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A review of the species in the genus *Cryptops* Leach, 1815 from the Old World and the Australasian region related to *Cryptops* (*Cryptops*) *doriae* Pocock, 1891 (Chilopoda: Scolopendromorpha: Cryptopidae)

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Abstract

The 25 putative species and two subspecies of the *doriae* group of the genus *Cryptops* (subgenus *Cryptops*) from the Old World and the Australasian region are here reviewed. The following are regarded as valid: *C. audax* Attems, 1928, *C. australis* Newport, 1845, *C. dentipes* Lawrence, 1960, *C. dilagus* Archey, 1921, *C. doriae* Pocock, 1891, *C. japonicus* Takakuwa, 1934, *C. lamprethus* Chamberlin, 1920, *C. milloti* Lawrence, 1960, *C. modiglianii* Silvestri, 1895, *C. nanus* Attems, 1938, *C. navis* Chamberlin, 1930, *C. nepalensis* Lewis, 1999, *C. niuensis* Chamberlin, 1920, *C. pauliani* Law-

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rence, 1960, *C. philammus* Attems, 1928, *C. polyodontus* Attems, 1903, *C. setosior* Chamberlin, 1959, *C. stupendus* Attems, 1928, *C. tahitianus* Chamberlin, 1920, *C. typhloporus* Lawrence, 1955. South African material assigned to *C. australis* by Attems (1928) is described as a **new species** *C. capensis*, and *C. (C.) australis africanus* Lawrence, 1955 is raised to full **specific status** as *C. africanus*. *C. sinesicus* Chamberlin, 1940 is a **new junior subjective synonym** of *C. navis*. *C. afghanus* Loksa, 1971, *C. gracilimus* Machado, 1951 and *C. pauperatus* Attems, 1937 are nomina dubia. Of the species here regarded as valid, further material from Australia and New Zealand is required to clarify the characteristics of *C. australis*. There has been confusion over the identities of the New Zealand species *C. dilagus*, *C. lamprethus* and *C. polyodontus*; their relationship should be further examined. The South African *C. philammus* and *C. stupendus* are also very similar and it is possible that further work may show them to be conspecific. The widely distributed *C. doriae* populations would, likewise, merit further investigation as would the relationship of the species to *C. nepalensis* and *C. niuensis*. It is possible that the inadequately described *C. afghanus* is identical to *C. doriae*. A provisional key to these species is provided.

Key words: synonymy, nomina dubia, key

Introduction

Lewis (2011b) suggested that the subgenus *Cryptops* may be conveniently divided into those species with an anterior transverse suture on tergite 1, and those without, and that the latter group may be further separated into species with the ultimate leg femur without a saw tooth or teeth (termed the *hortensis* group) and those with one or more (termed the *doriae* group). The *hortensis* group has been reviewed (Lewis, 2011b) and the *doriae* group is the subject of the present paper. This group is characterised by a cephalic plate lacking complete paramedian sutures, very rarely with short weak posterior sutures or sulci and overlain by tergite 1with the exception of *C. stupendus* Attems, 1928 and one of the two known specimens of *C. nanus* Attems, 1938. Additional shared characters are tergite 1 lacking sutures, and the ultimate legs with one or more femoral saw teeth. The term *anomalans* group is here proposed for those species with an anterior transverse suture on tergite 1.

Some species that would appear from their original descriptions to belong to the *hortensis* group in fact have a femoral saw tooth or teeth and thus belong to the *doriae* group. They are: *C. nanus* Attems, 1938 (Hawaii) (Lewis, 2011a), *C. navis* Chamberlin, 1930 (Singapore), *C. philammus* Attems, 1928 (Southern Africa), *C. sinesicus* Chamberlin, 1940 (China), *C. stupendus* Attems, 1928 (South Africa) and *C. tahitianus* Chamberlin, 1920 (Tahiti). *Cryptops omissus* Ribaut, 1915 (Kenya), *C. mirus* Chamberlin, 1920 (Tahiti) and *C. arapuni* Archey, 1922 (New Zealand), lacking ultimate legs in known material, cannot be assigned to either the *hortensis* or *doriae* group. Murienne et al (2011) have shown that *C. pictus* Ribaut, 1923 is a member of the subgenus *Trigonocryptops*. It had previously been considered to be a member of the subgenus *Cryptops*.

Species from the Americas belonging to the *doriae* group are not considered here. They are *C. annexus* Chamberlin, (Chile), *C. frater* Chamberlin, (Chile), *C. galatheae* Meinert, (Argentina), *C. monilis* Gervais (Chile), *C. nahuelbuta* Chamberlin, (Chile), *C. nivicomes* Verhoeff, (Chile), *C. patagonicus* Meinert, (Argentina), *C. triserratus* Attems, (Chile), and *C. venezuelae* Chamberlin, (Venezuela).

Materials and methods

Specimens were studied by light microscopy using an eyepiece graticule to make drawings onto squared paper and calibrated for different magnifications using a stage micrometer. They were examined by reflected light in the preservative (70 or 80% ethanol) and sometimes blotted off briefly to observe surface features such as sulci. Where possible, they were either cleared in 60% lactic acid or 2-phenoxyethanol.

The Old World of the title of this paper is taken to mean the Palaearctic, African, and Oriental regions as defined by Kreft & Jetz (2010). Where possible, the type material has been examined but data for the New Zealand species have been added from the literature. The species are dealt with in alphabetical order. The terminology for the external anatomy proposed by Bonato et al. (2010) is followed.

Lewis et al. (2005) illustrated normal, lanceolate and spiniform setae in *Cryptops* which suggests that they are distinct. However, there is a continuum from the slender normal setae to the lanceolate and spiniform. I have used the term short strong setae rather than spine-like or spinous setae. The term accessory spine is here used for the