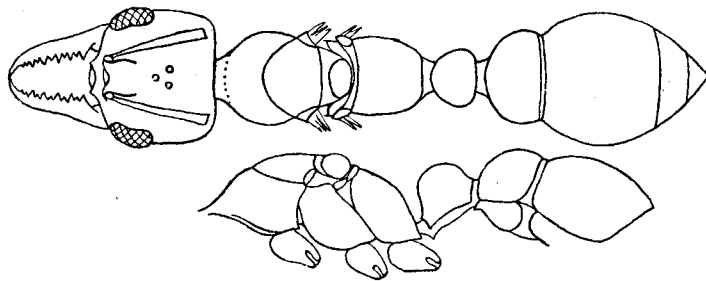


Fig. 182.—*Promyrmecia harderi* (Forel). Dorsal and lateral view of female.

Differs from worker in being larger, more robust, and winged. Mayrian furrows feebly impressed. Mandibles slightly shorter and broader, scapes not reaching occipital border.

Male

Unknown.

New South Wales: Gunnedah (type locality), Narrabri, Dubbo.

Type worker in Forel collection, Natural History Museum, Geneva.

PROMYRMECIA SCABRA Clark

Figs. 183, 184

Promyrmecia scabra Clark, 1943, Mem. Nat. Mus. Melbourne 13: 118, pl. 14, figs. 40-41, ♂ ♀.

Worker

Length: 11-11.5 mm.

Black, half of pronotum, whole of epinotum, and node red, mandibles yellow on basal half, apical half darker, antennae and tibiae brown, tarsi more reddish.

Basal half of mandibles very finely and densely reticulate, with some large shallow punctures, apical half longitudinally striate. Head finely striate longitudinally, striae widely separated, interstices densely reticulate. Pronotum and mesonotum longitudinally striate-rugose. Epinotum and node more coarsely and irregularly rugose, all interstices densely reticulate. Postpetiole more finely rugose, rugae with a longitudinal direction and more or less obsolete, some obsolete punctures showing, interstices densely and finely punctate, gaster very finely and densely reticulate.

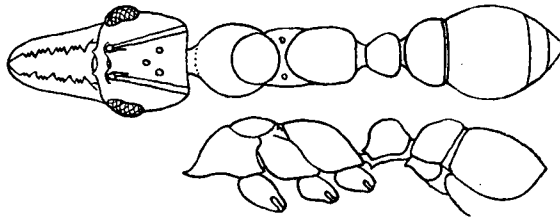


Fig. 183.—*Promyrmecia scabra* Clark. Dorsal and lateral view of worker.

Hair yellowish, erect, short on head and thorax, longer on node, postpetiole, and gaster, very short and suberect on legs, none on antennae. Pubescence yellowish, very fine and adpressed, forming a distinct covering on gaster but not hiding sculpture.

Head very slightly broader than long, sides convex, occipital border feebly concave in middle, angles rounded. Mandibles as long as head, outer border feebly concave, inner border with four large sharp, erect teeth, each preceded by two small teeth. Scapes just reach occipital border, first and third segments of funiculus equal length, one-fifth shorter than second. Thorax twice as long as broad, pronotum twice as broad as long, mesonotum slightly broader than long, almost circular, excision deep and wide, epinotum one-fifth longer than

broad, convex transversely. Node slightly broader than long, broadest behind middle, convex in all directions; in profile slightly higher than long, anterior face high, basal half straight, apical half convex, posterior face short, convex, continuous with dorsum into anterior face, ventral spine short and sharp. Postpetiole three-fifths broader than long, sides and front strongly convex, broadest behind middle. First segment of gaster one-sixth broader than long, broadest at middle.

Female

Length: 15.5 mm.

