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NEW SPECIES OF AFRICAN HYMENOPTERA No. 6

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Family MUTILLIDAE

The most comprehensive work on the Ethiopian species of this family is Bischoff's monograph (1920, *Arch. Naturgesch.* LXXXVI), which brings under one cover the bibliography and descriptions of all the species known at that time, together with the descriptions of many new forms and new genera. The genera were, however, unnecessarily multiplied, and Bradley and Bequaert (1928, *Bull. Amer. Mus. Nat. Hist.* LVIII) rightly reduced some of Bischoff's genera to subgeneric rank and synonymized a few others. Furthermore, in the writer's opinion, Bischoff's treatment of the new forms is open to criticism, for not only are his descriptions based to an excessive extent on colour and the arrangement of the pubescent markings of the abdomen, to the neglect of structural characters, but again and again he described as races of one species forms which are found in the same geographical area, or at least in areas over the whole of which the ecological conditions are more or less uniform. For my part, I cannot agree that in such areas several races of one species can exist and remain distinct. Very many of Bischoff's 'races', i.e. subspecies, are no more than varieties, but varieties of a special character the nature of which requires further elucidation.

It was clearly established by Mickel (1928, *Smithsonian Inst. U.S. Nat. Mus. Bull.* CXLIII, 17-19), in his observations on *Dasymutilla bioculata* Cress. that that species could be separated into two series according to the size, the smaller ♀♀ varying from 6.5 to 10 mm. long, and the larger from 11 to 15 mm., and that the ♂♂ could also be arranged in two similar series. He then proved by breeding experiments that the smaller sized specimens were derived from larvae which had parasitized the pupae of a small Sphecid, *Microbembix monodonta* Say, 8-14 mm. long, and the larger from larvae which had parasitized the larger *Bembix pruinosa* Fox, 16-19 mm. long. These observations clearly established the fact that the size of this particular Mutillid is dependent on the quantity of food consumed in the larval state. But there is another factor in connexion with the food of Mutillid larvae, hitherto ignored, and that is the quality. It is not to be assumed that the chemical components of the pupal hosts are in all cases the same, or that they are always in the