P O L S K I E P I S M O E N T O M O L O G I C Z N E
P O L I S H J O U R N A L O F E N T O M O L O G Y

VOL. **75**: 219–226 Bydgoszcz 30 June 2006

Two new species of the monobasic genus *Chlonocoris* USINGER et MATSUDA, 1959 from Madagascar (Heteroptera: Aradidae)

ERNST HEISS *

Research Entomologist, Tiroler Landesmuseum, Josef-Schraffl-Straße 2a,
A-6020 Innsbruck, Austria; e-mail: aradus@aon.at

ABSTRACT. Since 1898 only two specimens of this curious genus were collected, on which the monobasic genus *Chlonocoris* and its type species *multispinosus* described in 1959, was based. A century later new material could be collected, containing two new species which are described and figured below as *Chlonocoris dolinorum* sp. n. and *bifurcatus* sp. n.

KEY WORDS: Heteroptera, Aradidae, Mezirinae, apterous, *Chlonocoris*, new species, Madagascar.

INTRODUCTION

When USINGER & MATSUDA (1959) erected the new genus *Chlonocoris* for a single female specimen from the Paris Museum collected in 1898 on the island Sainte-Marie (= Nosy Boraha) off the north-eastern coast of Madagascar, they stated (p. 209): " *Chlonocoris* is by far the most bizarre of all Aradidae thus far described. It has no known close relatives and is remarkable in that the scutellum is distinct although the insect seems clearly to be totally apterous. The scent glands are unique within the family and no other Aradid has such amazing spines and branches to spines."

In the same year KIRITSHENKO described *Pandinocoris milleri* gen. n., sp. n., based on another single female from Madagascar, Tanovana 630 m, collected in 1934 (KIRITSHENKO 1959). Later, *Pandinocoris* was synonymised in 1960 by KORMILEV with *Chlonocoris* and *milleri* by HOBERLANDT (1963) with *multispinosus*; as they referred to the same taxon, USINGER's name having priority.

These were the only records and no more specimens came to light since, although this species is with 17.5 mm the largest Aradidae of the Madagascan fauna and cannot be overlooked.

Nearly a century later, in 1995, I collected a single specimen in a mainland rainforest undoubtedly belonging to the same genus but showing some differences to the described taxon. After examination of the holotype of *multispinosus* and receiving a small series of another taxon, it was evident that there are two new species involved which are described and figured below. Measurements are given in millimeter.

⋆ I dedicate this paper Professor JAN KOTEJA, commemorating the eminent Polish paläoentomologist.

Acknowledgments

I thank Dr. VLADIMIR DOLIN and Mrs. RIMMA ANDREEVA (Kiev) for providing their Madagascan Aradidae for my studies and Dr. DOMINIQUE PLUOT-SIGWALT (Mus. Hist. Nat. Paris) for her assistance in searching Aradidae types. My due thanks are also to Dr. JACEK GORCZYCA for inviting me to contribute to this special volume.

SYSTEMATICS

Genus *Chlonocoris* USINGER et MATSUDA, 1959

Type species: *Chlonocoris multispinus* USINGER et MATSUDA, 1959.

Pandinocoris KIRITCHENKO, 1959
Type species: *Pandinocoris milleri* KIRITCHENKO, 1959.

Chlonocoris dolinorum sp. n.

(Figs 2, 4, 6, 7, 10, 11)

Holotype: male, Madagascar, Mananara Varezy Nat. Res., 4 XII 2004 R. Dolin leg.; Paratypes 3 females collected with the holotype. In the authors collection.

