

***Valleriola pangantihoni* sp.n., a new species of
spiny-legged bugs (Hemiptera: Heteroptera: Leptopodidae)
from the southern Philippines**

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Abstract

Valleriola DISTANT, 1904 is the only genus of Leptopodidae recorded from the Philippines. The new species *Valleriola pangantihoni* sp.n. is distributed in the biogeographical subregion Greater Mindanao, in the south of the archipelago. It differs from congeners by the lack of spines on the ventrolateral head surface and on rostral segment 2.

Key words: Heteroptera, Leptopodidae, *Valleriola*, new species, Philippines, Leyte, Mindanao.

Zusammenfassung

Valleriola DISTANT, 1904 ist die einzige von den Philippinen bekannte Gattung der Leptopodidae (Steinläuferwanzen). Die neue Art *Valleriola pangantihoni* sp.n. ist in der biogeografischen Subregion Groß-Mindanao, im Süden des Archipels, verbreitet. Sie unterscheidet sich von anderen Spezies der Gattung durch das Fehlen von Dornen seitlich auf der Kopfunterseite und auf dem zweiten Rüsselglied.

Introduction

Leptopodidae are small, slender, long-legged predatory bugs, which are found in various terrestrial habitats. The fifteen species of *Valleriola* DISTANT, 1904 are distributed in the tropics and subtropics of the Eastern Hemisphere. *Valleriola* is the most common leptopodid genus in the Oriental Realm and the only one recorded from the Philippines (GAPUD 1986a, b). Presently, there are three *Valleriola* species described from this country: *Valleriola buenoi* USINGER, 1942, *V. mindorana* DRAKE, 1956, and *V. apoana* GAPUD, 1986. Like their congeners, they live on steep surfaces of large rocks along streams and rivers (BARROSO 1980, GAPUD 1986b).

The new species is exceptional, because it does not fully fit previous diagnoses of the genus. The lack of genus-characteristic socket-based spines on the ventrolateral head surface and on the rostrum is regarded as a reduction (see Discussion). Such morphological changes might be related to a predatory or feeding behaviour that differs from congeners. Preying and feeding was studied – under terrarium conditions – in *V. buenoi* and *V. mindorana* (BARROSO 1980).

Material and methods

This study is based on 14 dry-mounted specimens. They were examined with a Leica Wild M10 binocular microscope. Measurements were performed at magnifications from 20× up to 80× and are given in millimetres. They were taken from the holotype, but variation is given for body length, head width and pronotum width, and refers to all specimens. Measurements refer to the maximum length or width of the respective structure. Measurements of body length and width were taken in dorsal view of specimens; length includes wings.

The stacked digital image (Fig. 1) was taken with a Leica DFC450 camera attached to a Leica Z16APO optics carrier, using Leica Application Suite V3.8. Images were stacked with ZereneStacker 64-bit and processed with Adobe Photoshop 7.0. Drawings were produced with the help of a camera lucida attached to a Leica Wild M10 binocular microscope.

Taxonomy

Valleriola pangantihoni sp.n. (Figs. 1–6)



Fig. 1: *Valleriola pangantihoni* sp.n., female paratype, habitus, dorsal view. © NHMW Hemiptera Image Collection / H. Bruckner.

Type material. Holotype (male): Philippines, Mindanao Island, Zamboanga del Norte Province, Dapitan City, Opao, 28.X.2007, leg. C. V. Pangantihon, deposited in the National Museum of Natural History, Manila. Paratypes: 1 female, same collection data; 2 males, 3 females, Mindanao Island, Zamboanga del Norte Province, Dapitan City, Dampalan, 29.X.2007, leg. C. V. Pangantihon; 1 female from Mindanao, Zamboanga del Sur, 25 km NW of Pagadian, between Debok and Lourdes, Tubangan River, 11.III.1997, leg. H. Zettel; 3 males, 3 females, Leyte Island, Southern Leyte Province, E of Sogod, large stream, 19.XI.2003, leg. H. Zettel & C. V. Pangantihon; paratypes deposited in the Museum of Natural History, University of the Philippines, Los Baños, the Natural History Museum Vienna, and in the author's comparative collection.

