



Cladistic analysis of *Thoreyella* and related genera (Hemiptera: Pentatomidae: Pentatominae: Procleticini)

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Abstract

In this paper, the monophyly of the genus *Thoreyella* Spinola was tested, and a hypothesis of relationships among its species is proposed. Four known species of *Thoreyella* and two new species, as well as species of three other genera of Procleticini (*Neoderoploa* Pennington, *Lobepomis* Berg, and *Procleticus* Berg), were treated as the ingroup. The new species of *Thoreyella* will be published elsewhere. Two species of *Dendrocoris* were used for outgroup comparison. A cladistic analysis of 38 morphological characters supported a hypothesis of common ancestry for *Thoreyella* and the three genera of Procleticini included in the ingroup. The results also showed *Thoreyella* as a monophyletic taxon, and its sister group relationship with the monophyletic group including *Neoderoploa*, *Lobepomis*, and *Procleticus*. The geographical distribution of these taxa is discussed.

Key words: Cladistic analysis, *Thoreyella*, Procleticini, biogeography, Neotropics

Introduction

The tribe Procleticini includes 11 genera and 33 species distributed in the Neotropical and Nearctic regions. Procleticini was established by Pennington (1920) for the monotypical genera *Procleticus* Berg, *Lobepomis* Berg, *Neoderoploa* Pennington, and *Terania* Pirán. Rider (1994) described *Paraodmalea* (1 sp.), and transferred to Procleticini the genera *Aleixus* McDonald (1 sp.), *Brepholoxa* Van Duzee (2 spp.), *Dendrocoris* Bergroth (14 spp.), *Odmalea* Bergroth (6 spp.), *Zorcadium* Bergroth [= *Pseudobebaeus* Fallou] (1 sp.), and *Thoreyella* Spinola (4 spp.). Rider (1994) defined the unique characteristics of Procleticini that support the monophyly of the tribe: 1) female genital plates small and recessed into venter; 2) laterotergites 8 lacking spiracles; 3) gonocoxites 8 often partially or completely obscured by the last abdominal sternite; 4) gonocoxites 9 often emarginated; 5) laterotergites 9 subtriangular; 6) segment X of female relatively large; 7) pygophore somewhat produced posteriorly with distinct medial emargination which may be either narrow and parallel-sided or often becoming circular ventrally; and 8) pygophore usually with small emargination between lateral margins and superior ridge.

Rolston (1978) considered *Thoreyella* related to *Odmalea*, *Dendrocoris*, and *Brepholoxa* by the following characters: abdominal ventral spine present, bucculae lobate posteriorly, and segment I of rostrum inside bucculae. Rolston (1984) revised *Thoreyella*, and included it in a group of seven American genera, all of them with a ventral spine or tubercle anteriorly-projected at the base of the abdomen: *Aleixus*, *Brepholoxa*, *Dendrocoris*, *Odmalea*, *Rio* Kirkaldy, 1909, *Pseudobebaeus*, and *Thoreyella*. Rolston (1984) distinguished *Thoreyella* from *Odmalea* by several characters: juga contiguous distally, ostiolar rugae slightly curved, coria costal angle reaching little or not at all beyond scutellum, and frena just surpassing basal third of scutellum are