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SECTION A: PEER-REVIEWED PAPERS

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Checklist of the checkered beetles of Namibia (Coleoptera, Cleridae)

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ABSTRACT

The first checklist of Cleridae of Namibia is provided. It includes the exact label data (locations) from all specimens, distribution maps and colour plates with habitus photos of all mentioned species.

Keywords: checkered beetle; checklist; Cleridae; Coleoptera; colour habitus photos; distribution maps; museum; Namibia; specimen

INTRODUCTION

The checkered beetles (Cleridae) belong to the cucujiform superfamily Cleroidea and contain about 3,700 species. Cleridae are widely distributed (except Antarctica) and most diverse in tropical regions. With the exception of some forest-relevant species (e.g. the European *Thanasimus formicarius*), little is known about their biology. Both larvae and adults of most species are evidently predators on other insects, especially wood-infesting beetles and their larvae (Gerstmeier 2014). Opitz (2010) revised the higher classification of the Cleridae, resulting in 12 subfamilies, and a further subfamily (Epiclininae) was described by Gunter et al. (2013). The geographic distribution of Cleridae species shows a concentration in the Afrotropical region, with about 1,074 described species (29% of the world's species), including Madagascar which has a high number of endemic species (469 spp; Gerstmeier 2014). In contradiction to the species numbers, continental Africa is not well represented in the recent literature (Gerstmeier & Huesmann 2004, Gerstmeier & Weiss 2009, Gerstmeier & Eberle 2011, Gerstmeier & Salvamoser 2014, Gerstmeier 2015, Bartlett & Gerstmeier 2016). Regarding Namibia, almost no information about checkered beetles is available, so this contribution is a first step to deal with the Cleridae fauna of this country.

MATERIAL

This checklist is mainly based on material in the collection of the author (RGCM), some institutional collections and the inventory of the Brandberg Massif during 1998-1999 (NMNW). Map 1 shows the location of all collections. The institutions are abbreviated as follows:

DNMNH	Ditsong National Museum of Natural History, Pretoria, South Africa (the former Transvaal Museum of Natural History)
MFNB	Museum für Naturkunde, Berlin, Germany
NHM	The Natural History Museum, London, England
NME	Naturkunde Museum, Erfurt, Germany
NMNW	National Museum of Namibia, Windhoek, Namibia
OLML	Oberösterreichische Landesmuseum, Linz, Austria
RGCM	Roland Gerstmeier Collection, Munich, Germany
SAMC	Iziko South African Museum, Cape Town, South Africa
SANC	South African National Collection of Insects, Pretoria
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany
WOPC	Weston Opitz Collection, Gainesville, USA

CHECKLIST

Note that the checklist reflects the original notes as they appear on the specimen labels.

Subfamily Tillinae

Diplocladus louvelii (Spinola, 1844). Plate 1, Fig. 1, Map 2

Abachaus SWA, II 1944, G. Hobohm - ditto: III 1944 (DNMNH). Namibia, Region Kunene, Buschfeld

