THE LARVA OF *PROATTA*  
(HYMENOPTERA: FORMICIDAE)  

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When Forel established (1912) the genus *Proatta* he placed it in the tribe Attini, but later (1917) he removed it to a new tribe Proattini. Wheeler (1922) kept it there, but Emery in the Genera Insectorum (1922) placed it alone in the subtribe Proattini of the tribe Attini. Weber (1958): “While it is true that *Proatta butteli* is strikingly like an attine, this is taken here to be an example of convergence in worker morphology and not necessarily an indication of phylogenetic relationships. The spinosity is especially like that of *Mycocepurus,...* There is no evidence that *Proatta* is a fungus-grower and it is not considered here to be a member of the Attini.”  

For years we have yearned for larvae of *Proatta* in the hope that they might solve the problem. Hence we were very happy when Mr. M. W. Moffett generously sent us a supply—so happy, in fact, that we processed them immediately.  

Genus *Proatta* Forel  


*Proatta butteli* Forel  
Figure 1  

Length (through spiracles) 2–2.6 mm. Profile attoid. Spiracles small, decreasing slightly posteriorly. Integument with rather long

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Manuscript received by the editor October 2, 1985.
rows of spinules. Body hairs sparse; generally distributed. Of 3 types: (1) 0.025–0.1 mm long, unbranched, smooth, slender, with tip more or less curved; (2) about 0.025 mm long, few, with bifid tip; (3) about 0.006 mm long, unbranched, smooth, few, on venter of thorax. Cranium subheptagonal, about 1½ times broader than long. Antennae just above midlength of cranium; minute; with 3 sensilla each. Head hairs few; 0.013–0.056 mm long, unbranched, smooth, slightly curved. Mouth parts small. Labrum trilobed; anterior surface of each lateral lobe with 2–3 sensilla near ventral border; middle lobe with a cluster of 3–4 sensilla near each ventrolateral corner. Mandible amblyoponoid; moderately sclerotized; moderately stout; apex a short slender tooth; a small subapical medial tooth. Maxilla adnate; subovoidal in anterior view; palp a small skewed peg with 5 (1 apical, 3 subapical and 1 basal) sensilla; galea a slender frustum with 2 apical sensilla. Labial palp a slight elevation with 5 sensilla; an isolated sensillum between each palp and the opening of the sericteries; the latter a short transverse slit. (Material studied:
<table>
<thead>
<tr>
<th>Character</th>
<th>Proatta</th>
<th>Myrmicrypta</th>
<th>Higher attines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile</td>
<td>attoid (but slightly curved)</td>
<td>attoid (but slightly curved)</td>
<td>attoid (strongly curved)</td>
</tr>
<tr>
<td>Somites</td>
<td>indistinct</td>
<td>indistinct</td>
<td>indistict</td>
</tr>
<tr>
<td>Spiracle line</td>
<td>with a posterior curve</td>
<td>with a posterior curve</td>
<td>J-shaped</td>
</tr>
<tr>
<td>Body hairs</td>
<td>sparse, short generally distributed</td>
<td>short and restricted</td>
<td>short and restricted</td>
</tr>
<tr>
<td>Cranium</td>
<td>genae not lobose</td>
<td>genae not lobose</td>
<td>genae lobose</td>
</tr>
<tr>
<td>Head hairs</td>
<td>few, generally distributed</td>
<td>few, below level of antennae</td>
<td>few to numerous, generally</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>distributed</td>
</tr>
<tr>
<td>Mouth parts</td>
<td>small</td>
<td>small</td>
<td>small</td>
</tr>
<tr>
<td>Mandibles</td>
<td>amblyoponoid; feebly sclerotized; no spinules</td>
<td>amblyoponoid; feebly sclero-</td>
<td>attoid; feebly sclerotized;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tized; coarse spinules on</td>
<td>coarsely spinulose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>basal 2/3</td>
<td></td>
</tr>
<tr>
<td>Maxillae</td>
<td>short, wide and adnate</td>
<td>short, wide and free</td>
<td>long, narrow and adnate</td>
</tr>
</tbody>
</table>
numerous larvae from Botanical Gardens, Singapore, courtesy of M. W. Moffett.)

The solution to the problem of relationship can be best provided in a table (Table 1) comparing simultaneously the larvae of Proatta, Myrmmicrypta [which Wheeler regarded (1910:329) as the most primitive of the fungus-growing ants] and the most specialized (Cyphomyrmex, Trachymyrmex, Mycetosoritis, Acromyrmex and Atta). For a full understanding of the table one should refer to our 1948 and 1976 papers.

So what is the answer? We conclude that the larva of Proatta is definitely attine. We have a prejudice against attaching a small monotypic genus found locally in the Oriental Realm to a large wide-spread tribe in the Neotropical Realm; hence we had hoped that the larva would be either strongly attine or strongly non-attine. It is neither, but it is as good an attine as Myrmicrypta. It lacks the coarse spinules on the mandibles, which is an attine character, but so does Apterostigma, which is otherwise like the higher attines.

The weightiest evidence is said to be that Proatta is not known to be a fungus-grower; but is it really necessary that the ancestral attine already have that habit?

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