Colour, sculpture, and pilosity as on worker. Larger and more robust. Head one-eighth broader than long, mandibles fully their width at base shorter than

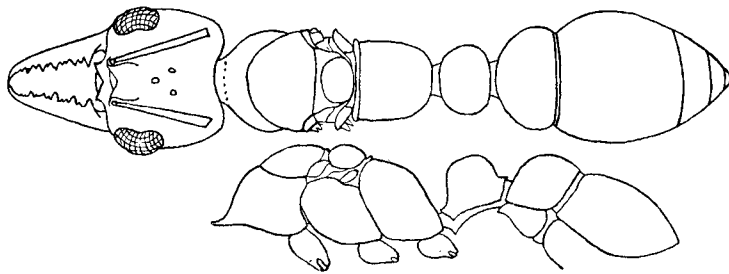


Fig. 184.—*Promyrmecia scabra* Clark. Dorsal and lateral view of female.

head. Scapes not reaching occipital border by fully their width at apex. Node one-fourth broader than long, oval. Postpetiole five-eighths broader than long. Wings hyaline.

Male

Unknown.

South Australia: Leigh's Creek.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA OCCIDENTALIS Clark

Figs. 185, 186

Promyrmecia occidentalis Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 119, pl. 13, figs. 30-31, ♀♀.

Worker

Length: 11-12 mm.

Head, pronotum, mesonotum, and gaster black, mandibles yellow, antennae and legs reddish yellow, epinotum, node, and postpetiole light red.

Head finely striate-rugose, interstices densely reticulate. Pronotum more coarsely striate-rugose, longitudinally arched. Mesonotum and epinotum longitudinally striate-rugose, declivity of epinotum transversely striate. Node irregularly rugose. Postpetiole and gaster microscopically reticulate.

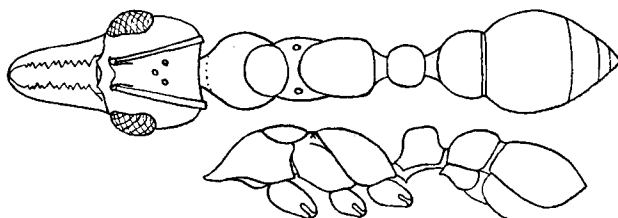


Fig. 185.—*Promyrmecia occidentalis* Clark. Dorsal and lateral view of worker.

Hair yellow, short and erect, sparse throughout, more abundant and longer on gaster. Pubescence white, apparent on postpetiole and gaster, very fine and adpressed.

Head very slightly broader than long, occipital border straight or feebly concave, sides convex, angles rounded. Mandibles as long as head, outer border concave, inner border convex, with five large, sharp, erect teeth, with two small teeth between each. Scapes exceed occipital border by their thickness; second segment of funiculus one-fourth longer than first. Thorax two and one-third times longer than broad, pronotum twice as broad as long, strongly convex on front and sides, mesonotum slightly broader than long, convex in all directions, epinotum one-third longer than broad, flattened laterally. Node circular, as long as broad; in profile as high as long, anterior and posterior faces vertical, straight, dorsum convex, edges rounded, ventral spine short and sharp. Postpetiole one-third broader than long, sides evenly convex. First segment of gaster one-seventh broader than long, sides evenly convex.

Female

Length: 13 mm.

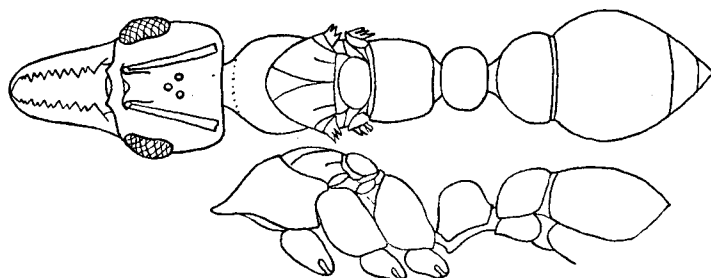


Fig. 186.—*Promyrmecia occidentalis* Clark. Dorsal and lateral view of female.

Head, pronotum, scutellum, mesonotum, and gaster black, mandibles and labrum yellow, basal half of scapes brown, funiculus, legs, and apical half of scapes reddish yellow, epinotum, node, and postpetiole red.

Sculpture similar to worker but coarser, dorsum of epinotum irregularly, not longitudinally, rugose. Pilosity similar but longer and more abundant.

