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Notes and descriptions of new Tiger Beetle species from Tanzania
(Coleoptera: Cicindelidae)

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Abstract: Four new species of Cicindelidae from Tanzania are described and figured: *Dromica antoniae* **n. sp.**, *Dromica sigrunae* **n. sp.**, *Dromica moraveci* **n. sp.**, *Myriochile (Monelica) georgwerneri* **n. sp.**; a list of all presently known species and subspecies of tiger beetles from Tanzania is given; two species are recorded for the first time for the country: *Ropaloteres mimula* (Péringuey 1896), and *R. nysa nysa* (Guérin 1849).

Zusammenfassung: Vier neue Sandlaufkäferarten aus Tansania werden beschrieben und abgebildet: *Dromica antoniae* **n. sp.**, *Dromica sigrunae* **n. sp.**, *Dromica moraveci* **n. sp.**, *Myriochile (Monelica) georgwerneri* **n. sp.**; eine Liste aller bis heute aus Tansania bekannten Arten und Unterarten, inklusive der Neumeldungen *Ropaloteres mimula* (Péringuey 1896) und *R. nysa nysa* (Guérin 1849), wird präsentiert.

Key words: Taxonomy, new species, new records, Coleoptera, Cicindelidae, *Dromica antoniae* **n. sp.**, *Dromica sigrunae* **n. sp.**, *Dromica moraveci* **n. sp.**, *Myriochile (Monelica) georgwerneri* **n. sp.**, Africa, Tanzania.

Introduction

From 1988 to 1998 I have made nearly 20 collecting-trips to Tanzania. The result of these expeditions are new geographical records and new taxa of Cicindelidae. Another new species was discovered by my czech friend and colleague Jiri MORAVEC. But, till today not enough localities were visited or beetles are captured to produce a general revision of the Tanzanian tiger beetles. Particularly the genera *Dromica* and *Myriochile*

(Subgenus *Monelica*) are far away from being really known and understood. Tanzania also has a huge territory with plenty kinds of habitats and the number of known Cicindelidae from Tanzania is still growing fast. After the description of *Lophyra* (s. str.) *cassoliana* (1997), I go on now to give a few descriptions of new species, because other authors too are working on the Tanzanian tiger beetle fauna and I want to avoid any overlappings in the near future. All holotypes are deposited in the Transvaal Museum (TMP, Pretoria, South Africa).

Descriptions

***Dromica antoniae* n. sp.** (fig. 1 – 3)
Type material: Holotype: male, Tanzania, Morogoro, near Mikumi, 14.XII.1997, WERNER & LIZLER leg.; Paratypes: 3 ♂♂, 2 ♀♀, same data. Holotype in TMP; some paratypes in the collection of the author.

Diagnosis: A small to medium sized *Dromica* with remarkable long legs and shiny coppery colour. Males are slim and elongated, females more robust.
Description: Size: 10 - 12 mm (sine labro). Habitus (fig. 1): Dorsally head and pronotum shiny coppery, elytrae somewhat darker coppery. Ventrally shiny metallic with some pubescence (more with the males). Frons and vertex with coarse rugae. Two sensorial setae next to each of the dominant eyes. Labrum (fig. 2) white and four teeth in the male, brown and five teeth in the female. Four labral setae in both sexes. Mandibles testaceous and darkened at the ends and inner edges. Maxillary and labial palpi with hairs, testaceous except last segment metallic. Genae shiny metallic, longitudinal grooves, and a few white hairs. Scape metallic with 3 setae, next 3 antennae segments testaceous with a few hairs, sometimes slightly darkened in the female, other segments dull black with very fine pubescence. Antennae of the males one third longer, not dilated. Pronotum: with transversal rugae and a longitudinal line, longer than wide, more broad at the front. Elytrae: vaulted, more slim in the males, punctured and with a very prominent suture. Maculae strong white, only in the females disconnected. Strongly developed apical spine, reduced in the females. Legs: Femora dark metallic, tibia and tarsi testaceous brown, all with sparse setae. Coxae metallic, trochanters testaceous. Aedoeagus see figure (fig. 3).
Etymology: This new species is dedicated to my daughter Antonia, today 5 years old and showing a remarkable interest in any kinds of insects.

