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Euophryine jumping spiders of the Afrotropical Region—new taxa and a checklist (Araneae: Salticidae: Euophryinae)

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Abstract

Two new genera, *Rumburak* gen. nov. and *Yimbulunga* gen. nov., of euophryine jumping spiders are established from the Afrotropical Region. Thirty three new species included in this subfamily are diagnosed and described: *Chinophrys trifasciata* sp. nov. (♂, South Africa), *Euophrys bifida* sp. nov. (♂♀, South Africa), *E. cochlea* sp. nov. (♂♀, South Africa), *E. elizabethae* sp. nov. (♂♀, South Africa), *E. falciger* sp. nov. (♂♀, South Africa), *E. gracilis* sp. nov. (♂♀, Lesotho, South Africa), *E. griswoldi* sp. nov. (♂, Namibia), *E. limpopo* sp. nov. (♂, South Africa), *E. maseruensis* sp. nov. (♂, Lesotho), *E. meridionalis* sp. nov. (♂♀, South Africa), *E. miranda* sp. nov. (♀, South Africa), *E. nana* sp. nov. (♂, South Africa), *E. recta* sp. nov. (♂, South Africa), *E. subtilis* sp. nov. (♂♀, South Africa), *Rumburak bellus* sp. nov. (♂, South Africa), *R. hilaris* sp. nov. (♂♀, South Africa), *R. lateripunctatus* sp. nov. (♂♀, South Africa), *R. mirabilis* sp. nov. (♂♀, South Africa), *R. tuberosus* (♂, South Africa), *R. virilis* (♂♀, South Africa), *Tanzania parvulus* sp. nov. (♂♀, South Africa), *T. striatus* sp. nov. (♂♀, South Africa), *Thyenula alotama* sp. nov. (♂♀, South Africa), *T. cheliceroideus* sp. nov. (♂, South Africa), *T. clarosignata* sp. nov. (♂♀, South Africa), *T. dentatidens* sp. nov. (♂, South Africa), *T. haddadi* (♂♀, South Africa), *T. montana* sp. nov. (♂, Lesotho), *T. rufa* sp. nov. (♂♀, South Africa), *T. tenebrica* sp. nov. (♀, South Africa), *T. virgulata* sp. nov. (♂, South Africa), *T. vulnifica* sp. nov. (♂♀, South Africa) and *Yimbulunga foordi* sp. nov. (♂, South Africa). Two species names are newly synonymized: *Thyenula hortensis* Wesolowska & Cumming, 2008 with *T. munda* (Peckham & Peckham, 1903) and *Thyenula nelshoogte* Zhang & Maddison, 2012 with *T. laxa* Zhang & Maddison, 2012. Three new combinations are proposed: *Heliophanus kittenbergeri* (Caporiacco, 1947) (ex *Euophrys*), *Rumburak laxus* (Zhang & Maddison, 2012) (ex *Thyenula*) and *Thyenula munda* (Peckham & Peckham, 1903) (ex *Saitis*). Two names are recognized as *nomina dubia*: *Euophrys nigrescens* Caporiacco, 1940 and *Saitis magnus* Caporiacco, 1947. The first member of the genus *Chinophrys* Zhang & Maddison, 2012 is reported from Africa. The males of *Euophrys leipoldti* Peckham & Peckham, 1903 and *Thyenula sempiterna* Wesolowska, 2000 are described for the first time. *Tanzania minutus* (Wesolowska & Russell-Smith, 2000) is recorded from South Africa for the first time. A list of valid species of Afrotropical Euophryinae with data on their distribution in the region is provided. A key is supplied for the known genera of the region (based on males).

Key words: Araneae, Salticidae, Euophryinae, jumping spiders, new genera, new species, new combinations, new synonyms, Africa

Introduction

The subfamily Euophryinae belongs to an informal group of families termed the “free embolus group” by Maddison (2011). This group is distinctive in having a movable, coiled embolus placed on the tip of the bulb and separated from the tegulum by a fully expandable distal haematodocha.

The subfamily Euophryinae (*sensu* Prószyński 1976) is based on shared characters of the structure of the copulatory organs and somatic morphology. The embolus is placed distally, on the bulbal tip, and forms one curl of a basal spiral. The embolic spiral is commonly placed parallel to the longitudinal axis of the pedipalp (Maddison & Hedin 2003). The elongated bulb usually possesses a proximal lobe. The sperm duct is long and meandering, forming three loops and projecting towards the centre of the tegulum. The epigyne usually has two rounded depressions framed by spiral sclerotized flanges. The spermathecae are large, strongly sclerotized and are visible through the transparent cuticle.

Relationships within the euophryines are unclear, making generic delimitations far from easy. The salticid molecular phylogeny of Maddison & Hedin (2003) suggests that the Euophryinae is sister group to the Plexippoida, i.e. Pelleninae and Plexippinae, but a later phylogeny placed Euophryinae + the “*Philaeus* group” of genera together as sister to the Plexippoida (Maddison et al. 2008). The recent study on nuclear and mitochondrial gene sequence (Zhang & Maddison 2013) gives the insight into evolution of the subfamily Euophryinae and is a big step forward in understanding the phylogenetic relationships within its genera. The results strongly support the monophyly of euophryines.

Originally the group Euophryidae (Simon 1901) consisted of only three genera. Currently it is a large subfamily containing numerous genera (Maddison 2011, Prószyński 2013). The members of the subfamily are very widely distributed in both hemispheres. Hitherto, only four Euophryinae genera were known to occur in the Afrotropical region: *Euophrys* C.L. Koch, 1834, *Tanzania* Koçak & Kemal, 2008, *Thyenula* Simon, 1902 and *Lophostica* Simon, 1902 (the latter from the Mascarene Archipelago). The genus *Saitis* Simon, 1876 has also been reported from Africa, but true members of this genus probably do not occur there (*S. brevisculus* is probably misplaced).

almost all major biomes in this region including montane forest (many species in all genera), lowland forest (*Euophrys cochlea*, *E. miranda*, *E. subtilis*, *Thyenula aurantiaca*, *T. tenebrica*, *T. vulnifica*), montane grassland (*Euophrys maseruensis*, *Thyenula montana*, *T. virgulata*) and savanna grassland and woodland (*Rumburak mirabilis*, *Thyenula sempiterna*). In the winter rainfall areas, species occur in fynbos (*Euophrys elizabethae*, *E. nana*, *Rumburak bellus*, *R. lateripunctatus*), karroo and succulent karroo (*Euophrys griswoldi* and *E. leipoldti*) and even sub-desert (*Euophrys griswoldi*). However, by far the majority have been recorded from forests (montane or lowland), suggesting that this may be the optimal habitat for these genera in southern Africa. This is born out by the discovery of five species (four mentioned in text and *T. leighi*—Wesołowska 2012) by the third author in a relatively small area of native forest and bushland at Town Bush near Pietermaritzburg in 1976.

Given the wide adaptation of euophryines in Southern Africa to diverse biomes and habitats, it seems strange that they should not be found further north in Africa. In the light of the apparent preference of the majority of species for forest habitats and the comparatively low level of morphological diversity within the southern African genera and species, it is possible that they may represent a relatively recent radiation that originated in southern African forests and which has spread into a wider range of habitats from there but has not yet had time to spread further North. An alternative scenario, that the forests of southern Africa acted as refugia for euophryines during dry episodes in the Quaternary period, certainly cannot be excluded at present. With the development of “molecular clock” techniques of DNA analysis, it would be possible to independently test these hypotheses.

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