Head one-tenth broader than long, sides feebly convex, occipital border concave, angles rounded. Mandibles barely as long as head, straighter and more strongly toothed than in worker. Scapes barely reach occipital border. Node one-fourth broader than long.

Male

Unknown.

Western Australia: Tammin (type locality), Eradu, Merridin, Beverley, Mogumber.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA CELAENA Clark

Fig. 187

Promyrmecia celaena Clark, 1943, Mem. Nat. Mus. Melbourne 13: 120, pl. 14, fig. 42, ♀.

Worker

Length: 10-11 mm.

Black, mandibles yellow, antennae and legs brown, tarsi reddish brown.

Mandibles coarsely striate-rugose on apical two-thirds, very finely striate on basal third. Head finely striate longitudinally, interstices wide and densely punctate-reticulate. Pronotum and mesonotum longitudinally striate-rugose, transversely arched on front of pronotum, epinotum irregularly punctate-rugose, punctures large and shallow, node more coarsely rugose; postpetiole irregularly striate-rugose, rugae with a more or less longitudinal direction, interstices densely reticulate, gaster microscopically punctate-reticulate.

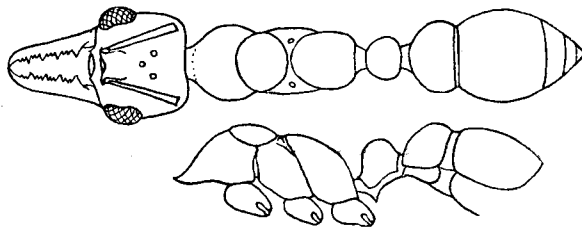


Fig. 187.—*Promyrmecia celaena* Clark. Dorsal and lateral view of worker.

Hair yellow, fine, short and erect on head and thorax, longer on node and gaster, short and suberect on legs. Pubescence white, very fine and adpressed, abundant throughout, long and more dense on postpetiole, longer and coarser on gaster, forming a faint yellowish covering but not hiding sculpture.

Head slightly broader than long, sides convex, occipital border concave, angles broadly rounded. Mandibles not as long as head, fully their width at base shorter, outer border concave, inner border with four large, sharp, erect teeth each preceded by two smaller teeth. Scapes not reaching occipital border by fully their thickness; first and second segments of funiculus equal in length, third very slightly shorter. Thorax twice as long as broad, pronotum twice as broad as long, convex in all directions, mesonotum one-sixth broader than long, one-fifth longer than pronotum, excision deep and wide, epinotum as long as broad, convex laterally. Node barely one-fifth broader than long, broadest at middle, convex in all directions; in profile higher than long, dome-shaped, anterior and posterior faces vertical and short, rounded into convex dorsum, ventral spine long, slender, and sharp. Postpetiole one-third broader than long, broadest at basal fourth, constriction deep and wide. First segment of gaster one-tenth broader than long, broadest at middle, sides evenly convex.

Female

Unknown.

Male

Unknown.

New South Wales: Pilliga (type locality), Narrabri. *Queensland*: Millmerran. Holotype worker in National Museum, Melbourne.

PROMYRMECIA MALONI Clark

Fig. 188

Promyrmechia maloni Clark, 1943, Mem. Nat. Mus. Melbourne 13: 121, pl. 14, fig. 43, ♀.

Worker

Length: 10-11 mm.

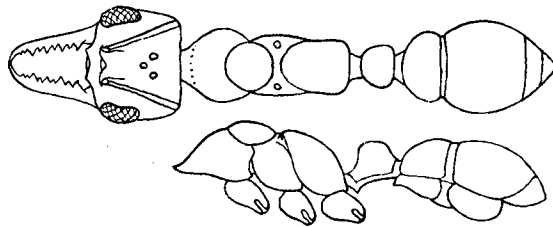


Fig. 188.—*Promyrmechia maloni* Clark. Dorsal and lateral view of worker.

Black, dorsum and sides of pronotum, epinotum, and node red, edged with black below, mandibles yellow, funiculus and tibiae brown, tarsi yellowish brown.

