



<http://dx.doi.org/10.11646/zootaxa.3926.1.7>

<http://zoobank.org/urn:lsid:zoobank.org:pub:8D64F6D2-0ADA-4E68-9082-6A084AF88688>

Three new species of the genus *Exphora* Signoret, 1860 (Hemiptera, Fulgoromorpha, Tropiduchidae) from Madagascar

ŁUKASZ JUNKIERT & MARCIN WALCZAK

University of Silesia, Faculty of Biology and Environmental Protection, Department of Zoology, ul. Bankowa 9, 40-007 Katowice, Poland. E-mails: lukasz.junkiert@wp.pl; marcin.walczak@us.edu.pl

Abstract

Three new species of the genus *Exphora* Signoret, 1860 (Hemiptera, Fulgoromorpha: Tropiduchidae) are described from Madagascar: *E. constanti* sp. n., *E. stroinskii* sp. n. and *E. ambatolaonaensis* sp. n. The male genitalia are described for the first time in this genus. The male genitalia, head and fore wing of the new species are illustrated with photos of habitus provided. Key to the known species of *Exphora* is given.

Key words: Madagascar, Tropiduchidae, *Exphora*, new species

Introduction

The genus *Exphora* was erected by Signoret (1860) for *E. guerini*. Currently *Exphora* belongs to the tribe Gaetuliini Fennah, 1978. Among the other representatives of the tribe Gaetuliini *Exphora* is a rather small genus comprising at this moment 10 species (Signoret, 1860; Jacobi, 1917; Lallemand, 1950; Synave, 1966). *Exphora* was placed in the family Nogodinidae, however Gnezdilov (2006) did not share this view and transferred it from Nogodinidae to Tropiduchidae. Examination of unidentified tropiduchid specimens in the collection of the Royal Belgian Institute of Natural Sciences, Brussels, Belgium revealed three undescribed species belonging to the genus *Exphora* represented by a single male specimen each. Descriptions of the three new species as well as a key for all the species of the genus are given in the present paper.

Material and methods

External structures were examined using a stereoscopic microscope Olympus SZX9. The genitalia were dissected after boiling the abdomen for 3 times (about 10 minutes) in a 10% solution of potassium hydroxide (KOH). Then the pygofer and styles were separated from the abdomen and the aedeagus extracted using thin forceps and a needle blade. The whole was then placed in glycerin. The genitalia were examined using the light microscope Nikon Eclipse. Drawings were made with a camera lucida. Photographs were taken by the Canon Eos camera with extension rings.

The holotypes bear red manuscript label of the following types: Holotype: ♂ / *Exphora constanti* sp. n. / Junkiert & Walczak det. 2014; Holotype: ♂ / *Exphora stroinskii* sp. n. / Junkiert & Walczak det. 2014; Holotype: ♂ / *Exphora ambatolaonaensis* sp. n. / Junkiert & Walczak det. 2014. Quoting the labels of specimens: (/) is used to divide data on different rows on the label, (;) is used to divide data on different labels, ([]) is used for author's comments.

Abbreviations used

RBINS Royal Belgian Institute of Natural Sciences, Brussels, Belgium.

specimen ($\pm 2-3$ cells). The number of apical cells is constant and only exceptionally the difference is 1 cell. According to this character there are two groups of species: those with 14–15 apical cells (*E. fumivenosa*, *E. succinae*) and the second group with 18–19 apical cells (remain species). Among the material the specimen of *Exphora ambatolaonaensis* **sp. n.** was damaged and as a result the number of apical cells is not known, but the detailed study of wing morphology indicates the species belongs to the second group with 18–19 apical cells. According to the colouration of body which is rather uniform (yellowish-brown), *E. succinae* is greenish, and the characteristic black spots on the head are present in *E. fumivenosa*. Considering the morphological characters useful in species determination the most certain are male genitalia. Further detailed study concerning description morphology, distribution and biology of all known species of this genus should be provided.

Acknowledgments

We thank Jérôme Constant (RBINS), Eliane De Coninck (RMCA), Daniel Burckhardt and Isabelle Zürcher (NHMB) for the opportunity to examine the material, their support and hospitality during visits in collections. We also would like to thank Karina Wieczorek and Mariusz Kanturki from University of Silesia, Department of Zoology, Katowice, Poland for their help and support.

References

- Gnezdilov, V.M. (2006) On the systematic position of the Bladinini Kirkaldy, Tonginae Kirkaldy, and Trienopinae Fennah (Homoptera, Fulgoroidea). *Zoosystematica Rossica*, 15, 293–297.
- Jacobi, A. (1917) Siopa. In: *Voeltzkow Reise in Ostafrika i. d. Jahren 1903–1905. Vol. III.* E. Scheweizerbart'sche Verlagsbuchhandlung, Stuttgart, pp. 535.
- Lallemand, V. (1950) Title unknown. *Mémoires de l'Institut des Sciences de Madagascar*, Series A, 4, 87–92.
- Signoret, V. (1860) Faune des hémiptères de Madagascar. 1ère partie. Homoptères. *Annales de la Société Entomologique de France*, Series 3, 8, 177–206. [Paris]
- Synave, H. (1966) Homoptères de Madagascar. *Verhandlungen der Naturforschenden Gesellschaft in Basel*, 77, 55–75.