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## A revision of the genus *Herminella* Spaeth (Chrysomelidae: Cassidinae: Notosacanthini), with a description of a new related genus and species from Madagascar

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### Abstract

The genus *Herminella* Spaeth from southern Africa is revised. It comprises four species: *Herminella liliputana* Spaeth and *H. marshalli* Spaeth are redescribed and two species are described as new—*H. quadrimaculata* from South Africa and *H. flavocostata* from Namibia and South Africa. A new related genus and species *Hermosacantha madagascariensis* from Madagascar is described. Members of both genera belong to the smallest world cassids.

**Key words:** new genus, new species, Chrysomelidae, Cassidinae, Notosacanthini, southern Africa, Madagascar

### Introduction

In 1913 F. Spaeth proposed a new genus *Herminella* for a peculiar cassidine species *Herminella marshalli* collected in Natal Province of South Africa. It was a second genus of the tribe Notosacanthini which includes also a very speciose genus *Notosacantha* Chevrolat with 270 described species (Borowiec & Więtojańska 2014). Until 1926 the genus *Herminella* was monotypic when the second species, *Herminella liliputana* Spaeth, was described from Mozambique (Spaeth 1926). Both species are represented in collections by few specimens, *Herminella marshalli* except for the two specimens of the type series, is represented by four specimens and *Herminella liliputana*, except the holotype, by a single specimen. Bionomy and host plants are unknown but both species are probably leaf miners like species of the genus *Notosacantha*. The tribe Notosacanthini were traditionally classified within the subfamily Cassidinae of old sense (true tortoise beetles) based on general morphology and feeding on dicotyledons plants, but its relationships to the true tortoise beetles were questioned by Medvedev and Eroshkina (1988). They described for the first time the leaf-mining feeding behaviour and mature larva of *Notosacantha* and suggested its close relationships to the hispine tribe Oncocephalini. Borowiec (1995) also concluded that the tribe Notosacanthini is not closely related to the true tortoise beetles but suggested that it is not close to the hispine tribe Oncocephalini but has an uncertain position within cryptostome leaf beetles. In the phylogeny and classification of Cassidinae sensu lato (Cassidinae s. str. + Hispinae) proposed by Chaboo (2007) the tribe Notosacanthini has an intermediate position between hispine and cassidine lineages but she did not use in reconstruction of phylogeny members from some important tribes of hispine lineage (especially Oncocephalini) thus also suggested uncertain position of Notosacanthini. A recent paper on larvae of the tribe Oncocephalini (Świętojańska et al. 2006) noted their similarity with larvae of *Notosacantha* but in the most comprehensive study on cassidine larvae Świętojańska (2009) suggested that the similarity is rather an effect of adaptation to leaf-mining life and also suggested an uncertain position of Notosacanthini within cryptostomes. At the moment both *Herminella* Spaeth and *Notosacantha* Chevrolat are members of the peculiar tribe Notosacanthini.

In materials studied recently we found specimens from the genus *Herminella* representing two new species from South Africa and a very peculiar specimen of the tribe Notosacanthini from Madagascar representing intermediate characters between *Herminella* and *Notosacantha* but with very special clypeal structures. We propose for this species a new genus *Hermosacantha* and revise the genus *Herminella*.

Pronotum transverse, approximately two times as wide as long with maximum width in the middle, anterior margin very broadly but shallowly emarginate, head not visible from above. Sides slightly irregularly rounded, more converging anterad than posterad, lateral margin in anterior half and the middle smooth, in posterior 1/3 length crenulate, basal corners well marked, lateral margin before corners distinctly emarginate. Pronotal disc convex, its anterior margin on sides sulcate, surface of disc shiny, on top impunctate, on sides and along the base with several coarse but sparse punctures. Explanate margin with very large transparent punctures, the largest along border of disc then gradually smaller to sides of pronotum and with row of small punctures along the transparent extreme margin of disc.

Elytra as wide as pronotum, almost parallel-sided, apex broadly rounded, not emarginate before sutural apex, humeri angulate. Disc depressed with very large and dense punctation. Punctures on top of disc arranged in more or less regular rows but between humeral costa and marginal row disposed irregularly. Elytral sculpture forms elevated costae. Well marked dorsal costa complete, in anterior half slightly S-shaped, in posterior half straight, gradually higher from base to apex, in anterior part obtuse, in posterior part sharp with the sharp margin distinctly crenulate. Humeral costa complete, in anterior half low, forms rather row of tubercles than sharp margin, in posterior half high, sharp, deeply crenulate, forms distinct S-shaped figure, before slope connected with short, crenulate apical transverse costa which is interrupted before apex of dorsal costa. Rows of crenulation runs also along submarginal interval and between apex of dorsal costa and sutural angle. Marginal row with very coarse punctures, in humeral part four to five times coarser than punctures on sides of disc. Explanate margin of elytra very narrow, in the widest part three times narrower than half width of disc, strongly declivous, in anterior half with two rows of coarse transparent punctures, shape of punctures variable from round to elongate, no additional irregular punctures between the rows. Along anterior half of the transparent extreme margin runs row of small punctures.

Clypeus as long as wide, clypeal plate in the middle with very large and very deep circular impression occupying almost whole width of the plate, from anterior margin of head to anterior margin of labrum, along the middle of clypeal impression runs deep median sulcus. Eyes small, gena as long as 2/3 width of eye. Labrum transverse, very short with very shallow anterior emargination. Antennae stout, second segment large, globular, approximately 1.3 times as long as third segment. Funicle approximately 1.5 times as long as club, segments 9 and 10 of club transverse, almost two times as wide as long.

**Distribution.** Madagascar: Toliara Province.

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