Basal half of mandibles smooth, apical half coarsely striate-rugose. Head with fine, longitudinal, widely-spaced striae, clypeus and spaces between striae finely and densely punctate-reticulate. Pronotum and mesonotum longitudinally striate-rugose, coarser and more widely spaced than on head. Epinotum and node coarsely but shallowly punctate-rugose, declivity of epinotum transversely rugose, densely and finely reticulate-punctate between rugae. Postpetiole superficially punctate-rugose, punctures large and very shallow, finely and very densely reticulate-punctate throughout. Gaster and legs microscopically reticulate.

Hair yellow, short and erect, abundant on head, thorax, and legs, none on antennae, long and more abundant on gaster. Pubescence white, very fine and adpressed, most abundant on gaster and legs, on most examples pubescence on dorsum of gaster longer and yellowish, forming a slight covering but not hiding sculpture.

Head one-seventh broader than long, sides convex, occipital border concave, angles rounded. Mandibles not as long as head, outer border feebly concave, inner border with four large teeth with a small tooth between each. Frontal carinae almost one-fourth longer than broad. Scapes just reach occipital border, first and third segments of funiculus equal in length, one-tenth shorter than second, apical one-third longer than preceding. Thorax two and one-sixth longer than broad, pronotum twice as broad as long, convex in all directions, mesonotum as long as broad, circular, epinotum one-fourth longer than broad, broadly rounded in front. Node slightly broader than long, almost circular; posterior face convex, ventral spine short, broad, and sharp. Postpetiole barely twice as broad as long, strongly convex in all directions, constriction sharply impressed, narrow. First segment of gaster broader than long, broadest behind, strongly convex.

Female

Unknown.

Male

Unknown.

Victoria: Inglewood.

Holotype worker in National Museum, Melbourne.

In the original description (Clark 1943) an error occurs in the description of the mandibles. It was stated that the outer border is convex, this should read outer border concave.

PROMYRMECIA ELEGANS Clark

Figs. 189, 190

Promyrmecia elegans Clark, 1943, Mem. Nat. Mus. Melbourne 13: 122, pl. 14, figs. 44-45, ♂ ♀.

Worker

Length: 13-14.5 mm.

Head, postpetiole, gaster, and all coxae black, postpetiole with a large reddish patch at each side, thorax and node bright red, mandibles and antennae yellow, legs reddish yellow.

Basal half of mandibles densely punctate, apical half coarsely and obliquely striate. Head, pronotum, and mesonotum longitudinally striate, very finely and densely reticulate between striae. Basal third of epinotum coarsely and irregularly rugose, transversely rugose behind. Node circularly rugose. Postpetiole and gaster finely and densely reticulate. Scapes and legs finely and densely reticulate.

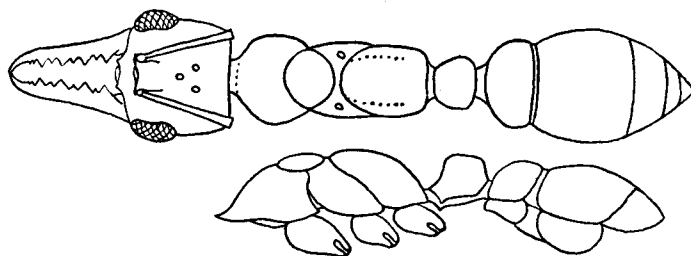


Fig. 189.—*Promyrmezia elegans* Clark. Dorsal and lateral view of worker.

Hair yellow, short and erect, sparse on head and thorax, more abundant on postpetiole and gaster, very long on node and apex of gaster, short and suberect on legs, none on antennae. Pubescence whitish, very fine and adpressed, apparent only on postpetiole and gaster.

