



<http://dx.doi.org/10.11646/zootaxa.3731.2.10>

<http://zoobank.org/urn:lsid:zoobank.org:pub:A9D3067B-25B7-4A14-A595-A6453A3D03F1>

## A new *Lobosceliana* Dirsh species (Orthoptera: Pamphagidae: Porthetinae) from coastal Tanzania, East Africa

CLAUDIA HEMP

University of Würzburg, Dept. Animal Ecology and Tropical Biology (Zoology III), Am Hubland, 97974 Würzburg, Germany.  
E-mail: [claudia.hemp@uni-wuerzburg.de](mailto:claudia.hemp@uni-wuerzburg.de)

### Abstract

A new flightless species of *Lobosceliana* is described from coastal Tanzania, East Africa. This is the first species within this genus with shortened wings in the male sex. The antennal formula is special in this species as well since it differs from that of other *Lobosceliana* species, questioning the systematic value of the number of antennal segments in Porthetinae as a useful generic character.

**Key words:** new species, Tanzania

### Introduction

Eight *Lobosceliana* species distributed from eastern to southern Africa are known at present. All are large species with a laterally compressed body. Typical for the genus is that the antenna are differentiated into three parts: several strongly laterally expanded basal segments, a medial part comprised of two, clearly separated segments and an apical part of 4 cone-like segments of which the last segment is elongated. The pronotum is very high with a strongly lamellate crest with three fenestrae. While females are apterous and very large and plump, males are more slender and fully winged. The costal area of the elytra is expanded and armed with dense, parallel, ridge-like, stridulatory veinlets. The hind femora are expanded on both margins. While the upper margin is strongly serrated but straight, the lower margin is not especially serrate but in part strongly expanded, especially in females.

Very similar are species of the genus *Xiphoceriana* Dirsh. Both genera can be differentiated by the antenna (middle two segments almost fused in *Xiphoceriana*) and the upper margin of the hind femur, which is incurved in front of the knee in *Xiphoceriana*. *Lobosceliana* and *Xiphoceriana* are differentiated from the morphologically very similar genera *Lamarckiana* Kirby and *Vansoniacris* Dirsh by their fenestrated pronotum and the shape of the hind femora, which is not expanded in the latter two genera.

### Material and methods

**Samples.** FRONTIER Tanzania undertook intensive biodiversity surveys in various forest reserves of Tanzania between 1996 and 2002 published via Technical Reports (accessible at <http://www.easternarc.or.tz/eusam>). Thus, when studying samples from the Mchungu Forest Reserve, Rufiji District Tanzania, collected by FRONTIER in August 1990, specimens of *L. brachyptera* n. sp. were noted in the spirit collection of the zoological museum of Copenhagen.

**Identification.** The *Lobosceliana* specimens were compared with the available literature (Dirsh 1965), with images available in the OSF (Eades *et al.* 2013) and the collections of the Natural History Museum London, UK, and the Muséum National d'Histoire Naturelle of Paris, France.

**Depository.** ZMUC: Zoological Museum, Copenhagen, Denmark.

**Measurements.** Pronotum is measured laterally from anterior tip to posterior tip not regarding the curvature of the crest.

## Discussion

Dirsh (1965) defined the genera *Lamarckiana* and *Vansoniacris* as having five antennal segments. The hind femora are not expanded in species of both genera and the pronotum has no fenestrae, characters defining *Lobosceliana* and *Xiphoceriana*. The genera *Lobosceliana* and *Xiphoceriana* are morphologically very similar. Diagnostic characters following Dirsh (1965) are seen in the antennae, the middle two segments being clearly divided in *Lobosceliana* but not or faintly in *Xiphoceriana*. The upper margin of the hind femur is straight in *Lobosceliana* but incurved in front of the knee in *Xiphoceriana*.

On Mt Kilimanjaro *Xiphoceriana atrox* and *Lobosceliana femoralis* occur in savanna habitats (Hemp 2009). Specimens of both species were studied. Thus some of the *L. femoralis* specimens were found also having five apical antennal segments. The upper margin of the hind femora is straight in *L. femoralis*, shows a curve in some of the *X. atrox* specimens but in others the upper margin was almost straight. Molecular studies should be undertaken to illuminate the status of these two genera.

As pointed out above, both *Lobosceliana* and *Xiphoceriana* are characterized by having four apical antennal segments (Dirsh, 1965). However, *L. brachyptera* n. sp. has five clearly separated segments (Fig. 4C). Therefore it is suggested here that the number of antennal segments cannot serve as generic diagnostic character separating genera of Porthetinae. Thus the only remaining character to distinguish *Lobosceliana* and *Xiphoceriana* as defined by Dirsh (1958) is the straight or incurved upper hind femoral margin.

## Acknowledgements

I gratefully acknowledge grants from the Deutsche Forschungsgemeinschaft. Part of this research received support from the Synthesys Project <http://www.synthesys.info/> which is financed by the European Community Research Infrastructure Action under the FP6 “Structuring the European Research Area Programme” enabling me to visit the Zoological Museum, Copenhagen, Denmark, the Natural History Museum London, UK, and the Muséum National d’Histoire Naturelle of Paris, France in 2013. Thanks to Hugh Rowell for revising the manuscript and improving the language.

## References

- Dirsh, V.M. (1958) Revision of the group Portheti (Orthoptera: Acridoidea). *Eos, Revista española de Entomología*, 34, 299–400.
- Dirsh, V.M. (1965) The African Genera of Acridoidea. Antilocust Centre, Cambridge, London, 579 pp.
- Eades, D.C., Otte, D., Cigliano, M.M. & Braun, H. (2013) Orthoptera Species File Online. Version 2.0/4.1. Available from: <http://orthoptera.speciesfile.org/HomePage/Orthoptera/HomePage.aspx> (Accessed 7 October 2013)
- Hemp, C. (2009) Annotated list of Caelifera (Orthoptera) of Mt. Kilimanjaro, Tanzania. *Journal of Orthoptera Research*, 18 (2), 183–214.  
<http://dx.doi.org/10.1665/034.018.0207>