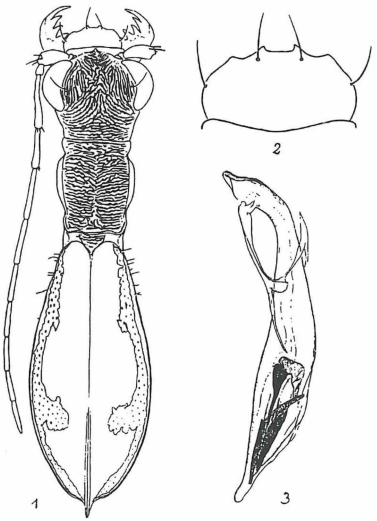

Fig. 1 – 3: *Dromica antoniae* **n. sp.** 1) Habitus of male Holotype; 2) Labrum of the Holotype; 3) Aedoeagus of the Holotype (P. SCHUELE del.).

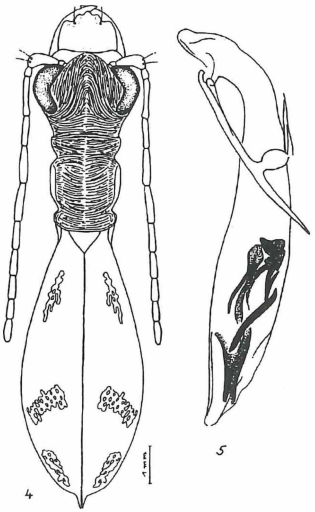

Fig. 4 – 5: *Dromica sigrunae* **n. sp.** 4) Habitus of male Paratype (K.H. RUDZINSKI del.); 5) Aedoeagus of Paratype (P. SCHUELE del.).

Habitat and collecting notes: *Dromica antoniae* **n. sp.** was captured on a stony overgrowed path through open Miombo-forest along a small river. When discovered, the specimens try to escape under high grasses or thorny bushes. Due to the long legs this species was one of the fastest runner in the Genus *Dromica* I have ever captured.

***Dromica sigrunae* n. sp.** (fig. 4 – 5)

Type locality: Central Tanzania, Dodoma Province, between Babati and Kondoa.

Type material: Holotype: male, Tanzania, Dodoma Province, Babati - Kondoa, XI.1992, WERNER leg.; Paratypes: 3 females, same data; 9 males, 13 females, Tanzania, Babati, 30 km to Kondoa, 2./3.XII.1994, WERNER leg.; 1 male, 2 females, Tanzania, near Babati, 3./6.XII.1997, WERNER & LIZLER leg., (Holotype in TMP, 1 male Paratype in collection P. SCHUELE (Düsseldorf, Germany), 1 female Paratype each in collections F. CASSOLA (Rome, Italy), J. MORAVEC (Adamov u Brno, Czech Repub-

lic), R. NAVIAUX (Domerat, France), J. PROBST (Vienna, Austria), and E. WERNER (Höchstadt, Germany), remaining Paratypes in the collection of the author).

Diagnosis: A small to medium sized species close to *Dromica schaumi* W. Horn 1892 and its subspecies, but from these immediately distinguishable by constantly disconnected apical lunule and not dilated antennae.

Description: Size: 10 - 13 mm (sine labro). Habitus (fig. 4): Dorsally head, pronotum, and elytrae dark to black coppery. Ventrally shiny metallic with some pubescence. Frons with few hairs, frons and vertex with coarse rugae. Some specimens have a sensorial seta next to the eye. Labrum dark, sometimes with testaceous middle spot, five teeth, and two to four labral setae in both sexes. Mandibles dark brown to black. Maxillary and labial palpi with hairs, testaceous except last segment dark, some specimens with the two last segments of maxillary palpi darkened. Genae greenish metallic, longitudinal grooves. Scape black with one or more setae, other antennae segments black too. Antennae not dilated. Pronotum: with transversal rugae, in the center globular, longer than wide, more wide at the front. Elytrae: vaulted, punctured, prominent suture, dull black and in the marginal sides more or less shiny black. Humeral spot and disconnected apical lunule white. Apical spine with the females reduced. Legs: dark metallic and with sparse setae. Coxae and trochanters dark metallic. Aedoeagus see figure 5.