Head as broad as long, occipital border straight or very feebly concave, sides feebly convex, posterior angles broadly rounded. Mandibles slightly longer than head, outer border concave in middle, inner border with ten sharp teeth, first two very small. Scapes exceed occipital border by half their thickness. Second segment of funiculus twice as long as first, remainder subequal, apical one-third longer than preceding. Thorax two and one-fourth longer than broad, pronotum almost twice as broad as long, strongly convex in all directions, mesonotum one-sixth broader than long, convex in all directions, meso-epinotal suture deep and wide, epinotum one-third longer than broad, convex laterally. Node one-fifth broader than long, all faces convex; in profile higher than long, top half of anterior face short and vertical, bottom half sloping forward and downward at an acute angle, posterior face short and vertical, rounded into dorsum, anterior edge of dorsum bluntly rounded, ventral spine very short and sharp. Postpetiole barely twice as broad as long, broadest and strongly convex at basal third, constriction deep and narrow. First segment of gaster broader than long, strongly convex.

Female (Dealated)

Length: 16 mm.

Colour, sculpture, and pilosity as in worker. Larger and more robust. Head very slightly broader than long. Mandibles stronger, not as long as head. Scapes not reaching occipital border by fully their thickness. Thorax robust,

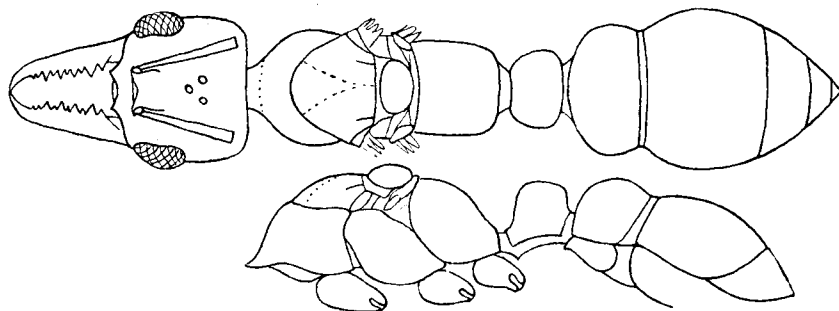


Fig. 190.—*Promyrmea elegans* Clark. Dorsal and lateral view of female.

parapsidal furrows sharply impressed, mayrian furrows feebly indicated. Node fully one-third broader than long, anterior edge feebly concave in middle. Postpetiole almost twice as broad as long.

Male

Unknown.

Western Australia: Hovea (type locality), Mt. Dale, Mundaring.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA OPACA Clark

Figs. 191, 192

Promyrmea opaca Clark, 1943, Mem. Nat. Mus. Melbourne **13**: 123, pl. 14, figs. 46-47, ♂ ♀.

Worker

Length: 11-11.5 mm.

Head, thorax, and gaster black, dorsum of epinotum, node, and in parts postpetiole blood-red, mandibles yellow, antennae and legs reddish brown.

Mandibles coarsely punctate-rugose in front, finely reticulate on basal half. Head finely and densely striate-rugose longitudinally, very finely and densely reticulate between striae. Pronotum, mesonotum, and anterior fourth of epinotum longitudinally striate-rugose, coarser than on head, epinotum transversely rugose. Node irregularly, almost circularly rugose. Postpetiole and gaster very finely and densely reticulate.

Hair yellow, short and erect throughout, longer and more abundant on apical segment of gaster, very short and suberect on antennae and legs. Pubescence white, very fine and adpressed, abundant on postpetiole and gaster but not hiding sculpture.

Head slightly broader than long, occipital border straight, sides feebly convex, angles rounded. Mandibles barely as long as head, outer border feebly concave at middle, inner border convex, with five large teeth with a small tooth between each, first two teeth small. Scapes exceed occipital border by barely their

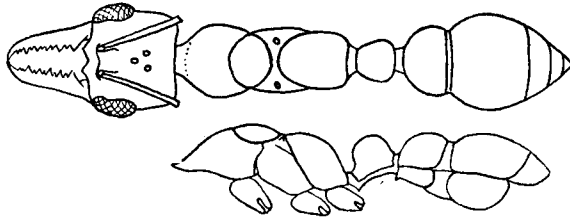


Fig. 191.—*Promyrmecia opaca* Clark. Dorsal and lateral view of worker.

thickness, first and second segments of funiculus equal length, remainder subequal. Thorax almost two and one-fourth longer than broad, pronotum almost twice as broad as long, strongly convex in front and on sides, flatly convex above, mesonotum one-sixth broader than long, convex in all directions, mesoepinotal suture deep, epinotum longer than broad, flattened transversely. Node as long as broad, slightly broader behind than in front, all faces convex; in profile top half of anterior face vertical, bottom half sloping downward and forward at an acute angle, dorsum flattened, posterior face convex and rounded into dorsum, ventral spine short and sharp. Postpetiole one-third broader than long, sides strongly convex, constriction deep and wide. First segment of gaster broader than long, much broader behind than in front, sides strongly convex.

