

Leptocoris ursulae, a new species of soapberry bug from Uganda (Heteroptera: Rhopalidae, Serinethinae)

● CRYSTAL PERREIRA, SCOTT CARROLL & JENELLA LOYE

Abstract. We found a new species of soapberry bug in the genus *Leptocoris* at the northern tip of the Rwenzori Mountains in western Uganda. The insects were feeding and reproducing on seeds of the sapindaceous vine *Cardiospermum grandiflorum*. We name this insect *Leptocoris ursulae* in honor Dr. URSULA GÖLLNER-SCHIEDING.

Key words. Albertine Rift, Rwenzori, Semuliki, Africa, Afrotropical Region, new species, taxonomy, *Cardiospermum*, host plant.

Zusammenfassung. Wir fanden eine neue Glasflügelwanze der Gattung *Leptocoris* in den Nordausläufern der Ruwenzori Berge in West-Uganda. Diese saugten und reproduzierten sich an den Samen der Sapindaceae *Cardiospermum grandiflorum*. Wir nennen die Art in Würdigung der Lebensleistung von Dr. URSULA GÖLLNER-SCHIEDING.

Description. *Measurements. Holotype.* Body length (anterior tip of tylus to distal tip of folded wings) 11.5 mm. Maximum pronotum width 3.0 mm. Beak length 6.98 mm. *Paratypes* (14 individuals). Body length 10.4–13.5 mm (2 brachypterous females excluded from this measurement). Pronotum width 2.5–3.7. Beak length 5.7–7.6 mm.

Dorsal color, Holotype. Head light orange with bright red margins around eyes and ocelli, lateral margins of tylus dark; eyes and ocelli scarlet red. Antennae black. Collar light grayish orange with orange posterior margin; anterior pronotal lobe similarly grayish orange, with two prominent dark orange ovals on either side of the anterior pronotal keel; posterior pronotal lobe grayish orange, bisected by grayish yellow pronotal keel, posterior end of pronotum mottled gray. Scutellum light grayish orange. Clavus mottled dark gray. Coria gray and light orange, bright orange at proximal ends. Membrane black. *Ventral color.* Light grayish orange with bright orange spiracles; coxae mottled grayish orange and bright orange; legs and beak black; genital capsule orange.

Introduction

Leptocoris was described by HAHN (1833) for the species *rufus* (now considered synonymous to *abdominalis*). GÖLLNER-SCHIEDING (1980) provided a comprehensive treatment of this group in Africa, as part of the foundational research for her general catalog of the Rhopalidae (1983).

There are three Serinethine genera, namely *Leptocoris*, *Boisea* and *Jadera*. GÖLLNER-SCHIEDING (1980) distinguished *Leptocoris* from the other two genera by its relatively shorter bucculae, its broader, shorter head, longer and trapezoidal pronotum, and larger, more slender body. Members of this genus have features that lie between the generally narrower *Boisea* and stouter *Jadera*. The Serinethine Rhopalids consist of about 65 species worldwide, about two-thirds of which are in *Leptocoris*, and of those, 20 are African. Serinethines are seed predators of certain plants in the soapberry family, Sapindaceae (CARROLL & LOYE 2012). This article adds one new species, which was encountered during a field survey of host relationships of *Leptocoris*, which are poorly known in Africa.

Materials and methods

The fieldwork documenting *Leptocoris* host plant relationships took place in August 2008. The field team (CARROLL and

LOYE) searched for *Leptocoris* spp. mainly along roads in rural areas by inspecting fruiting plants in Sapindaceae as they were encountered. Locality names were taken from governmental maps and road signs. The new species was found on a single host plant growing by the road between Karogoto (Ntoroko District) and Kasitu (Bundibugyo District) of western Uganda. Further information was gathered by dissection.

