A new *Helluodes* Westwood species from Western Ghats with notes on habitat, distribution and phylogenetic relationships of genera *Helluodes* Westwood and *Physocrotaphus* Parry of the tribe Physocrotaphini Chaudoir (Insecta: Coleoptera: Carabidae: Anthiinae)

THOMAS K. SABU¹,³, PRABHAKAR ABHITHA¹ & DANYANG ZHAO²

¹Litter Entomology Research Unit, P.G. & Research Department of Zoology, St. Joseph’s College, Devagiri, Calicut, Kerala, 673008, India
²Department of Entomology, College of Natural Resources & Environment, South China Agricultural University, Wushan, Guangzhou, 510640, China
³Corresponding author. E-mail: sabukthomas@gmail.com

Abstract

Description of *Helluodes devagiriensis*, n.sp., from western slopes of the Western Ghats, a global biodiversity hot spot in southwest India, is provided along with redescriptions of all species of *Helluodes* Westwood and *Physocrotaphus* Parry (*H. taprobanae* Westwood, *H. westwoodi* Chaudoir, *Physocrotaphus ceylonicus* Parry), keys to the genera of tribe Physocrotaphini and the species of genus *Helluodes*, notes on a curious sexually dimorphic character of species in the tribe and on termitophilous and geophilous habits of genus *Helluodes*, a discussion of the geographic distribution and phylogenetic relationships of the genera, and supportive evidence for the divergence of Physocrotaphini Chaudoir from Zuphi- ini Bonelli. Based on distributional patterns and phylogenetic relationships, (1) origin of the tribe in the southwest region of the Greater Indian Plate is hypothesized with *Helluodes* as basal stock; (2) *Helluodes* is endemic to the Western Ghats-Sri Lanka global hot spot of biodiversity; (3) *Physocrotaphus* is endemic to the globally outstanding montane evergreen forest ecoregion of Sri Lanka; (4) *Pogonoglossus* Chaudoir is a derivative of the *Helluodes* ancestral stock that dispersed into southeast Asia and beyond before Deccan trap formation; and (5) *Physocrotaphus* is a later derivative of the *Helluodes* stock after the separation of Sri Lanka from the Indian mainland.

Key words: Coleoptera, Carabidae, *Helluodes*, *Physocrotaphus*, endemism, Western Ghats, India, new species

Introduction

Beetles of the tribe Physocrotaphini Chaudoir (Carabidae: Anthiinae), previously referred to as the Helluodini (Csiki 1932; Moore 1998; Lawrence & Britton 1994; Lorenz 2005), are restricted to tropical and sub-tropical moist forests of the Indian sub-continent, Indo-China, Sunda Shelf-Philippines and New Guinea-Melanesia bioregions of the Indo-pacific terrestrial region (Wikramanayake et al. 2002) and the northern margins of North Australia in the South Pacific (Baehr 1988). Except for two *Pogonoglossus* species from Papua New Guinea, all species in the tribe are very rare in collections and are known from single or very few light-attracted specimens; and there are no data available on the biology or habits of member species leading to its labeling as an ‘enigmatic tribe’ (Moore 1998).

Forty-two species arranged in five genera are known for the tribe, with highest taxonomic diversity occurring in the Sunda-Shelf-Philippines and New Guinea-Melanesia bioregions. The large genus *Pogonoglossus* Chaudoir includes 34 species distributed over the whole range of the tribe (Darlington 1968; Baehr 1988,