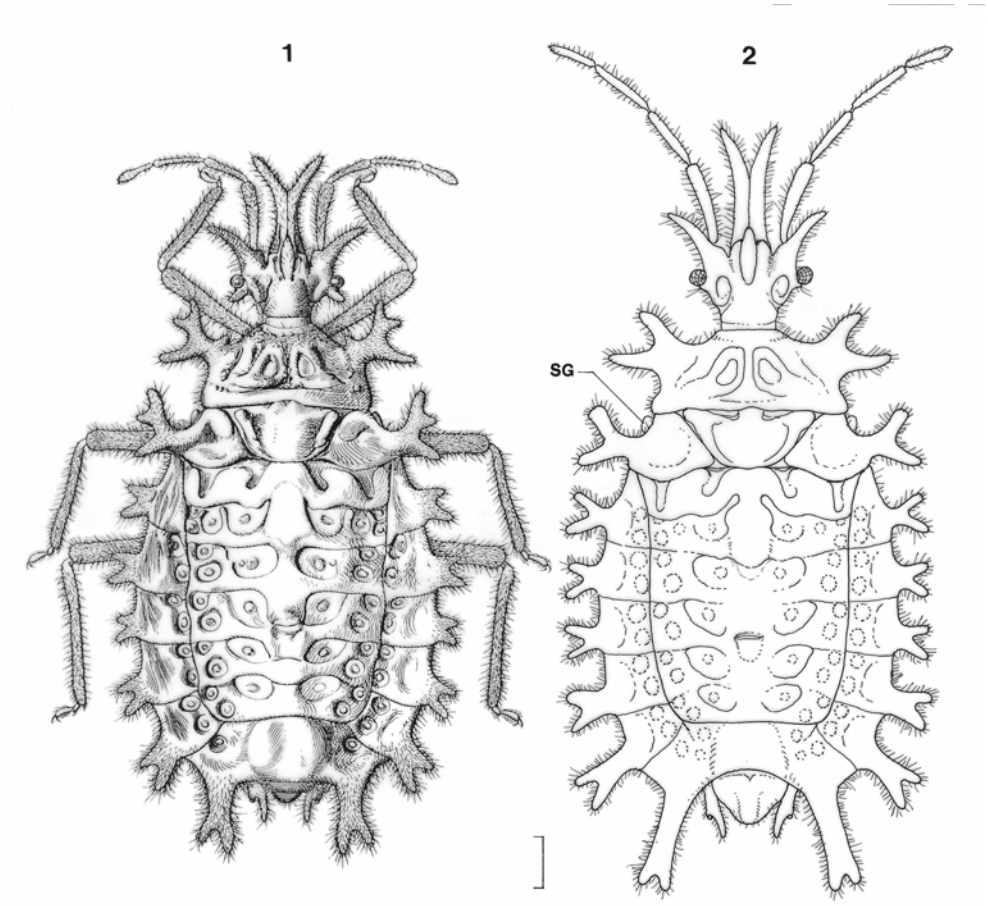
Diagnosis

Largest species of the genus which is distinguished from both other species by the lack of postocular spines and the bifurcate lateral projections of pro- and mesonotum. The mesonotal lateral "spines" are threefurcate in *multispinosus* and *bifurcatus* sp. n., however the pronotal one is only bifurcate and of different structure in *bifurcatus* sp. n. (Figs 3, 4, 5).

Description

Apterous male. Colour dark blackish brown; apex of antennal segment IV and median elevation of fused tergites I+II ferrugineous. Body and appendages with erect pilosity which is longer and more dense on legs, antennae and lateral expansions.

H e a d . Distinctly longer than wide across eyes; anterior process long, contiguous in front of clypeus, then diverging anteriorly; antenniferous spines long and curved; eyes small, globular; postocular spines very small, adherent; postocular lateral margin sinuate, converging towards collar. Antennae 2.18 times as long as width of head across eyes, segment I longest and thickest, II slightly longer than III which is peduncular at base, IV shortest. Rostral atrium closed, rostrum short not reaching posterior margin of head.



Figs 1–2. 1 - *Chlonocoris multispinosus*, female holotype (after USINGER & MATSUDA 1959), 2 - *Chlonocoris dolinorum* sp. n., male holotype. Abbreviation: SG = dorsally visible metapleural scent gland canal. Scale 1mm.

P r o n o t u m . Collar not well defined, anterior margin straight; lateral margins converging anteriorly with a large bifurcate lateral expansion; disk with a pair of smooth

callosities surrounded by elevated carinae which are separated medially by a deep groove which is connected with a transverse triangular depression posteriorly.

Scutellum. About twice as wide as long, widely rounded posteriorly; disk roundedly elevated at middle, depressed along carinate lateral margins.

Mesonotum. Formed by two sclerites bearing large bifurcate lateral expansions as the pronotum.

Metanotum. Fused to first abdominal segments and medially with subsequent tergites; two longitudinal depressions on each side mark the apodemal impressions. The metapleural scent gland canal is surrounded by a large ovate evaporation structure which is visible from above in front of mesonotal lateral expansions (Fig. 7).

Abdomen. Tergal plate with an anterior median oval elevation extending to tergite III and a lower one around the dorsal scent gland; disk with shallow depressions following the apodemal pattern; dorsal laterotergites (= connexivum, abbrev. dltg) II – VII with large bifurcate posterolateral expansions, which increase in length on dltg VI and are longest on dltg VII. Paratergites VIII small and slender bearing laterally the spiracles VIII; spiracles II – VII ventral and remote from lateral margin.

Pygophore narrowly rounded posteriorly with a median longitudinal elevation. The single male has not been dissected for the study of genital structures. Legs long and slender, femora and tibiae cylindrical.