Etymology: This new species is dedicated to my wife Sigrun, who is fortunately accepting my way of life with all travels and lots of time spent on entomology.

Habitat and collecting notes: *Dromica sigrunae* **n. sp.** was taken at the edges of a partly wet meadow in a forest clearance. At the same habitat I captured some more interesting tiger beetles: *Megacephala morsii morsii* Fairmaire, 1882, *M. regalis* ssp. *angulicollis* Kolbe, 1892, *Dromica mauchi* ssp. *purpurascens* Bates, 1886, *D. egregia* ssp. *elongatoplanata* W. Horn, 1922, *Bennigsenium discoscriptum* W. Horn, 1913, *Prothymidia angusticollis* (Bohemann, 1848), *Elliptica kolbeana* (W. Horn, 1915), and *Ropaloteres flavosignatus* ssp. *cupreoreductulus* Nidek, 1980.

***Dromica moraveci* n. sp.** (fig. 6 – 7)

Type locality: Eastern Tanzania, Utete (Rufiji).

Type material: Holotype: male, Tanzania, Rufiji Province, Utete, 06.01.1996, J. MORAVEC leg.; Paratypes: 9 (males and females), all same locality, 9.-14.12.1993/06.01.1996/23.01.1997 (Holotype in TMP, two

Paratypes in the author 's collection, other Paratypes in collection F. CASSOLA, J. MORAVEC, J. PROBST, and W. SUMLIN (San Antonio, USA).

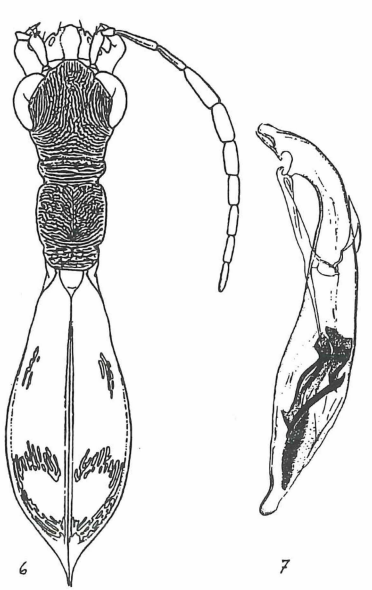

Fig. 6 – 7: *Dromica moraveci* **n. sp.** 6) Habitus of male Paratype; Aedoeagus of Paratype (P. SCHUELE del.).

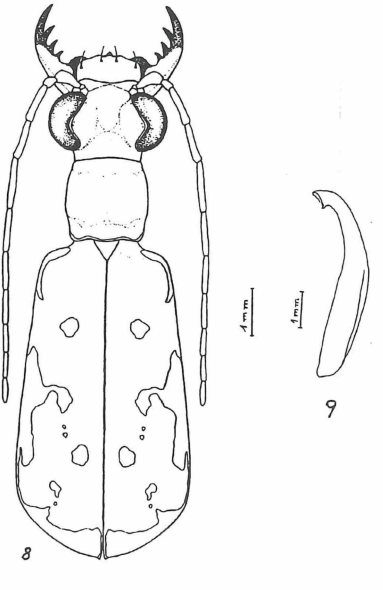

Fig. 8 – 9: *Myriochile (Monelica) georgwerneri* **n. sp.** 8) Habitus of male Paratype (K.-H. RUDZINSKI del.); 9) Aedoeagus of Paratype (A. OESTERLE del.).

