

Studies of Tiger Beetles. CXLVIII.

A few more data from New Guinea (Coleoptera: Cicindelidae)

by Fabio CASSOLA

Abstract

Eleven tiger beetle species are here examined which were collected in New Guinea — both in Papua New Guinea (PNG) and in the Indonesian province of Irian Jaya — during several missions of the Royal Belgian Institute of Natural Sciences (RBINS). One single female specimen of a recently described species (*Polyrhaxis holgeri* Schüle, 1998) represents the first known re-capture of this species and a second interesting locality for the species.

Résumé

Les onze espèces de Cicindélides qui sont étudiées ici ont été recueillies lors de plusieurs missions menées en Nouvelle Guinée — en Papouasie ainsi que dans la province indonésienne d'Irian Jaya — par l'Institut Royal des Sciences Naturelles de Belgique (IRSNB). Une femelle d'une espèce tout récemment décrite (*Polyrhaxis holgeri* Schüle, 1998) représente la première recapture connue et une deuxième localité pour l'espèce.

Introduction

The tiger beetle fauna of New Guinea and surrounding islands is still probably not entirely known, due to the huge size of the area, its complex geography, and lack of appropriate specialized field research. What is presently known indicates such a fauna to be outstandingly interesting and rich, with an unusually high rate of endemic elements (CASSOLA, 1987a, b, 1989, 1990; HORNABROOK, 1988; PEARSON & CASSOLA, 1992; CASSOLA & WERNER, 1996 a,b, 1998, 2001; SCHÜLE, 1998; WIESNER, 1999, 2000; CASSOLA & PEARSON 2000). In my present up-to-dated reckoning, the New Guinea tiger beetle fauna (thus including both the Indonesian province of Irian Jaya and Papua New Guinea) sums up to 111 species, 94 (84.6%) of which are endemic to the area.

Thanks to the courtesy of Mr. Alain Drumont (Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium), I recently had the opportunity of examining the tiger beetle specimens collected in New Guinea — both in Papua New Guinea (PNG) and in the Indonesian province of Irian Jaya — during several field research missions of the above mentioned Institute (RBINS), carried out by Patrick Grootaert (in May-June 1982 and April 1997) and Olivier Missa (in March-June 1993, July 1995 and April-June 1996). Such materials provide a few additional data which are well worthy to be duly recorded below.

List of species

1. *Tricondyla (Tricondyla) aptera* ssp. *aptera* (OLIVIER, 1790)

MATERIAL: PNG, Madang province: Baiteta (5°01S-145°45E), 29.III.93, O. Missa, Canopy mission PNG, 1 ♂; FOG MG, 18.V.93, O. Missa, Canopy mission, 1 ♂; FOG T2-17, 24.VI.93, O. Missa, Canopy mission, 1 ♂.

The arboreal *Tricondylina* subtribe, a difficult tiger beetle group indeed, is recently been the subject of a much welcomed review by NAVIAUX (2002). The long-known, widespread *T. aptera* species, previously thought to inhabit the whole area extending from the Moluccas to the Solomon Islands and to the York peninsula of northern Queensland (CASSOLA, 1987a, b), was considered by NAVIAUX (2002) to include the Philippine forms as well (ssp. *punctipennis* Chevrolat, 1841), and moreover he described a new subspecies (ssp. *robusta* Naviaux, 2002) from New Ireland (PNG) and the Solomons (Bougainville, Florida, Shortlands Is., Malaita and Isabel islands). However, curiously enough, NAVIAUX (2002) has considered ssp. *pedestris* Klug, 1834, originally described from Java, as inhabiting the same areas of *aptera* ssp. *aptera* (Moluccas and New Guinea) and *aptera* ssp. *robusta* (Solomons), a statement which appears to be far from being satisfactory.

2. *Therates labiatus* (FABRICIUS, 1801)

MATERIAL: - PNG, Madang province: Awar bush, st. 1073, 11.V.82, P. Grootaert, 1 ♂. Condor P.-Boroi, 1084 st., 17.V.82, secondary forest, P. Grootaert, 3 ♂♂. Mandy passage, 10.VI.82, P. Grootaert, 1 ♂.