Female. Basically as the male but is of larger size: paratergites VIII long and slender, recessed on lateral margin where spiracles VIII are placed; sternite IX rounded posteriorly and visible from above.

Measurements

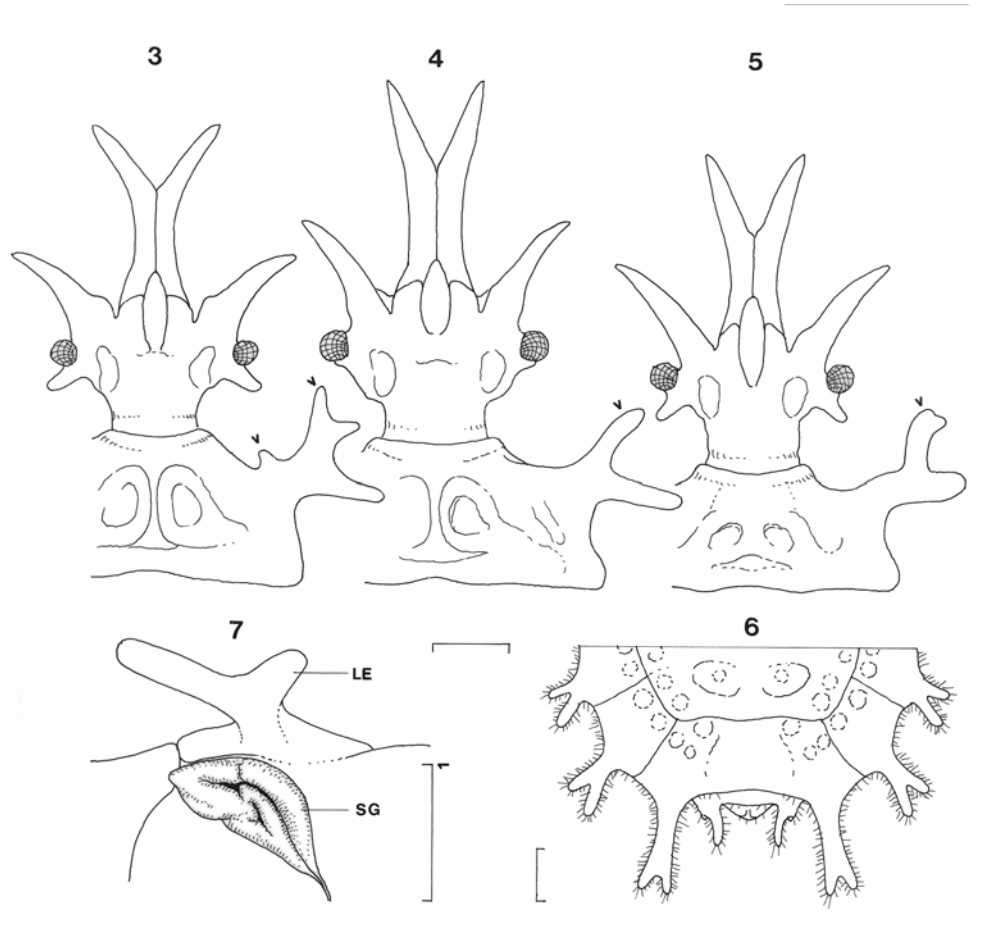
Holotype male. Length including posterior expansions of dltg VII 18.1 mm; head length / width 4.4 / 2.7 mm; antennal segments I:II:III:IV = 1.9:1.4:1.5:1.1 mm; pronotum l / w 1.7 / 6.0 mm; scutellum l / w 1.3 / 3.0 mm; width of abdomen without lateral expansions 6.4 mm. Paratypes female. Lenth 18.9, 19.0, 19.3 mm; ratio length of antennae / width of head across eyes 2.10 – 2.24; width of abdomen 7.8, 7.8, 8.1 mm.

Etymology

This oustanding discovery is dedicated to Prof. VLADIMIR DOLIN (late 2004) and his wife Rimma who collected these and other interesting Aradidae for me.

Distribution

The type locality is on the forested north-eastern coast of mainland Madagascar; due to its limited distribution range this apterous species is most likely endemic.



Figs 3–7. 3 - head and pronotum of *Chlonocoris multispinosus* (pilosity omitted); 4 - *idem* of *Chlonocoris dolinorum* sp. n.; 5 - *idem* of *Chlonocoris bifurcatus* sp. n.; 6 - *Chlonocoris dolinorum* sp. n. terminal abdominal segments of female; 7 - *idem*, metapleural scent gland canal, lateral view. Abbreviations: LE = lateral expansion of mesonotum; SG = scent gland canal structure, lateral view. Scale 1 mm.

