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First record of *Paranisops* HALE, 1924 (Insecta: Heteroptera: Notonectidae) from Southeast Asia, with description of *P. leucopardalos* sp.n.

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Abstract

Paranisops leucopardalos sp.n. from Thailand, the first species of *Paranisops* to be found outside Australia, is described and compared to the other two species of the genus.

Key words: Heteroptera, Notonectidae, Anisopinae, *Paranisops*, new species, Thailand, identification.

Zusammenfassung

Paranisops leucopardalos sp.n. aus Thailand, die erste *Paranisops*-Art, die außerhalb Australiens gefunden worden ist, wird beschrieben und mit den anderen beiden Arten der Gattung verglichen.

Introduction

The genus *Paranisops* was erected by HALE (1924) for one species, *P. inconstans* HALE, 1924 and *P. inconstans* var. *lutea* HALE, 1924. The typical *P. inconstans* is the dark macropterous form, whereas the var. *lutea* is the pale flightless form, which in this species is much more common. HALE (1924) remarked that *Anisops endymion* KIRKALDY (1904) probably belonged to *Paranisops*. LANSBURY (1964) revised the genus confirming that *Anisops endymion* is indeed a *Paranisops*. Up till now only these two species are known. They are both restricted to Australia. *Paranisops inconstans* occurs along most of the eastern coast, whereas *P. endymion* seems to be restricted to south-west Australia (Lansbury, pers. comm.). Except for being keyed out in keys to genera of Notonectidae, *Paranisops* is rarely referred to in the literature. So the discovery of a new species from Thailand is a surprise showing that our knowledge on species of Nepomorpha and their distribution in Southeast Asia is still quite incomplete.

Material and methods

Measurements are in millimetres and represent the mean of all five specimens, in some cases followed by the standard deviation of sample (s). Some dimensions of the holotype are given between brackets {} behind the respective measurement. The length of the claw of the hind leg has been incorporated in the length of the second tarsal segment.

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Specimens are deposited in the Natural History Museum at Vienna, Austria (NHMW) and the Nieser Collection, Tiel, The Netherlands (NCTN).

Paranisops HALE, 1924

Notes: The genus *Paranisops* belongs to the subfamily Anisopinae of the family Notonectidae of the heteropteran infraorder Nepomorpha (true aquatic bugs). Anisopinae are characterized by a hairlined pit at the anterior end of the hemielytral commissure. Within this subfamily, the genus is characterized by the coxal plates of the hind legs (= ventral metepisternal lobes) which are covered by long black hairs (coxal plates bare in other genera). In addition, the last abdominal sternite (genital operculum) is flat or slightly convex (in other genera usually carinate, but convex in *Walambiopsis* LANSBURY, 1984), and males lack stridular teeth or pegs on the fore tibia (Fig. 4) which are present in the other genera. The males of most species of Anisopinae have a pair of lateral outgrowths on the third rostral segment called the rostral prongs. These are lacking in *Paranisops* (Fig. 2). For a key to Old World genera of Notonectidae see NIESER (1998).

Paranisops leukopardalos sp.n. (Figs. 1 - 7)

Type material: Holotype (macropterous male): "E-THAILAND: Mukdahan [province] \ Phu Pha Thoep N[atational] P[ark] \ 31.12.1999 \ leg. P. Mazzoldi (22)" (NHMW); **paratypes:** 4 ♂♂ (macropterous), same label data as holotype (1 ♂ NCTN, 3 ♂♂ NHMW).

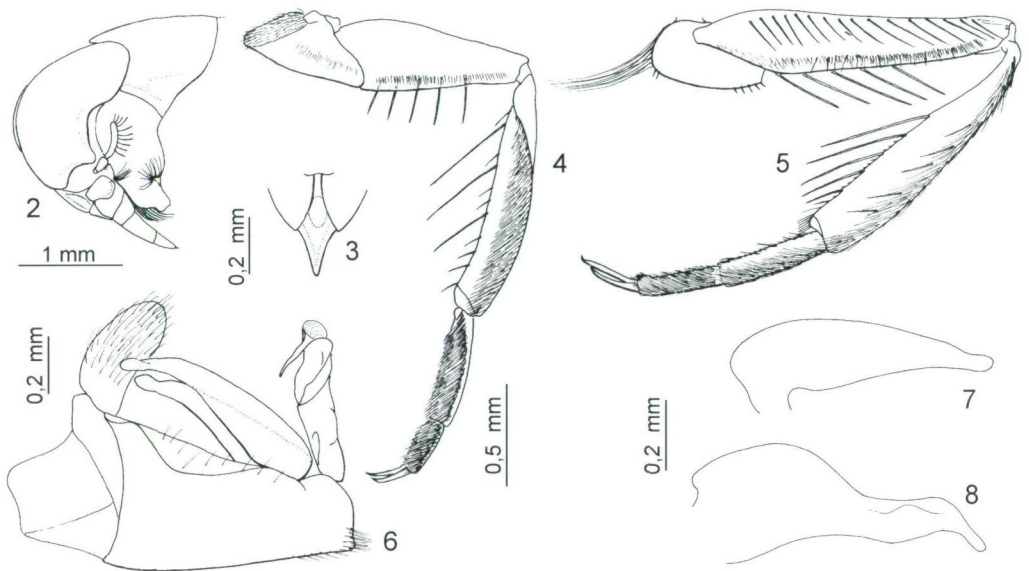
Description of macropterous male: Dimensions: body length 6.56, s 0.10 {6.50}; width of head 1.61, s 0.02 {1.61}; humeral width of pronotum 1.94, s 0.02 {1.95}; blackish, narrowly fusiform species with greatest width across humeral angles of pronotum.