Female (Dealated)

Length: 14-15 mm.

Colour as in worker. Sculpture slightly coarser, more strongly rugose. Hair

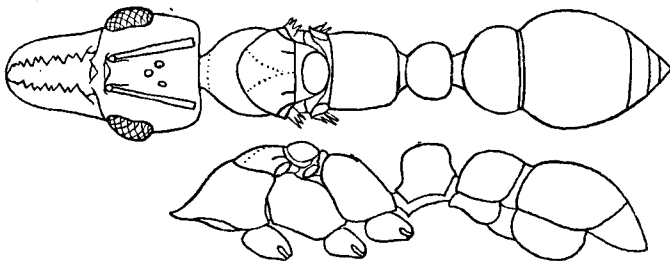


Fig. 192.—*Promyrmecia opaca* Clark. Dorsal and lateral view of female.

longer and more abundant. Pubescence darker, more yellowish, and more abundant on gaster. Apart from larger size and possessing wings, very similar to worker.

Male

Unknown.

Western Australia: Tammin (type locality), Eradu, Dowerin.

Holotype worker in National Museum, Melbourne.

PROMYRMECIA DISPAR n.sp.

Fig. 193

Worker

Length: 9.5-11 mm.

Head, postpetiole, and gaster chocolate brown, scapes, thorax, node, and legs reddish brown, mandibles, funiculus, and tarsi reddish yellow.

Head striate-rugose longitudinally diverging outward behind. Pronotum, mesonotum, and anterior fourth of epinotum finely rugose longitudinally, remainder of epinotum transversely rugose. Node more coarsely punctate-rugose. Postpetiole and gaster microscopically punctate.

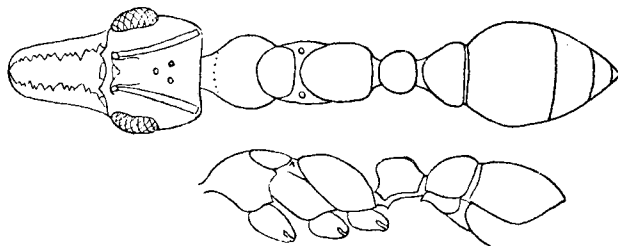


Fig. 193.—*Promyrmecia dispar* n.sp. Dorsal and lateral view of worker.

Hair yellow, short and erect, longer on underside of mandibles, head, and apical segments of gaster, shorter and suberect on legs, none on antennae. Pubescence very fine, short and adpressed, apparent only on postpetiole and gaster, forming a distinct covering but not hiding sculpture.

Head very slightly broader than long, narrowed behind, sides and occipital border straight, angles rounded. Mandibles as long as head, outer border concave, inner border with eleven teeth, third, fifth, seventh, and ninth large, sharp, and erect, ninth forming a weak angle. Scapes reach occipital border, first and third segments of funiculus equal length, one-third shorter than second. Thorax twice as long as broad; pronotum barely twice as broad as long, mesonotum one-fourth broader than long, epinotum one-fifth longer than broad. Node one-sixth broader than long, almost circular; in profile very slightly higher than long, anterior face straight and vertical on bottom half, rounded into dorsum above, twice as long as stalk in front, posterior face short, convex, and

continuous with dorsum, ventral spine slender and sharp. Postpetiole almost one-fourth broader than long. First segment of gaster one-fifth broader than long.

Female

Unknown.

Male

Unknown.

New South Wales: Junee (E. L. Smith), Cowra (W. W. Froggatt).

Holotype worker in Division of Entomology Museum, C.S.I.R.O., Canberra.

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