***Chlonocoris bifurcatus* sp. n.**

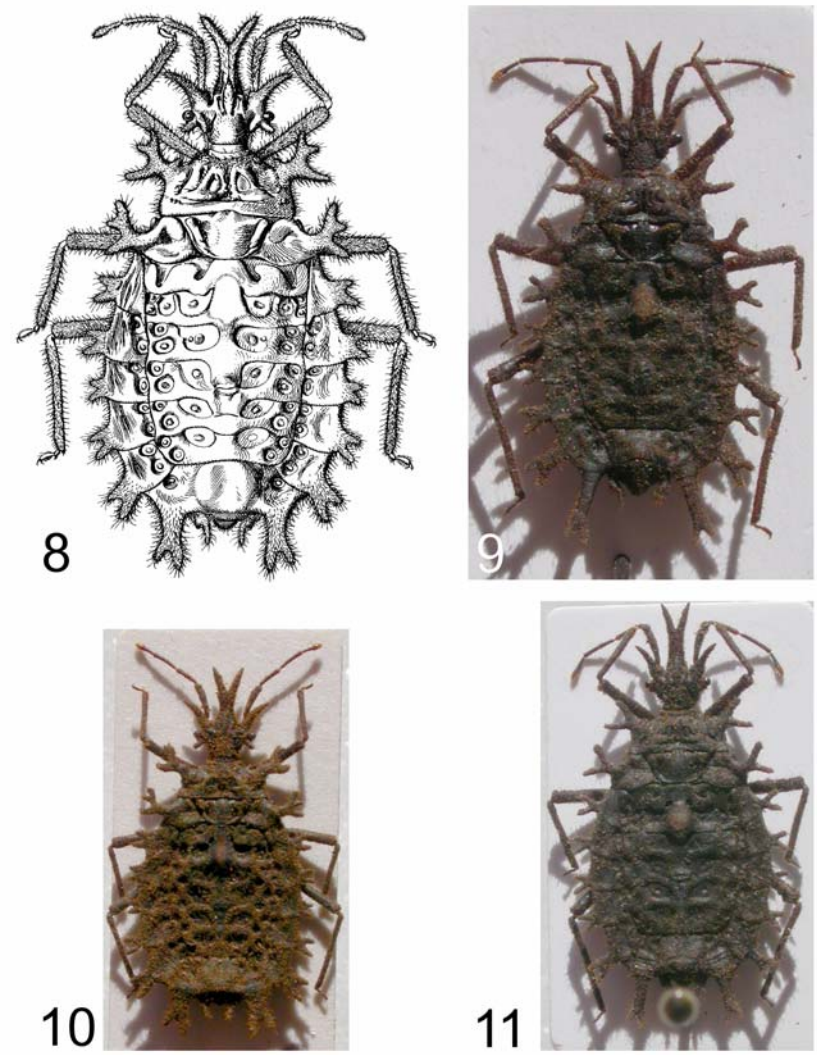
(Figs 5, 9)

Material

Holotype. Apterous female. Madagascar, Maromizah S Andasibe 22 X 1995 E. Heiss leg. In the collection of the author.

Diagnosis

Closest related to *multispinosus*, sharing the threefurcate lateral expansions of mesonotum and long postocular spines. It is however distinguished by the bifurcate lateral expansion of the pronotum, the elevated and not longitudinally sulcate disk of pronotum and the smaller size (16.3 / 17.5 mm).



Figs 8–11. 8 - *Chlonocoris multispinosus*, holotype female; 9 - *Chlonocoris bifurcatus* sp. n., holotype female; 10 - *Chlonocoris dolinorum* sp. n., holotype male; 11 - *idem*, paratype female.

Description

As the main characters are equal to those described for *dolinorum* sp. n., only the distinguishing features are added here. Colour more reddish brown.

Head. Distinctly longer than wide; antennae shorter, 1.82 times as long as width of head; postocular spines well developed and directed poterolaterad but not exceeding the outer margin of the eyes.

Pronotum. Anterolateral expansion bifurcate with a smaller laterally expanding branch and a longer one directed anteriorly, which is slightly incised at apex, Disk elevated medially with a pair of ovate depressions followed by a deep transversal groove posteriorly. Scutellum and mesonotum as in *dolinorum* sp. n., the lateral expansion is however threefurcate as in *multispinosus*.

Abdomen. Dltg II – VII bearing bifurcate lateral expansions; paratergites VIII and sternite IX as in other species.