Diagnosis: A medium sized species, also similar to *Dromica schaumi* W. Horn 1892 and its subspecies, but from these distinguishable by more dilated antennae, longer tarsi, different sculptured pronotum and elytrae.
Description: Size: 12 - 14 mm (sine labro). Habitus (fig. 6): Dorsally head, pronotum, and elytrae dark to black. Ventrally dark metallic, sternites with strong pubescence. Frons with a few hairs, frons and vertex with rugae. Labrum dark, sometimes males with testaceous middle spot, five teeth, and four labral setae in both sexes. Mandibles dark brown to black. Maxillary and labial palpi with hairs, testaceous except last segment dark. Genae greenish metallic, longitudinal grooves, no hairs. Scape black with one or more setae, other antennae segments black too. Antennae segments five to eight strongly dilated. Pronotum: with fine transversal rugae, in the center globular, longer than wide, more wide at the front.

Elytrae: vaulted, peculiar longitudinal punctured, prominent suture, dull black and in the marginal sides more or less shiny. Humeral spot and connected apical lunule white. Apical spine in the female not reduced. Legs: femur dark metallic, tibia and tarsi dark testaceous, all with sparse setae. Coxae dark metallic, trochanters dark testaceous.
Aedoeagus see figure 7.
Etymology: *Dromica moraveci* **n. sp.** is dedicated to Jiri MORAVEC, who discovered this new species in Tanzania 1993.
Habitat and collecting notes: *Dromica moraveci* **n. sp.** was captured on a sandy path through open forest (MORAVEC, pers. comm.).

***Myriochile (Monelica) georgwerneri* n. sp.** (fig. 8 – 9)
Type locality: Central Tanzania, Dodoma Province, between Kondoa and Dodoma.
Type material: Holotype: male, Tanzania, Dodoma Province, Kondoa - Dodoma, XII.1992, WERNER leg.; Paratypes: 7 males, 13 females, same data; 1 female, Southwestern Tanzania, Mbeya Province, Ujewa, 10.01.1994, G. CURLETTI leg. (Holotype in TMP, 1 Paratype in each collection F. CASSOLA, J. MORAVEC, R. NAVIAUX, A. OESTERLE (Stuttgart), J. PROBST, and E. WERNER, remaining Paratypes in the collection of the author).

Diagnosis: A medium sized species in the subgenus, recognizable by the constant dull green colour, the expanded marginal line with remarkable middle band, the trapeze-like elytrae, and both sexes with 3 labral teeth.
Description: Size: 11 - 13 mm (sine labro). Habitus (fig. 8): Dorsally head and pronotum coppery, elytrae dull green. Ventrally green metallic, except head with strong pubescence. Frons and vertex without hairs, fine sculptured. Labrum white, with three teeth, and four labral setae in both sexes. Mandibles light testaceous with darker ends. Maxillary and labial palpi with hairs, light testaceous except last segment green metallic. Genae greenish metallic, fine longitudinal grooves, no hairs. Antenna root brown testaceous, Scape with one seta, next three antennae segments green metallic, other segments dark testaceous. Pronotum: with fine punctures and longitudinal line, white hairs at the sides. Elytrae: trapeze-like and very fine punctured. Markings bright white, humeral lunule and spot, wide marginal line, always disconnected middleband, apical lunule mostly connected with marginal line. Apical spine reduced. Legs: femur green metallic with many hairs, tibia brown testaceous and with sparse

setae, tarsi again green metallic. Coxae with pubescence, green metallic, trochanters brown testaceous. Aedoeagus see figure 9.

Etymology: *M. georgwerneri* **n. sp.** is dedicated to my younger brother Georg WERNER, who collected together with me this new taxon and several other species of tiger beetles during our common trips to Eastern Africa.

Habitat and collecting notes: The type series of *M. georgwerneri* **n. sp.** was captured on the sandy main road, between Kondoa and Tanzania's capital Dodoma, being active after the first rain of the season. At the same locality *Myriochile (Monelica) jordaniana* (W. Horn, 1898) and *Myriochile (s. str.) melancholica* (Fabricius, 1798) were concentrated on the edges of temporary pools, whereas the new species did not show any relation to water. *M. georgwerneri* **n. sp.** seems to have a very short lifetime, because when passing the type locality several times during the next years, *M. (Monelica) jordaniana* and *M. (s. str.) melancholica* were present again, but not the new species.

