



## Is *Elsiella* Froeschner, 1981 a valid genus? (Hemiptera: Heteroptera: Pentatomidae: Pentatominae)

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### Abstract

The genus *Elsiella* Froeschner, 1981 is validated based on the analysis of a recently found male specimen of *E. plana* (Walker, 1867). A cladistic analysis comprising a data set of 40 morphological characters and 22 taxa, including the genera *Elsiella*, *Serdia* Stål, *Similliserdia* Fortes & Grazia, *Neotibilis* Grazia & Barcellos, and *Tibilis* Stål, was performed. *Elsiella plana* is redescribed and illustrated. Maps are provided for *Elsiella* and *Serdia* with biogeographical considerations for *Serdia*.

**Key words:** Pentatomini, morphology of genitalia, cladistics, taxonomy, biogeography

### Introduction

Walker (1867) described the Ecuadorian species *Ebora plana* with three other Australian species in his proposal of the genus *Ebora*. Kirkaldy (1909) placed the genus in synonymy with *Notius* Dallas (1851) in the tribe Halyini, and considered *E. plana* as "Pentatominae of uncertain position". Froeschner (1981), based on the female holotype of *Ebora plana*, proposed the genus *Elsiella* in order to accommodate this species without having to modify the uniform configuration of *Serdia* Stål, 1860, to which he considered it closely related. Froeschner (1981) also included *Ebora* in the tribe Pentatomini, section I of Rolston *et al.* (1980); this section is characterized by the presence of an elevated metasternum with posterior margin concave in which the projection of the 3rd abdominal segment lies. Later, Rider (2010) kept *Elsiella* in the tribe Pentatomini. Fortes & Grazia (2005) revised *Serdia* and analyzed its phylogenetic relationships with the genera *Tibilis* Stål, 1860, *Neotibilis* Grazia & Barcellos, 1994, and *Similliserdia* Fortes & Grazia, 1998; the results closely grouped *Serdia* to *Similliserdia*.

The opportunity to re-examine a female, and examine a male, so far unknown, allowed the authors to redescribe *Elsiella plana* and to give the description of the genitalia for both sexes. To test the hypothesis of Froeschner (1981), concerning the intimate relationship between *Elsiella* and *Serdia*, *E. plana* was included in the matrix provided by Fortes & Grazia (2005) as a new terminal. The availability of new data and the cladistic reanalyses allowed investigation of the validity of *Elsiella* as a monotypic genus, and its relation to *Serdia*.

In addition, distribution maps are provided for *Elsiella* and *Serdia*, with biogeographical considerations for *Serdia*.

### Materials and methods

The specimens, a male and a female, were obtained in the Entomological Collection of the Naturhistoriska Riksmuseet, Stockholm, Sweden (NHRS), and the D.A. Rider Collection, North Dakota University, United States of America (NDSU). The holotype female deposited at Natural History Museum, London, was examined by J. Grazia. Digital images were obtained with a digital camera coupled to a stereomicroscope. Drawings were elaborated with a camera lucida coupled to a stereomicroscope, lined with black pigment ink pen, digital scanned, and further pro-