

## ON TWO INTERESTING NEW GENERA OF SCALE INSECT PARASITES.

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Nearly all the Chalcidid parasites of Coccidæ belong to the subfamilies Aphelininæ and Encyrtinæ. So universal is this rule that it is remarkable to rear anything else from a Coccid (excluding, of course, hyperparasites)\*. One or two Mymarids and the species of the curious subfamily Signiphorinæ live in the eggs of scale insects, and we are just beginning to realize that there is a peculiar group of genera allied to the old subfamily Pireninæ which also have this habit.

The first of these insects to be recognized as a primary scale insect parasite was a species of the genus *Tomocera* described by the writer in 1880 and reared from *Lecanium oleæ* from California. This name in 1885 was changed to *Dilophogaster* on account of the occurrence in *Thysanura* of a genus *Tomocerus*. In the meantime, however, Cameron had erected for the same form, from specimens received from the Hawaiian Islands, his genus *Moranilla*. According to the present rules of classification, however, *Tomocera* may stand in spite of its identical etymological significance with *Tomocerus*.

Another of these genera was described by Dr. Riley in 1890 as *Ophelosia* from specimens reared from *Icerya purchasi* in Queensland. A third—Walker's genus *Eunotus*—has recently been found by Mr. W. G. Johnson to be parasitic upon *Lecanium* scales in Illinois, as pointed out by the writer in Technical Bulletin No. 1, Division of Entomology, U. S. Department of Agriculture, and a fourth—*Scutellista*, Mots.—has been found by Dr. Berlese to parasitize *Ceroplastes* scales in Italy. This form has been redescribed with synonymical notes by the writer in the "Revista di Patologia Vegetale."

Aside from the matter of tibial armature, these genera seem closely allied and to possess on the whole strong mutual affinities. The shape of the head, its acute occipital margin, the mesonotal characters, the 10-jointed (♀) and 9-jointed (♂) antennæ, the greatly enlarged second segment of the abdomen, together with other characters point to a subfamily not yet recognized in our classification of the Chalcididæ, and the uniform Coccid-feeding habit binds the group still more closely together.

\* Representatives of *Pachyneuron*, *Euneura*, and *Hypsicamara* have been reared from Coccidæ, but those of *Pachyneuron* are almost certainly hyperparasites, and the others may be; while the species of *Tetrastichus* quite commonly so reared are undoubtedly secondary.