Remarks

Regarding WIESNERs checklist (1992), several species must be recorded to be new for Tanzania. In the presented list all new records are given. For *Neochila upangwana* Mandl, 1964 and *N. grandis* Mandl, 1964, WIESNER gave erroneously Kenya as the country of occurence, but MANDL described these species from Deutsch-Ostafrika, todays Tanzania. The same happened with *Cylindera (Ifasina) ocellifera* (W. Horn, 1905), which was described from Deutsch-Ostafrika too. *Ropaloteres miserandus* (W. Horn, 1893), *Lophyra (s. str.) bertolonia* (W. Horn, 1915), and *L. (Stenolophyra) saraliensis* (Guérin, 1849) were already cited for Tanzania (Deutsch-Ostafrika) by W. HORN in the JUNK/SCHENKLING Catalogue (1926, p. 146, p. 150, and p. 151).

In their paper about „World-wide species richness patterns of tiger beetles," PEARSON & CASSOLA (1992) noted 68 species for Tanzania, 8 of these endemics – the presented list counts up to 98 species (including subspecific taxa), 44 of these are endemics. Following two species can be recorded as new for Tanzanian territory:

Ropaloteres mimula (Péringuey, 1896)

Localities: Ruvuma Province, 30 km W of Songea, 8.12.1994, WERNER leg.; Ruvuma Prov., near Songea, 12./17.XII.1996, WERNER & LIZLER leg.

Habitat: This beautiful species was running between high grasses at the edge of a pine forest. At the second locality it was again between high grasses in clearances of the Miombo forest.

Ropaloteres nysa nysa (Guérin 1849)
Localities: Ruvuma Province, 100 km N of Songea, 6./7.12.1994, WERNER leg.; Ruvuma Prov., near Songea, 12./17.XII.1996, WERNER & LIZLER leg.
Habitat: *R. nysa* was captured on open brown soil patches in a wet meadow inside Miombo forest, just near a little watercourse.

List of all presently known Tiger Beetles (Cicindelidae) from Tanzania
(Endemics – bold)

Genus *Manticora* Fabricius, 1792
latipennis Waterhouse, 1837

Genus *Megacephala* Latreille, 1802
morsii morsii Fairmaire, 1882
morsii ssp. ***gratiosa*** W. Horn, 1904
asperata asperata Waterhouse, 1877
asperata ssp. ***kigonserana*** Basilewsky, 1966
laevicollis laevicollis Waterhouse, 1880
laevicollis ssp. ***nideki*** Basilewsky, 1966
regalis ssp. ***bennigseni*** W. Horn, 1896
regalis ssp. ***ertli*** W. Horn, 1904
regalis ssp. *angulicollis* Kolbe, 1892
regalis ssp. *excelsa* Bates, 1874
regalis ssp. *naivashae* Basilewsky, 1962
baxteri Bates, 1886

Genus *Prothyma* Hope, 1838
bottegoi (W. Horn, 1897)
quadripustulata Boheman, 1848
methneri W. Horn, 1921

Genus *Neochila* Basilewsky, 1953
kigonserana kigonserana (W. Horn, 1905)
kigonserana ssp. ***lindemannae*** Mandl, 1964
kigonserana ssp. ***horii*** Wiesner, 1986
upangwana Mandl, 1964
grandis Mandl, 1964

Genus *Euryarthron* Guérin, 1849
gerstaeckeri (W. Horn, 1898)
bennigseni bennigseni (W. Horn, 1897)
bennigseni ssp. ***euryoides*** (W. Horn, 1906)