This widespread species is known from New Guinea, the Solomons, the Moluccas and several other Indonesian islands (CASSOLA, 1987a, b). As to the closely allied Philippine forms, usually grouped around *Th. coracinus* Erichson, 1834, they include three, possibly four distinct species (WIESNER, 1980, 1988).

3. *Therates basalis* DEJEAN, 1826

MATERIAL - PNG, Madang province: Baiteta, 6.VI.95, hand, O. Missa, Canopy mission, 1 ♀; 20.VI.95, hand, O. Missa, Canopy mission, 1 ♀.

This widespread species is known from mainland New Guinea, several surrounding islands, and moreover the Solomon Islands (CASSOLA, 1987a, b). It had already been recorded from

several localities of the Madang province in Papua New Guinea (CASSOLA, 1987a).

4. *Therates rotschildi* W. HORN, 1896

MATERIAL - PNG, Madang province: Baiteta, FOG T1-1, 19.III.93, O. Missa, Canopy mission, 1 ♂; FOG XF, 10.VI.93, O. Missa, Canopy mission, 2 ♀♀.

This small New Guinea endemic species, closely allied to *Th. festivus* Boisduval, 1835. and *Th. pseudorotschildi* Mandl & Pearson, 1978, both of which also occur in New Guinea, had already been recorded from the Madang province of Papua New Guinea (CASSOLA, 1987a).

5. *Calomera durvillei* (OLIVIER, 1790)

MATERIAL - Irian Jaya, Paniai district: Nabire, Siritwini river, IV.97, P. Grootaert, 1 ♀; Unipo, S of Nabire, alt. 250 m, 3°32'13S-135°56'55E, 26.IV.97, P. Grootaert, 1 ♂ 2 ♀♀; Gamey Hills-Unipo, km 80 from Nabire, Idoyaga River, Station 97047, 26.IV.97, P. Grootaert, 2 ♂♂. PNG, Madang: Baiteta, 2.IV.93, O. Missa, Canopy mission PNG, 1 ♂; Light AR19, 28.IV.96, O. Missa, Canopy mission, 1 ♀; Light XG, 29.IV.96, O. Missa, Canopy mission, 1 ♂; Light M2, 30.IV.96, O. Missa, Canopy mission, 1 ♂; Light trap AR7, 22.V.96, O. Missa, Canopy mission, 1 ♂; Light AR50, 18.VI.96, O. Missa, Canopy mission, 1 ♂; Light XG, 10.VII.96, O. Missa, Canopy mission, 1 ♂; Light trap AR8, 17.VII.96, O. Missa, Canopy mission, 1 ♀.

This New Guinea endemic and common species, closely related to *C. decemguttata* (Fabricius) from Moluccas and several other Indonesian islands, was formally raised to full specific status by CASSOLA & WERNER (2001).

6. *Cylindera (Ifasina) f. froggatti* (MACLEAY, 1887)

MATERIAL - PNG, Madang province: Baiteta, Light AR9, 17.IV.96, O. Missa, Canopy mission, 1 ♀; Light AR8, 22.IV.96, O. Missa, Canopy mission, 1 ♂; Light AR52, 20.V.96, O. Missa, Canopy mission, 1 ♀; Light AR8, 11.VII.96, O. Missa, Canopy mission, 1 ♂.

This species, a close relative of *C. (I.) discreta* (Schaum) from Sulawesi, is presently known to occur in both Irian Jaya and Papua New Guinea and moreover in northern Australia (FREITAG, 1979, sub *Cicindela discreta* Schaum, 1863; CASSOLA, 1987a; WIESNER, 1999; CASSOLA & WERNER, 2001).

7. *Polyrhaxis barbata* (W. HORN, 1895)

MATERIAL - PNG, Madang province: Baiteta, Light AR 27, 2.VII.95, O. Missa, Canopy mission, 1 ♂; Light AR14, 18.IV.96, O. Missa, Canopy mission, 1 ♂; Light AR14,

4.V.96, O. Missa, Canopy mission, 1 ♂; Light AR42, 24.VI.96, O. Missa, Canopy mission, 1 ♂; Light trap AR8, 17.VII.96, O. Missa, Canopy mission, 1 ♀.