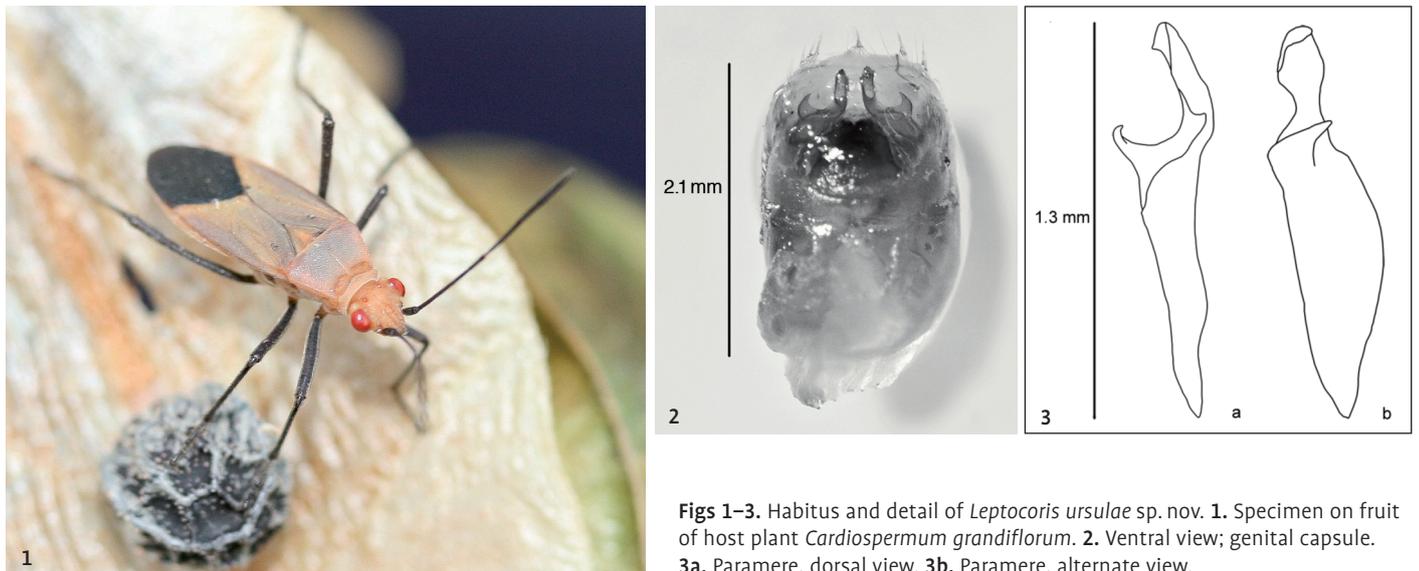
Leptocoris ursulae sp. nov.

Holotype. ♂, Uganda, between the villages of Karogoto and Kasitu, on the side of road between Fort Portal and Bundibugyo, 1028 m, N 00° 50.127', E 30° 13.718', ex. *Cardiospermum grandiflorum* Swartz, 9.VIII.2008, coll. S. P. CARROLL, University of California-Davis Bohart Museum of Natural History (Type #1799).

Paratypes. 4♂, (2 in alcohol), 10♀, paratype (3 brachypterous, 5 in alcohol), same data as holotype, Institute for Contemporary Evolution.

Etymology. We name this species for Dr. URSULA GÖLLNER-SCHIEDING, who has made the seminal contributions to soapberry bug taxonomy, both for Africa and worldwide. Her papers have served as the foundation for work on the ecology and evolution of the Serinethine Rhopalids.

Structure. Head including eyes slightly wider than long; jugum and tylus fairly short, anteriorly tapering to rounded point; ocelli located near posterior half of eyes; two bulges along margin of eye, posterior bulge larger than anterior bulge. Trapezoidal pronotum wider than long, pronotal keel tapers posteriorly and does not reach posterior edge, posterior edge of pronotum curves up forming convex ridge along margin, posterior corners of pronotum rounded. Scutellum longer than wide, margins of apex slightly concave causing scutellum to form an imperfect triangle. Raised veins on coria prominent. Hemelytra macropterous (although four paratypes brachypterous). Membrane extends beyond abdomen. Spiracles on lateral edge of abdomen. Beak extends nearly to posterior edge of abdominal segment II. Parameres hooked



Figs 1–3. Habitus and detail of *Leptocoris ursulae* sp. nov. **1.** Specimen on fruit of host plant *Cardiospermum grandiflorum*. **2.** Ventral view; genital capsule. **3a.** Paramere, dorsal view. **3b.** Paramere, alternate view.

laterally, hooks curving outward and dorsally; distal tips of parameres curve ventrally; pygophore short and shallowly indented in the center; parandria relatively short and pilose (Figs 2, 3).

