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APPENDIX 1

Descriptions of a New Genus and Three New Species of Rhizoecinae (Hemiptera: Coccoidea) Associated with Ants of the Genus *Acropyga* Roger in Dominican Amber

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The three mealybug species discussed here, found in Dominican amber, belong to the subfamily Rhizoecinae and show a combination of characters that have not been observed so far. Within this subfamily, discussed recently by Williams (1998), most of the genera have the body elongate-oval, rotund, or only weakly pyriform. Three genera, *Neochavesia* Williams and Granara de Willink, *Eumyrmococcus* Silvestri, and *Xenococcus* Silvestri, differ in possessing a strongly dilated cephalothorax and a long tapered abdomen. Furthermore, these three genera, *Neochavesia* in the New World, and *Eumyrmococcus* and *Xenococcus* in the Old World, are associated with the ant genus *Acropyga*. *Neochavesia* differs from the two Old World genera in having protruding and rounded anal lobes and each antenna with 4 or 5 segments. In *Eumyrmococcus* and *Xenococcus*, each antenna has 2–4 segments and the anal lobes do not protrude. *Xenococcus* possesses antennae that are stout and about as long as the body but in *Eumyrmococcus* they are slender and short.

To separate the genera of the Rhizoecinae, there are other minute characters that can only be observed under high power in slide-mounted specimens. In the species under discussion, many of these characters cannot be observed when viewed under a stereoscopic microscope, and only some major characters can be discussed. Each of the three species found in Dominican amber, associated with ants of the genus *Acropyga*, possess a strongly dilated cephalothorax. The abdomen tapers gradually to a very narrow posterior end. Although the anal lobes are undeveloped or weakly developed, each anal lobe area possesses 4 long setae. The antennae are slender and 6-segmented. These are characters not

found in *Eumyrmococcus*, *Neochavesia*, or *Xenococcus* but the new genus is most closely related to *Eumyrmococcus* and *Neochavesia*.

In *Rhizoecus* Künckel d'Herculais and most related genera, the antennae when developed, are short, usually with the segments as wide as or wider than long. The antennae never have more than 6 segments and this number may be basic to the whole subfamily. The new genus, therefore, with slender antennae having 6 segments that are mostly longer than wide, may be a link between the *Rhizoecus* group of genera and the *Eumyrmococcus* group.

As with many specimens examined in amber, it is sometimes difficult to measure certain structures exactly. Furthermore, it may be impossible to view the insect or structures in the correct plane to examine them critically.

Apart from the piece of amber from Dominican Republic containing a mealybug held in the mandibles of an ant, presently deposited in Germany, three other pieces have been kindly made available for study by David Grimaldi, Division of Invertebrate Zoology, AMNH. Two of these contain mealybugs that are described here, but the third mealybug (Miocene, Dominican Republic, DR-10-228 AMNH), held in the mandibles of a species of *Acropyga*, is too distorted to examine and describe adequately.

Abbreviations of the depositories are: AMNH, American Museum of Natural History, New York, NY, USA; SMF, Senckenberg Museum, Frankfurt am Main, Germany.

Electromyrmococcus Williams, new genus

TYPE SPECIES: *Electromyrmococcus abductus*, new species.