Beetles (Coleoptera) of Peru: A Survey of the Families. Phengodidae
LeConte, 1861

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Diversity in Peru: 2 subfamilies, 7 genera, 12 species.

Recognition: Phengodidae are commonly called glow-worms because the larviform females and larvae have bioluminescent organs in transverse bands along the body. They glow yellow-green using eleven paired photic organs of 2nd thoracic through 9th abdominal segments; some genera have head organs that glow red. Some adult males are also bioluminescent, and at least one species has bioluminescent eggs. The adult male body length is 3.3–25 mm; larviform females are generally larger than males. The antenna has 10–12 antennomeres in adult males, and may be filiform, serrate, bipectinate or plumose. Adult males have truncate or dehiscent elytra.

Phengodid larvae are slender, mostly well-sclerotized, and rounded in cross-section (compared to the flattened larvae of Lampyridae and Lycidae), resembling those of click beetles.

Habitat: These may be nocturnal, active at nights. Winged males may be attracted at light traps. Females may be collected from loose bark while larvae are usually found under leaf litter or rotting logs. The larviform females and larvae are specialist predators of millipedes and other litter arthropods.

Notes: The American family Phengodidae is now considered as separate from Asiatic Rhagophthalmidae, although sister group relationships of the families were supported by both morphological evidence (Lawrence et al., 1995), and comprehensive molecular phylogenies (Bocakova et al., 2007; Kundrata et al., 2014). Previous studies suggested rhagophthalmids as a clade of fireflies (Crowson, 1955; Suzuki, 1997).

The following checklist is derived from Pic in Titschack (1954; as Drilidae), Zaragoza-Caballero (1984), and specimens housed in SEMC. The family was monographed by Wittmer (1976), but a number of new genera have been added since. Lawrence et al. (2000) reported the minute Penicillophorus (2–4 mm) as occurring in Colombia and Peru. The “railroad worm”, Phrixothrix, occurs in Peru but it is unclear if it is a pest (see Costa et al., 1999). An interactive key to the world fauna is available online (Lawrence et al., 2000); see Zaragoza-Caballero (2010) for an updated key to the genera of the large subfamily Mastinocerinae.

Taximastinocerus is reported as new genus record for Peru based on 19 specimens (probably multiple species) collected by Chaboo in 2010–2011 with flight intercept traps and Malaise traps at the CICRA Biological Field Station, Madre de Dios, Peru.

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