Colour (Fig. 1): Frons, vertex, pronotum, and legs brownish yellow; leg segments at margins and tips variably infuscated; central part of tylus, labrum, and third and fourth rostral segments shiny black; eyes light castaneous; scutellum, clavus, and membrane blackish brown to velvety black; margins of hairlined pit at base of clavus light brown; right membrane pale along folding line and apical margin; corium blackish with costal margin and large trapeziform mark occupying most of the basal two thirds of corium pale; meso- and metasternum centrally light brown, lateral quarters of mesosternum and coxal plates of hind legs black; abdominal venter black except ventral rim of median carina and connexiva being pale yellow.

Structural characteristics: Viewed from above, anterior margin of head truncate with lateral margins of vertex indented; vertex very slightly converging posteriorly except at posterior margin, where narrowing suddenly; anterior width of vertex 0.31; synthlipsis 0.18; tylus simple, somewhat swollen, frons with broad median carina splitting on vertex in two, posteriorly diverging, carinae. Median length of head 0.7 times median length of pronotum (0.83 : 1.21); basal width of labrum 1.3 times its median length (0.28 : 0.22), its apex rounded; pronotum anteriorly with median projection, lateral margins divergent posteriorly, very slightly concave, their length half the median length of pronotum (0.6 : 1.2); posterior margin in front of scutellum virtually straight; dorsal surface of pronotum



Fig. 1: *Paranisops leukopardalos* sp.n. paratype male, habitus, dorsal view.



Figs. 2 - 8: (2 - 7) *Paranisops leukopardalos* sp.n. paratype male: (2) head and prothorax, lateral view; (3) metasternal xiphus; (4) fore leg, inner view; (5) middle leg, inner view; (6) genital capsule; (7) right paramere; (8) *P. inconstans*, male, right paramere.

tum smoothly convex with a poorly developed median carina in anterior half, humeral width 1.6 times median length (1.94 : 1.21); scutellum 1.5 times as wide at base as median length (1.5 : 1.0), lateral margins sinuate; metasternal xiphus with comparatively long and slender apical part separated from the base by small indentations in the lateral margins (Fig. 3); fore tibia without spatulate processes or spines (Fig. 4); middle leg as in Figure 5; parameres slightly asymmetrical (Fig. 6), narrow part of apex in left paramere longer than in right paramere (Fig. 7).

Length of leg segments:

Leg	femur	tibia	tarsus 1	tarsus 2	claw
Fore leg	1.14	1.19	0.57	0.29	0.22
Middle leg	1.53	1.29	0.50	0.40	0.30
Hind leg	2.07	1.91	0.93	0.75	—

Female and brachypterous form: unknown.

Etymology: *Leukopardalos*, greek adjective meaning spotted with white, referring to the characteristic white patch on the corium.

Comparative notes: *Paranisops endymion* is distinctly larger than *P. leukopardalos* sp.n., with body length 7.5 mm or more in the brachypterous form, and 8 mm or more in the macropterous form. Its greatest width is across the hemielytral pit, whereas in the other species the humeral width of the pronotum is the greatest width, at least in the macropterous form. In addition, the male has symmetrical parameres and the female has the posterior lateral angles in lateral view produced as a prominent raised nodule (LANSBURY 1964).

Paranisops inconstans is about the same size as *P. leucopardalos* sp.n.: length 6.5 - 7.0 mm. According to LANSBURY (1964) the humeral width of the pronotum of the macropterous form is nearly twice its median length, whereas in *P. leucopardalos* sp.n. the width is only 1.6 times the median length. In addition, the metasternal xiphus of *P. inconstans* lacks the indentations at the base of the apical part. Males have distinctly asymmetrical parameres, the right paramere (Fig. 8) is distinctly different from that of *P. leucopardalos* sp.n. (Fig. 7).

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