Description. Size. A comparatively large species, slightly stouter than Philippine congeners. Body length, 5.7 (5.5–6.1); head width 1.29 (1.25–1.34); neck width 0.47; minimum distance of eyes (anteriorly) 0.31; pronotum width 1.42 (1.40–1.62); pronotal collar width 0.52; pronotum length 1.10; mesoscutellum width 0.56; mesoscutellum length 0.42; length of antennomeres 1–4: 0.41, 1.36, 2.75, 2.24. Length of leg segments: profemur 2.14, protibia 1.67, pro-tarsus 0.50 (0.17 + 0.28 + 0.17), mesofemur 2.40, mesotibia 2.31, mesotarsus 0.61 (0.14 + 0.31 + 0.20), metafemur 2.52, metatibia 3.46, metatarsus 0.69 (0.15 + 0.36 + 0.24).

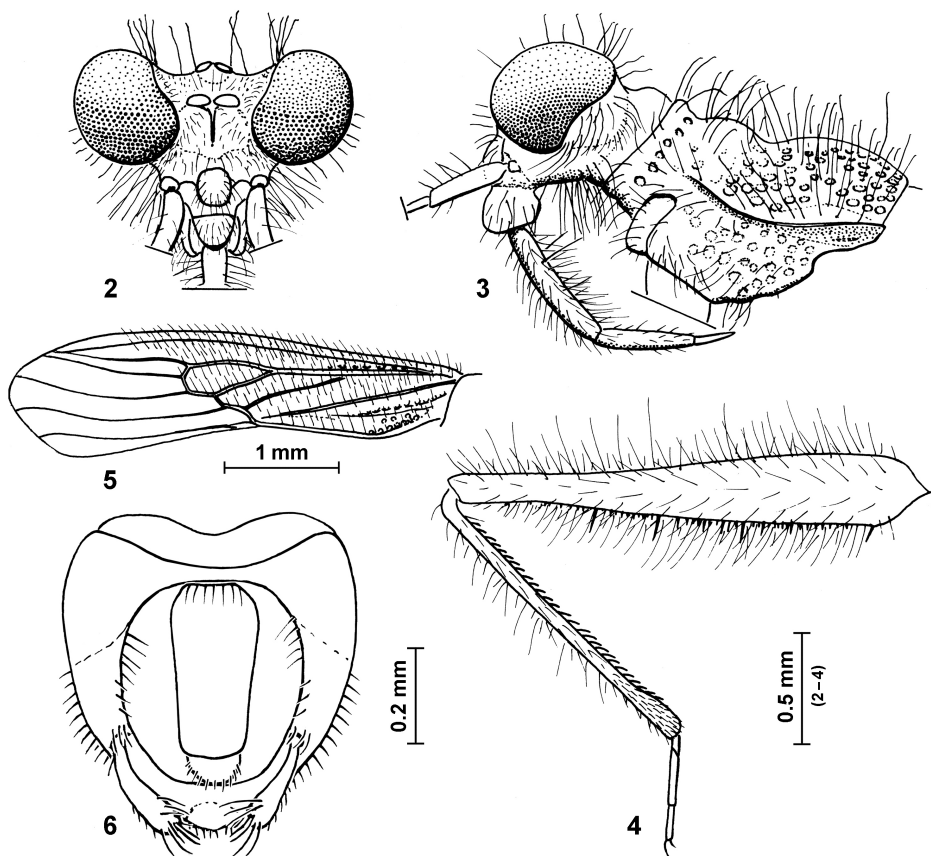


Fig. 2–6: *Valleriola pangantihoni* sp.n. (2) Head, frontal view. (3) Head and pronotum, lateral view. (4) Foreleg (femur, tibia, tarsus), anterior view. (5) Forewing, in situ. (6) Genital capsule of male, dorsal view.

Colour. Predominately black (Fig. 1). Yellowish (to orange) are: head in front of anterior eye margin, labrum, maxillary plates, ovate spot posterior of ocellar tubercle, base of rostrum, anterior margin of proacetabula, narrow line on posterior third of claval connexiva, a broad line along anterior five-sixths of costal margin, a stripe or spot in distal part of antennal segment 1, and, on legs, prothorax, flexor side of profemur, entire protibia and protarsus, stripes on the entire anterior face of meso- and metafemur, and short stripes on basal half of posterior face of meso- and metafemur. Prothorax, mesoscutellum, and several large spots on hemelytra greyish frosted.

Pilosity. Long and whitish setae on entire dorsal surface except membrane (Fig. 1), ventral surface of head, rostral segment 2 (Fig. 3), and legs (Fig. 4); long setae on dorsal surface (except forewing) and on legs of similar length, more than 0.2 mm long, erect, often with apical tenth to eighth bent posteriad; setae on ventral surface of head and on rostrum of similar length, but mostly straight or slightly curved; rostral segment 2 posterolaterally with two pairs of slightly stouter white setae (difficult to distinguish from other setae); venter with much shorter setae and with very short decumbent pilosity. Pilosity of hemelytron in basal part dense (Fig. 5).