Genus *Dromica* Dejean, 1826
mauchii mauchii Bates, 1872
mauchii ssp. *purpurascens* Bates, 1886
hildebrandti W. Horn, 1903
nobilitata ssp. ***reducta*** W. Horn, 1903
bennigseni bennigseni W. Horn, 1896
bennigseni ssp. ***angustata*** W. Horn, 1909
egregia ssp. ***tarsalis*** W. Horn, 1898
egregia ssp. ***elongatoplanata*** W. Horn, 1922
egregia ssp. *neumanni* Kolbe, 1897
schaumi schaumi W. Horn, 1892
schaumi ssp. *taruensis* Kolbe, 1897

schaumi ssp. ***ertli*** W. Horn, 1903
schaumi ssp. ***setosipennis*** W. Horn, 1913
schaumi ssp. ***globicollis*** W. Horn, 1913
batesi W. Horn, 1900
dolosa Péringuey, 1894
intermediopunctata W. Horn, 1929
laterodeclivis W. Horn, 1929
horii Cassola, 1986
antoniae **n. sp.**
sigrunae **n. sp.**
moraveci **n. sp.**

Genus *Bennigsenium* W. Horn, 1897
hexastictum (Fairmaire, 1887)
hauseranum hauseranum (W. Horn, 1905)
hauseranum ssp. *ismenioides* (W. Horn, 1913)
insperatum insperatum Kolbe, 1915
insperatum ssp. ***crassicollis*** (W. Horn, 1934)
insperatum ssp. ***lettowvorbecki*** (W. Horn, 1921)
discoscriptum W. Horn, 1913
planicorne (W. Horn, 1897)

Genus *Prothymidia* Rivalier, 1957
angusticollis (Boheman, 1848)
gemmiprivata (W. Horn, 1913)

Genus *Trichodela* Rivalier, 1957
haefligeri (W. Horn, 1905)

Genus *Ophryodera* Chaudoir, 1860
foliicornis foliicornis W. Horn, 1896
foliicornis ssp. ***trimaculata*** (W. Horn, 1903)

Genus *Elliptica* Fairmaire, 1884
kolbeana (W. Horn, 1915)
laticornis (W. Horn, 1900)
hiekei Cassola, 1982
compressicornis ssp. *persignata* Cassola, 1995
compressicornis ssp. *kenyana* Cassola, 1995

Genus *Ropaloteres* Guérin, 1849
miserandus (W. Horn, 1893)
mimula (Péringuey, 1896) - **new record**
nysa nysa (Guérin, 1849) - **new record**
nysa ssp. *quedenfeldti* (W. Horn, 1896)
grandis ssp. ***pseudocinctus*** (W. Horn, 1913)
flavosignatus ssp. *cupreoreductulus* Nidek, 1980

Genus *Hipparidium* Jeannel, 1946
neumanni (Kolbe, 1894)
pseudosoa (W. Horn, 1900)

Genus *Lophyridia* Jeannel, 1946
fimbriata ssp. *imperatrix* (Srnka, 1891)

Genus *Lophyra* Motschulsky, 1859
(Subgen. *Lophyra* Motschulsky, 1859)
cassoliana Werner, 1997
bertolonia (W. Horn, 1915)
differens (W. Horn, 1892)
wiesneriana Cassola, 1983
pseudoneglecta Miskell, 1978
neglecta ssp. *intermediola* (W. Horn, 1921)
escheri ssp. ***nudorestricta*** (W. Horn, 1913)
(Subgen. *Stenolophyra* Rivalier, 1957)
infuscatula (W. Horn, 1915)
saraliensis (Guérin, 1849)
(Subgen. *Eriolophyra* Rivalier, 1948)
alba (W. Horn, 1894)

Genus *Habrodera* Motschulsky, 1862
nilotica (Dejean, 1825)

Genus *Chaetodera* Jeannel, 1946

regalis (Dejean, 1831)
Genus *Cylindera* Westwood, 1831
(Subgen. *Ifasina* Jeannel, 1946)
marshallisculpta (W. Horn, 1913)
ocellifera (W. Horn, 1905)
rectangularis (Klug, 1832)
disjuncta (Dejean, 1825)

Genus *Myriochile* Motschulsky, 1862
(Subgen. *Monelica* Rivalier, 1950)
vicina (Dejean, 1831)
hauseri (W. Horn, 1898)
***georgwerneri* n. sp.**
jordaniana s. str. (W. Horn, 1898)
(Subgen. *Myriochile* Motschulsky, 1862)
melancholica (Fabricius, 1798)
albomarginalis (W. Horn, 1900)

Acknowledgements

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