Integument. Head finely covered in short light brown pilosity, becoming darker and longer toward distal end of tylus. Antennae covered in thin light brown pilosity. Pronotum finely punctated, pattern becomes more prominent and irregular posteriorly, lateral margins lined in sharp dark brown pilosity. Coria finely and unevenly punctate. Pronotum and coria sparsely covered in very sparse light brown pilosity. Pronotum, pro-, meso-, and metapleuron shallowly punctated. Ventral surface covered in short light brown pilosity.

Diagnosis. *Leptocoris ursulae* sp. nov. is distinguished by its pale orange coloration, bilaterally symmetrical gray dorsal overtones, bright scarlet eyes, slender body, and uniquely hooked parameres from its congeners.

Distribution. Known only from type locality.

Ecology. The species was discovered feeding and reproducing on the mature seeds of a large isolated individual of the

native vine *Cardiospermum grandiflorum* Swartz. The vine shrouded the canopy of a tree approximately 5 m in height. The habitat consisted mainly of cleared and cultivated roadside lands beneath steep partially cleared slopes. The area is on the western margin of the Albertine Rift, in a narrow transition zone between the Rwenzori Mountains and the lowland rainforests of Semuliki National Park, which have strong biogeographic affinities with the adjacent Congo Basin. Congeneric soapberry bugs of the species *L. mutilatus* and *L. teyrovskyi* were also present on this host individual.

Acknowledgements. Before Dr. URSULA GÖLLNER-SCHIEDING published her seminal papers on the species of Serinethine Rhopalids, these ecologically prominent insects were not readily accessible to investigators with questions regarding their ecology, behavior, evolution or physiology. As such we owe her a special debt of gratitude for her insight, perspicacity and perseverance in the systematic treatment of these organisms. We also thank Dr. JÜRGEN DECKERT for his helpful suggestions on the manuscript. INEKE JONGERIUS and MAURICE BARNES, owners of the RuwenZori View Guesthouse, Fort Portal, Uganda, provided local logistic support. Members of the Uganda People's Defence Force kindly assisted in im-

promptu bug catching in the field. Technical and financial support was provided by the Institute for Contemporary Evolution. STEVE HEYDON, Bohart Museum of Entomology, University of California-Davis [UCDC] assisted with curation of the holotype specimen.

References

- CARROLL, S. P. & LOYE, J. E. 2012. Soapberry bug native and introduced host plants: the biogeographic background of anthropogenic evolution. *Annals of the Entomological Society of America*. In press.
- GÖLLNER-SCHIEDING, U. 1980. Revision der afrikanischen Arten sowie Bemerkungen zu weiteren Arten der Gattungen *Leptocoris* Hahn, 1833, und *Boisea* Kirkaldy, 1910. *Deutsche Entomologische Zeitschrift, N. F.* 27: 103–148.
- GÖLLNER-SCHIEDING, U. 1983. General-Katalog der Familie Rhopalidae (Heteroptera). *Mitteilungen aus dem Museum für Naturkunde, Berlin* 59: 37–189.
- HAHN, C. W. 1833. *Die Wanzenartigen Insecten*, 1. C. H. Zeh'schen Buchhandlung, Nürnberg.

● CRYSTAL PERREIRA¹, SCOTT CARROLL^{1,2}, JENELLA LOYE²,

¹ Institute for Contemporary Evolution, 711 Oak Avenue, Davis, CA 95616 USA,

² Department of Entomology, University of California, Davis, CA 95616 USA; E-Mail: spcarroll@ucdavis.edu.