This New Guinea endemic species was firstly described from the Bismarck Archipelago but it is presently known to occur both in Papua New Guinea and in Irian Jaya as well (CASSOLA, 1987a; CASSOLA & WERNER, 1996a; CASSOLA & WERNER, 1998).

8. *Polyrhaxis boisduvali* (W. HORN, 1896)

MATERIAL - Irian Jaya, Paniai district: Nabire, Siritwini river, Station 97.018, 21.IV.97, P. Grootaert, 1 ♂; Gamey Hills-Unipo, km 61.7 from Nabire, alt. 100 m, 25.IV.97, P. Grootaert, 1 ♂; Unipo, S of Nabire, alt. 250 m, 3°32'13S-135°56'55E, 26.IV.97, P. Grootaert, 1 ♂; Topo, 54 km S of Nabire, alt. 700 m, 3°30'71S-135°43'25E, 24.IV.97, P. Grootaert, 1 ♂.

This New Guinea endemic species, firstly described from the Humboldt Bay and later recorded from several other Irian Jaya localities, actually occurs in Papua New Guinea too (CASSOLA, 1987a).

9. *Polyrhaxis olthofi* BROUERUS VAN NIDEK, 1959

MATERIAL - Irian Jaya, Paniai district: Gamey Hills-Unipo, km 61.7 from Nabire, alt. 100 m, 25.IV.97, P. Grootaert, 2 ♀♀.

This New Guinea endemic species, firstly described from the Snow Mts. in the Jayawijaya district, is known to occur in Papua New Guinea too (CASSOLA, 1987a).

10. *Polyrhaxis holgeri* SCHÜLE, 1998

MATERIAL - Irian Jaya, Paniai district: Gamey Hills-Unipo, S of Nabire, 25.IV.97, P. Grootaert, 1 ♀.

A small species, described from the Nabire-Epomani road in the same Paniai district, based on a series of 11 syntopic specimens (SCHÜLE, 1998). The single female specimen recorded here represents the first known re-capture of this species and a second interesting locality (range extension).

11. *Guineica tetrachoides* (GESTRO, 1876)

MATERIAL - PNG, Madang province: Baiteta, Light AR9, 17.IV.96, O. Missa, Canopy mission, 1 ♀.

This species is known from most parts of New Guinea and moreover from Guadalcanal, Florida and San Cristobal Is. in the Solomons (CASSOLA, 1987a, b; CASSOLA & WERNER, 1996b, 1998). HORN (1926) had recorded it from the Indonesian Ceram I. as well, but such a record would deserve to be confirmed because BROUERUS VAN NIDEK (1959) has later described a very similar sister species (*G. inaequidens*), also known from the whole of New Guinea and the Solomons.

References

BROUERUS VAN NIDEK, C.M.C., 1959. Results of the Archbold Expeditions. Cicindelidae from New Guinea (Coleoptera). *Nova Guinea*, new ser., 10 (2): 177-186.

CASSOLA, F., 1987a. Studi sui Cicindelidi. LI. I Cicindelidae (Coleoptera) della Nuova Guinea. *Annali del Museo Civico di Storia Naturale di Genova*, 86 (1986): 281-454.

CASSOLA, F., 1987b. Studi sui Cicindelidi. LII. I Cicindelidae (Coleoptera) delle Solomon Islands. *Annali del Museo Civico di Storia Naturale di Genova*, 86 (1986): 509-551.

CASSOLA, F., 1989. Studies on Cicindelids. LVII. Additions to the fauna of New Guinea, and re-depository of some type specimens (Coleoptera: Cicindelidae). *Revue suisse de Zoologie*, 96: 803-810.

