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## Three new Afrotropical species of Tersilochinae (Hymenoptera: Ichneumonidae) from the Kibale National Park, Uganda

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### Abstract

Seven species of Tersilochinae (Hymenoptera: Ichneumonidae) have been found from Uganda in Equatorial Africa: *Allophrys budongoana* Khalaim, *Diaparsis interstitialis* Khalaim, *D. kanyawara* sp. nov., *D. mostovskii* Khalaim, *D. sinuator* sp. nov., *D. umbrosa* sp. nov. and *Tersilochus moestus* Holmgren. Two species of *Diaparsis*, described in this paper, possess a white banded flagellum, and a key to the group of four Afrotropical species having a white-banded flagellum is provided. *Tersilochus moestus* Holmgren, previously known only from a single female from South Africa, is recorded from the Kibale National Park, Uganda. Antennae and ovipositor of this species, broken in the type specimen, are described for the first time.

**Key words:** Africa, Afrotropical region, Uganda, *Diaparsis*, *Tersilochus*, key, taxonomy, parasitoids, koinobiont

### Introduction

*Diaparsis* Förster is a large and widely distributed tersilochine genus with about 85 described and many undescribed species. The genus is well represented in most zoogeographical regions of the world, the Neotropical region being the only major exception. *Diaparsis* comprises four small subgenera which are restricted to the Palearctic region, *Ischnobatis* Förster (1 species), *Lanugoparsis* Khalaim (1 species), *Nanodiaparsis* Horstmann (5 species) and *Pectinoparsis* Khalaim (1 species), and a large and widely distributed *Diaparsis* s. str. with 76 described species (Khalaim 2011, 2013a, 2013b; Yu *et al.* 2012; Balueva *et al.* 2013).

Afrotropical fauna of *Diaparsis* was recently revised by the first author (Khalaim 2013a) who listed 13 species, including one species from Seychelles and one recently described species from Reunion (Rousse and Villemant 2012). However, this work was based mainly on South African material and included only some specimens collected from the tropical parts of Africa. One more species, *D. nebulosa* Khalaim, was described from Cameroon in a subsequent paper (Khalaim 2013b). Only four tersilochine species, *Allophrys budongoana* Khalaim, *Diaparsis abstata* Khalaim, *D. inusitata* Khalaim and *D. mostovskii* Khalaim, were known to occur in Uganda hitherto (Khalaim 2013a, 2013b).

Nothing is known about the host preferences of Afrotropical species of *Diaparsis*, but in Europe some species of this genus have been reported to attack hosts belonging to the beetle families Buprestidae, Cerambycidae, Chrysomelidae, Curculionidae and Scolytidae (Yu *et al.* 2012), and the gall-forming sawflies of the genus *Pontania* A. Costa (Hymenoptera: Tenthredinidae) (Kopelke 1994, Al-Saffar and Aldrich 1997).

The predominantly Holarctic genus *Tersilochus* Holmgren is represented in the Afrotropical region by only one species, *T. moestus* Holmgren, 1859. For a long time this species was considered to belong to the genus *Diaparsis* (Townes and Townes 1973) and was transferred to *Tersilochus* recently (Khalaim 2013a).

During the last years the third author of this paper has conducted long-term ecological field studies on natural and differently harvested forest areas in the Kibale National Park, Uganda. Information on forest compartments and

**Morphological remarks.** The new Ugandan female almost completely corresponds with the holotype female of this species. The holotype female is incomplete and lacking apices of antennae and the ovipositor. The species was recently re-described and placed into the genus *Tersilochus* by Khalaim (2013a: 145). Below we describe and illustrate characters which are lacking or unclear in the holotype specimen.

Flagellum with 19 segments (Fig. 16). Notaulus absent. Apical longitudinal carinae of propodeum not reaching transverse carina anteriorly. Mid coxa brown. First tergite 3.8× as long as posteriorly broad. Glymma well-developed, joining by distinct furrow to ventral part of postpetiole (Fig. 17). Ovipositor short and slender, evenly tapered towards apex (Fig. 18), its sheath half as long as first tergite.

**New material examined. Uganda:** 1 ♀ (ZMUT) Kibale National Park, Kanyawara Biological Station, 0°33'55.6"N, 30°21'29.0"E, 15 m, Malaise trap, 16–23.V.2010, coll. S. Katusabe *et al.*

**Distribution.** South Africa, Uganda. **First record from Uganda.**

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## References

- Al-Saffar, Z.Y. & Aldrich, J.C. (1997) Factors influencing the survival of *Pontania proxima* that attack crack willow *Salix fragilis*. *Biology and Environment: Proceedings of the Royal Irish Academy*, 97B (3), 219–223.
- Balueva, E.N., Khalaim, A.I., Kim, K.-B. & Lee, L.-W. (2013) Taxonomic review of genus *Diaparsis* Förster (Hymenoptera: Ichneumonidae: Tersilochinae) from South Korea. *Journal of Asia-Pacific Entomology*, 16 (2), 165–172.  
<http://dx.doi.org/0.1016/j.aspen.2012.12.002>
- Khalaim, A.I. (2011) Tersilochinae of South, Southeast and East Asia, excluding Mongolia and Japan (Hymenoptera: Ichneumonidae). *Zoosystematica Rossica*, 20 (1), 96–148.
- Khalaim, A.I. (2013a) Afrotropical species of *Diaparsis* Förster, 1869 (Hymenoptera: Ichneumonidae: Tersilochinae). *African Invertebrates*, 54 (1), 127–159.  
<http://dx.doi.org/10.5733/afin.054.0104>
- Khalaim, A.I. (2013b) New data on the Afrotropical Tersilochinae (Hymenoptera: Ichneumonidae). *Proceedings of the Russian Entomological Society*, 84 (2), 129–136.
- Kopelke, J.-P. (1994) Der Schmarotzerkomplex (Brutparasiten und Parasitoide) der gallenbildenden *Pontania*-Arten (Insecta: Hymenoptera: Tenthredinidae). *Senckenbergiana Biologica*, 73 (1–2), 83–133.
- Nyafwono, M., Valtonen, A., Nyeko, P. & Roininen, H. (2014) Butterfly community composition across a successional gradient in a human-disturbed Afro-tropical rain forest. *Biotropica*, 46 (2), 210–218.  
<http://dx.doi.org/10.1111/btp.12085>
- Rousse, P. & Villemant, C. (2012) Ichneumons in Reunion Island: a catalogue of the local Ichneumonidae (Hymenoptera) species, including 15 new taxa and a key to species. *Zootaxa*, 3278, 1–57.
- Townes, H.K. (1971) The genera of Ichneumonidae, Part 4. *Memoirs of the American Entomological Institute*, 17, 1–372.
- Townes, H.K. & Townes, M. (1973) A catalogue and reclassification of the Ethiopian Ichneumonidae. *Memoirs of the American Entomological Institute*, 19, 1–416.
- Yu, D.S.K., van Achterberg, C. & Horstmann, K. (2012) Taxapad 2012, Ichneumonoidea 2011, Ottawa, Ontario, Canada. Database on flash-drive. Available from: [www.taxapad.com](http://www.taxapad.com) (accessed 8 April 2014)