Structures. Head (Figs. 2, 3) with distinct neck, without stout spines or setae. Eyes very large. Head width ca. 0.9 times pronotum width and ca. 2.5 times width of cephalic collar. Minimum distance of eyes (anteriorly) about one fourth of head width. Ocelli located on a protuberance, almost touching each other. Rostrum reaching backwards to posterior margin of procoxa, without spine sockets; second labial segment about one third longer than segment 3; segment 4 shortest. Antenna (Fig. 1) very long and slender, as typical for the genus; antennomere 1 shortest, antennomere 3 longest.

Pronotum (Fig. 1) spineless, broad, distinctly wider than head, about one third wider than median pronotal length; sides in front of humeri evenly narrowed cephalad. Pronotal collar about two fifths of maximum pronotum width, posteriorly well separated by a transverse groove. Calli weakly elevated, roundish, shallowly separated from each other at midline, but separated from pronotal disc by a transverse groove. Disc with large, deep punctures. Lateral margins sharp, not expanded. Sides of prothorax with shallow punctures. Proacetabulum without stout spine or seta (Fig. 3). Mesoscutellum (externally visible part) triangular, about one third wider than long, basally with deep half-ovate impression and a pair of short teeth at sides.

Leg structures similar as in other species of the genus. Foreleg (Fig. 4) stoutest, raptorial; hind leg longest. Profemur 6.7 times as long as maximum width at base (excluding spines), on flexor side with two rows of short spines, with several slightly longer spines among them. Protibia with a single row of ca. 30 densely set, black, obliquely directed, straight spines, apically widened, long setae only at extensor side. Meso- and metafemur slender. First tarsomeres of all legs ventrally surpassing base of tarsomeres 2, without trichobothria.

Hemelytron (Fig. 5) without spines, with punctures in a double row on clavus until apex of mesoscutellum, and in a single, slightly longer row on costal lobe, radial cell larger than radius sector cell, radius sector basally incomplete; membrane with four closed cells, costal fracture absent; hind wing and stridulatory apparatus not examined.

Abdominal spiracles situated dorsally on laterotergites.

Genitalia (Fig. 6). Pygophore broad, hardly longer than wide, apically slightly protruded and distinctly upcurved; dorsal opening large; posterior margin rounded. Proctiger very narrow, including tergite 10 almost three times as long as wide. Paramere slender, club-shaped, without apical hook, with several long apical setae.

Comparative notes and discussion. *Valleriola pangantihoni* sp.n. is characterized by a strong reduction of spines. In fact, it is the only species of Leptopodidae lacking spines on head, rostrum, pronotum, and hemelytra. However, there seems little doubt about its generic placement. Following the systematical analysis of the Leptopodomorpha (SCHUH & POLHEMUS 1980; see also SCHUH & SLATER 1995), it belongs to the tribus Leptopodini. Using the key to the world genera by POLHEMUS & POLHEMUS (1991), *V. pangantihoni* sp.n. cannot be sorted properly in couplet 1, because of the total absence of rostral spines on sockets, whereas other key characters show that it belongs to *Valleriola* or *Erianotoides* POLHEMUS & POLHEMUS, 1991. These two genera share similar antennae and a characteristic row of dense black spines along the entire length of the protibia, which serves as an important synapomorphic character. Furthermore, they occupy similar habitats, i. e., vertical surfaces of rocks close to aquatic localities. *Erianotoides*, described from a single species from a grotto in Madagascar, is defined by three apomorphic characters: the pattern of foretibial spines, the isolated row of spines on the posterior pronotal lobe, and the tall, slender ocellar tubercle (POLHEMUS & POLHEMUS 1991). There is so far no autapomorphic character

known for *Valleriola*. Because of its high morphological diversity and its wide distribution in tropical, subtropical, and warm-temperate zones of the Eastern Hemisphere, *Valleriola* is assumed to be an old branch of Leptopodini. Subsequently, the absence of stout spines in *V. pangantihoni* sp.n. is probably due to reduction. The generic diagnosis of *Valleriola* needs to be expanded accordingly.

Distribution. Probably endemic to the biogeographical subregion Greater Mindanao of the Philippines. Recorded from Mindanao (Zamboanga del Norte and Zamboanga del Sur Provinces) and Leyte (Southern Leyte Province).

Habitat. Collected from dry, sun-exposed rock faces close to streams.

Etymology. The new species is dedicated to Clister V. Pangantihon.

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