A New Species, *Coleotroctellus huisunensis* (Psocoptera: Troctopsocidae), from Taiwan, with a Key to Species of *Coleotroctellus*

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ABSTRACT The family Troctopsocidae is newly recorded in Taiwan. In this article, males and females of a new species, *Coleotroctellus huisunensis*, are described and illustrated, including external morphology and detailed genital structures. Scanning electron photomicrographs showing details of epicuticular sculpturing, coxal organ, and pretarsal claw are provided. The habitats of this sexually dimorphic species are discussed. A key to species of the genus *Coleotroctellus* Lienhard also is provided.

KEYWORDS Troctopsocidae, *Coleotroctellus*, new species, new record, Taiwan

The family Troctopsocidae belonging to Electrotrentomoidea was established by Mockford (1967). Six genera and 23 species have been described of this family, which is distributed in South and Central America and Asia (Lienhard and Smithers 2002). *Coleotroctellus* Lienhard (1988) has been recorded from Thailand and China, with four species described until now. All known members of the genus are sexually dimorphic. The wings of *Coleotroctellus* Lienhard are typically membranous in the males and are elytriform in the females.

Because of the dimorphism of *Coleotroctellus* Lienhard, it is difficult to associate males and females as being the same species without direct evidence. So far, the sexes of only two species, *Coleotroctellus venosus* Lienhard & Mockford and *Coleotroctellus burckhardti* Lienhard have been found together. According to the description of Lienhard and Mockford (1997), both sexes of *C. burckhardti* possess the following characters for confirming their association: 1) posterior border of vertex on each side with a small depression; 2) antero-lateral margins of labrum fringed with microtrichia; 3) first flagellomere distinctly shorter than second and third combined; and 4) fore tibia on inner side with well developed comb consisting of 13–16 stout setae, including distal spur. In the description of *C. venosus* (Lienhard and Mockford 1997), both sexes were collected from the same locality, and they had similar characters of head capsule, mouthparts, and comb of fore tibia (Lienhard and Mockford 1997). Therefore, both co-occurrence and morphological characters could be good indicators for judging whether individuals of opposite sexes are the same species in *Coleotroctellus* Lienhard.

In this article, a species of *Coleotroctellus* Lienhard from Taiwan is described as new to science. The morphology of the male and the female are discussed in as much detail as possible, together with the distribution and the habitat of this species. This is the first record of the genus *Coleotroctellus* Lienhard and the family Troctopsocidae in Taiwan.

Materials and Methods

The materials were collected using a Malaise trap or were separated by Berlese funnel during the project study of the Long Term Ecological Research (LTER) from 1994 to 2002. In addition, some specimens were collected by using a Winkler apparatus during the collecting expedition of National Museum of Natural Science (NMNS) in Lienhuachih, Nantou County, in central Taiwan. All specimens were preserved in 70% alcohol and are deposited in NMNS and the Department of Entomology, National Chung Hsing University (ENCHU), separately. Specimens for illustration were dissected, mounted in Hoyer’s medium, and illustrated by using an optical microscope (Zeiss Axioskope II, Carl Zeiss, Jena, Germany). The specimens for scanning electron microscopy (SEM) observation were dehydrated in 80, 90, 95, and 100% ethanol and then transferred to a small amount of acetone. When they were completely dry (~10 min), specimens were coated with gold-palladium for 3 min (E-1010 ion sputter, Hitachi, Tokyo, Japan) and observed by using a scanning electron microscope (S-3000N, Hitachi).

The following abbreviations were modified from Lienhard and Mockford (1997): L, length including wings (in alcohol); Bl, body length; Al, antenna length; Fwl, longest length of forewing; Fww, widest width of forewing; Hwl, longest length of hindwing; Hww, widest width of hindwing; Hf, length of hind femur; Ht,