



## Revision of the malagassy endemic genus *Amberana* Distant (Hemiptera, Cercopidae) with description of one new genus

ADELINÉ SOULIER-PERKINS<sup>1</sup> & GERNOT KUNZ<sup>2</sup>

<sup>1</sup>Muséum National d'Histoire Naturelle, département Systématique et Evolution, UMR 7205 MNHN-CNRS, CP 50, 45 rue Buffon, F-75005 Paris, France. E-mail: soulier@mnhn.fr

<sup>2</sup>Karl-Franzens-Universität, Universitätsplatz 2, Zoologie, 8010 Graz, Austria. E-mail: gernot.kunz@gmail.com

### Table of contents

Abstract	2
Introduction	2
Material and methods	2
Abbreviations	3
Taxonomy	3
Genus <i>Amberana</i> Distant, 1908	3
Key to species of <i>Amberana</i>	3
<i>Amberana attiei</i> Soulier-Perkins sp. n.	4
<i>Amberana bergevini</i> (Lallemand, 1920)	6
<i>Amberana boucomonti</i> (Lallemand, 1920)	9
<i>Amberana brolemanni</i> (Lallemand, 1920)	11
<i>Amberana dimidiata</i> (Signoret, 1860)	12
<i>Amberana elongata</i> Distant, 1908	14
<i>Amberana fissurata</i> Jacobi, 1917	15
<i>Amberana humeralis</i> (Fallou, 1890)	17
<i>Amberana kraussi</i> Synave, 1957	18
<i>Amberana lemuria</i> (Distant, 1908)	20
<i>Amberana limbata</i> Lallemand, 1955	21
<i>Amberana marginata</i> (Fallou, 1890)	23
<i>Amberana maromandiana</i> Lallemand, 1949	25
<i>Amberana melanops</i> (Jacobi, 1917)	26
<i>Amberana noualhierii</i> (Lallemand, 1920)	27
<i>Amberana ouvrardi</i> Soulier-Perkins sp. n.	29
<i>Amberana pascali</i> Soulier-Perkins sp. n.	30
<i>Amberana pygmaea</i> Schmidt, 1920	32
<i>Amberana sexguttata</i> (Melichar, 1915)	33
<i>Amberana uncinata</i> Jacobi, 1917	35
<i>Bourgoinrana</i> Soulier-Perkins gen. n.	36
Key to species of <i>Bourgoinrana</i> Soulier-Perkins gen. n.	37
<i>Bourgoinrana perinetana</i> (Synave, 1957) comb. n.	37
<i>Bourgoinrana rubescens</i> (Synave, 1957) comb. n.	38
<i>Bourgoinrana sandrangatensis</i> (Synave, 1957) comb. n.	40
Discussion	41
Acknowledgements	41
References	41

## Abstract

The genus *Amberana* Distant is revised. Three new species, *A. attei* Soulier-Perkins **sp. n.**, *A. ouvrardi* Soulier-Perkins **sp. n.** and *A. pascali* Soulier-Perkins **sp. n.** are described. Lectotypes are designated for *A. dimidiata* (Signoret, 1960), *A. fissurata* Jacobi, 1917, *A. noualhierii* (Lallemand, 1920), *A. sexguttata* (Melichar, 1915) and *A. uncinata* Jacobi, 1917. *Amberana tripunctata* var. *completa* Lallemand, 1949 and *A. tripunctata* Lallemand, 1920 are synonymised with *A. bergevini* (Lallemand, 1920). A new genus, *Bourgoinrana* Soulier-Perkins **gen. n.**, is erected for *B. perinetana* (Synave, 1957), **comb. n.** (type species), *B. rubescens* (Synave, 1957), **comb. n.** and *B. sandrangatensis* (Synave, 1957), **comb. n.** Keys to species of *Amberana* and *Bourgoinrana* Soulier-Perkins **gen. n.** are provided. Drawings of the male genitalia for all species with exception of *A. lemuria* (Distant, 1908) are included.

**Key words:** Cicadomorpha, Madagascar, new species, spittlebugs, froghoppers

## Introduction

The Cercopidae comprises 1390 described species in 155 genera of which 11, *Amberana* Distant, 1908; *Alluaudensia* Lallemand, 1920; *Ambonga* Melichar, 1915; *Bourgoinrana* Soulier-Perkins gen. n.; *Literna* Stål, 1866; *Locris* Stål, 1866; *Nesaulax* Jacobi, 1917; *Paramioscarta* Lallemand, 1949; *Pogonorhinella* Schmidt, 1910; *Pseudomachaerota* Melichar, 1915 and *Rhinaulax* Amyot & Serville, 1843 are known from Madagascar (Soulier-Perkins 2011). According to the general catalogue of Homoptera (Metcalf 1961), all the *Amberana* Distant, 1908 are found in Madagascar with exception of *A. humeralis* (Fallou, 1890) cited as being present as well in São Paulo, Minas Gerais (Brazil). However, in Lepage & Monte (1942) the authors refer to *Tomaspis humeralis* Le Peletier & Serville, 1825, which is a synonym of *Deois* (*Pandysia*) *schach* (Fabricius, 1787) and a distinct species from *T. humeralis* (Fallou, 1890), ancient combination of *A. humeralis*. *Amberana* is thus an endemic genus of Madagascar.

Distant (1908) described *Amberana*, as a genus differentiated from *Literna* Stål, 1866 by the narrow, elongated tegmina. Lallemand (1949) mentioned a small triangular dimple situated just below the frons on the postclypeus and above the longitudinal furrow as another generic character for *Amberana*. This dimple is evident on all *Amberana* species except for *A. perinatana*, *A. rubescens* and *A. sandrangatensis* (all described by Synave, 1957). These three species also share similarity with respect to the general morphology of the aedeagus and the apex of the parameres, whereas this genitalic morphology differs from all the other species of *Amberana*, providing evidence that these three species constitute a new genus, described here as *Bourgoinrana*.

Lallemand (1949) synonymised *Dauphnia* Distant, 1908 with *Amberana* showing that the width of the pronotum, narrow in *Amberana* and wide in *Dauphnia*, does not justify two different genera. In fact it rather represents two extremes indicating that a series of intermediate exist between them.

At present time the biology and ecology of this group are completely unknown. Neither in literature nor on labels of the collected specimen could information on biology or ecology be found. Only a few adult specimens have been collected with light traps by the first author providing information only on the flight activity and positive phototaxis during the night.

## Material and methods

Dried and preserved specimens were examined. The dissection of the male genitalia was done according to the following protocol. The abdomens were removed and placed in a 10% KOH bath with 1–2 drops of black chlorazol (Carayon, 1969) as a general endocuticular stain, and raised to boiling for 5–10 minutes. Gross dissection and cleaning of the abdomens were performed in 70% ethyl alcohol. Final and precise dissections were done in distilled water with blue paragon staining and then transferred in glycerol for drawing using a camera lucida.

Pictures were taken using a Canon camera EOS 550D, Canon MP-E 65 macro lens and Macro Ring Lite MR-14EX. The images were assembled using the software Combine Z5.