Measurements

Length including posterior expansions 16.3 mm; head l / w 2.75 / 4.3 mm; antennal segments I : II : III : IV = 1.7 : 1.1 : 1.2 : 1.0 mm; pronotum l / w 1.5 / 5.8 mm; scutellum l / w 1.2 / 3.0 mm; width of abdomen without lateral expansions 7.0 mm.

Etymology

Named after the characteristic bifurcate lateral pronotal expansion.

Distribution

The type locality is a relatively untouched rainforest south of Andasibe (=Perinet) where it was found on the underside of a log laying on the humid ground.

Key to the species of *Chlonocoris*

1. Lateral expansions of pronotum and mesonotum threefurcate, postocular spines distinctly developed, medium sized species 17.5 - 18 mm. Nosy Boraha, Tanovana only females known ..... *multispinosus* USINGER et MATSUDA
–. Lateral expansions of pronotum bifurcate 2
2. Only lateral expansion of mesonotum threefurcate, postocular spines long and distinct, smaller species 16.3 mm, Maromizah S Andasibe, female ..... *bifurcatus* sp. n.
–. All lateral expansions bifurcate, postocular spines absent, larger species 18.1 - 19.3 mm, Mananara Varezy Nat. Res. ..... *dolinorum* sp. n.

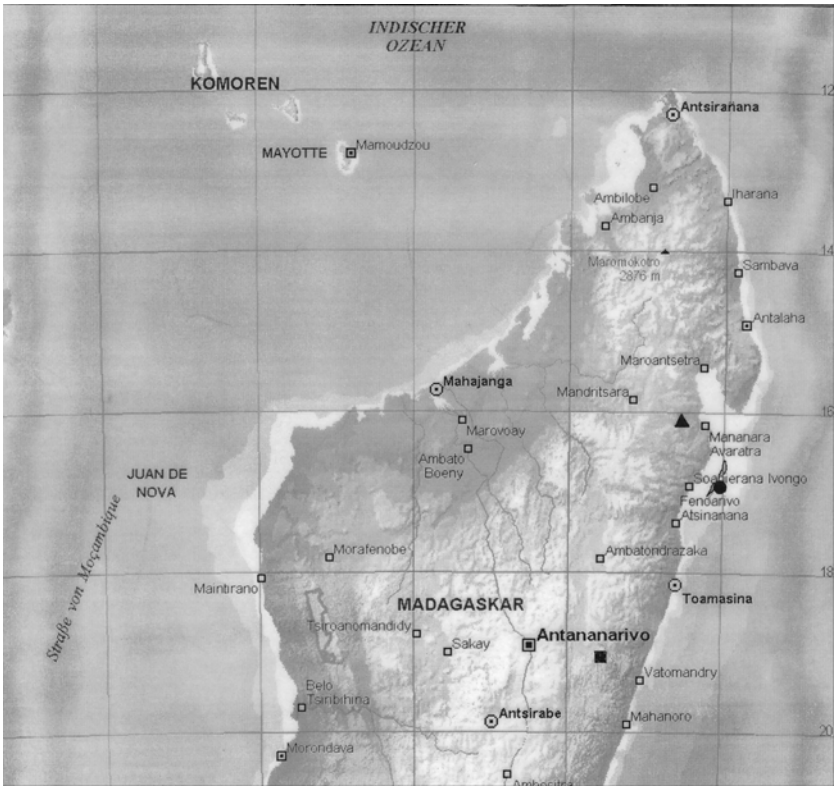


Fig. 12. Map of Northern Madagascar. Distribution of *Chlonocoris*: ● = *multispinosus*, ▲ = *dolinorum* sp. n.; ■ = *bifurcatus* sp. n. The second locality for *multispinosus* (Tanovana) could not be located.

REFERENCES

HOBERLANDT L. 1963. Additional Notes on Aradidae (Heteroptera) from Madagascar and Adjacent Islands. Acta Entomologica Musei Nationalis Pragae **35**: 127–170.

KIRITSHENKO A.N. 1959. New and little known Brachyrhynchidae (Hemiptera – Heteroptera) Revue d'Entomologie de l' URSS **38**(1): 179–195. [In Russian].

KORMILEV N.A. 1960. Notes on Aradidae from the Eastern Hemisphere XVI. Proceedings of the Entomological Society of Washington **62**: 106–107.

KORMILEV N.A., FROESCHNER R.C. 1987. Flat Bugs of the World. A synonymic list (Heteroptera: Aradidae). Entomography **5**: 1–246.

USINGER R.L., MATSUDA R. 1959. Classification of the Aradidae. British Museum London, 410 pp.

Received: November 5, 2005
Accepted: March 29, 2006