- CASSOLA, F., 1990. Studies on Tiger Beetles. LV. Biogeography of the Cicindelidae (Coleoptera) of the Australo-Papuan Region. In: "Biogeographical Aspects of Insularity", Accademia Nazionale dei Lincei, Atti dei Convegni Lincei, 85: 559-574.
- CASSOLA, F., 2001. Studies of tiger beetles. CXXIII. Preliminary approach to the macrosystematics of tiger beetles (Coleoptera: Cicindelidae). *Russian Entomological Journal*, 10 (3): 265-272.
- CASSOLA, F. & PEARSON, D.L., 2000. Global patterns of tiger beetle species richness (Coleoptera: Cicindelidae): their use in conservation planning. *Biological Conservation*, 95: 197-208.
- CASSOLA, F. & WERNER, K., 1996a. Additional data on the tiger beetle fauna of New Guinea: Results of the explorations of A. Riedel in New Guinea 1990-1994 (Coleoptera: Cicindelidae). *Coleoptera, Schwannfelder Coleopterologische Mitteilungen*, 18: 1-12.
- CASSOLA, F. & WERNER, K., 1996b. Further new data on the tiger beetle fauna of New Guinea (Coleoptera: Cicindelidae). *Acta Coleopterologica*, 12 (3): 25-28.
- CASSOLA, F. & WERNER, K., 1998. New Tiger Beetle findings from Papua New Guinea (Coleoptera: Cicindelidae). *Mitteilungen des Internationalen Entomologischen Vereins*, 23: 151-164.
- CASSOLA, F. & WERNER, K., 2001. New data on the tiger beetle fauna of New Guinea: Results of the explorations of A. Riedel in Irian Jaya 2000-2001. *Mitteilungen des Internationalen Entomologischen Vereins*, 26 (3/4): 91-102.
- FREITAG, R., 1979. Reclassification, phylogeny and zoogeography of the Australian species of *Cicindela* (Coleoptera: Cicindelidae). *Australian Journal of Zoology*, Suppl. Series No. 66, pp. 1-99.
- HORN, W., 1926. Carabidae: Cicindelinae. In: W. JUNK (ed.), *Coleopterorum Catalogus*, Pars 86, pp. 1-345.
- HORNABROOK, R.W., 1988. Notes on collecting Cicindelidae in Papua New Guinea. *Cicindela*, 20: 55-63.
- NAVIAUX, R., 2002. Tricondyliina (Coleoptera, Cicindelidae). Révision des genres *Tricondyla* Latreille et *Derocrania* Chaudoir et descriptions de nouveaux taxons. Mémoires de la SEF n° 5, pp. 1-106.
- PEARSON, D.L. & CASSOLA, F., 1992. World-Wide Species Richness Patterns of Tiger Beetles (Coleoptera: Cicindelidae): Indicator Taxon for Biodiversity and Conservation Studies. *Conservation Biology*, 6, 3: 376-391.
- SCHÜLE, P., 1998. Beitrag zur Kenntnis der Cicindeliden Irian Jayas mit Beschreibung einer neuen *Polyrhanis*-Art (Coleoptera, Cicindelidae). *Mitteilungen der Münchner Entomologischen Gesellschaft*, 88: 37-44.
- WIESNER, J., 1980. Beiträge zur Kenntnis der philippinischen Cicindelidae (Coleoptera). *Mitteilungen der Münchner Entomologischen Gesellschaft*, 70: 119-127.
- WIESNER, J., 1988. Die Gattung *Therates* Latr. und ihre Arten. *Mitteilungen der Münchner Entomologischen Gesellschaft*, 78: 5-107.
- WIESNER, J., 1999. Beitrag zur Kenntnis der Cicindelidae von Neuguinea (Col.). *Entomologische Zeitschrift*, 109 (2): 74-77.
- WIESNER, J., 2000. *Polyrhanis holynskii* sp. nov., a new tiger beetle from Papua New Guinea (Coleoptera: Cicindelidae). *Entomologische Zeitschrift*, 110 (9): 273-274.

Fabio CASSOLA
Via Fulvio Tomassucci 12/20
I-00144 Roma, Italy
e-mail: fabiocassola@Skynet.it