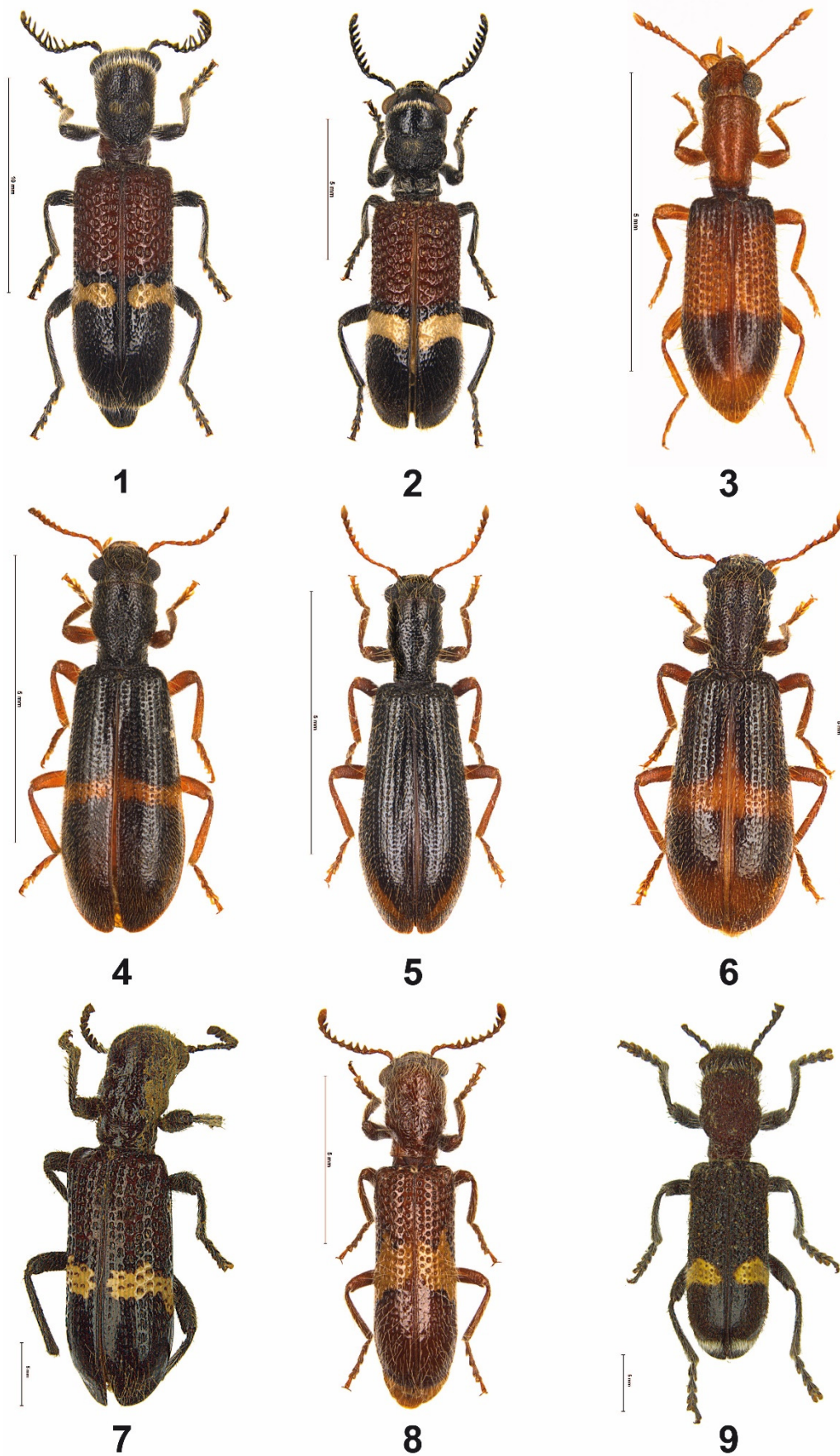


Plate 1: Figures 1–9: 1) *Diplocladus louvelii* 2) *Diplocladus oculicollis* 3) *Eucymatodera parva* 4) *Eucymatodera sp. 1* 5) *Eucymatodera sp. 2* 6) *Eucymatodera sp. 3* 7) *Strotocera carinata* 8) *Strotocera convexa* 9) *Strotocera emerita*

Camp, bei Outjo, S20°05.694' E16°07.623', 1306 m, 16.03.2018, leg. R. Gerstmeier (RGCM).

Distribution: Burkina Faso, Cameroon, Congo, Ghana, Guinea, Ivory Coast, Kenya, Malawi, Mozambique, Namibia, Nigeria, Senegal, Somalia, South Africa, Sudan, Tanzania, Togo, Zimbabwe (Gerstmeier & Weiss 2009).

***Diplocladus oculicollis* (Fairmaire, 1885).** Plate 1, Fig. 2, Map 2

Namibia, Gobabis, 18.II.2001, leg. F. Koch (SMNS). Distribution: Namibia (new country record), Somalia, South Africa, Transvaal, Tanzania, Togo (Gerstmeier & Weiss 2009).

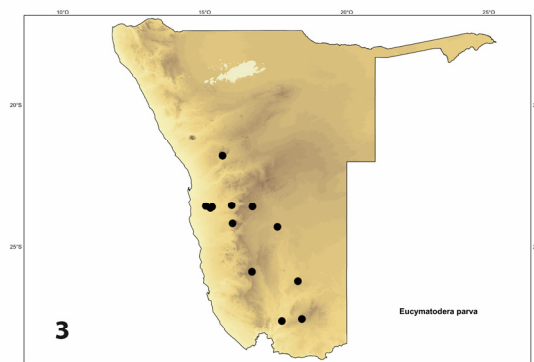
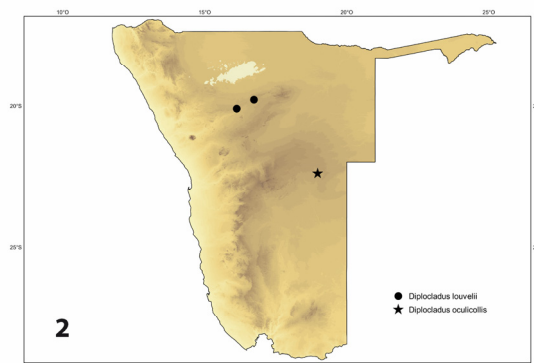
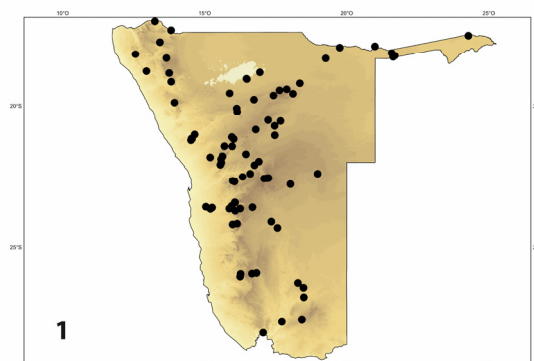
***Eucymatodera parva* Schenkling, 1908.** Plate 1, Fig. 3, Map 3

Namibia, Ameib Farm, S21°47.299' E15°37.685', 1054 m, 29.02.–03.03.2016 (UV trap), leg. R. Gerstmeier (RGCM). Namibia, Ameib Ranch, ca. 27 km NO Usakos, 1070 m, Lichtfang, 19. Dez. 1992, leg. J. Wiesner & I. Worm (RGCM). Namibia, Distr. Erongo, Ameib Ranch, S21°47' E15°37', 29.9.2005, leg. R. Gerstmeier (RGCM). Namibia, Ameib Ranch (Nr. 60), ca. 20 km n Usakos, 2.1.1997, leg. R. Gerstmeier (RGCM, 5 ex.). S Namibia, NE Keetmanshoop, Mesosaurus Fossil Farm, 1100 m, 26.24S 18.28E, 18.-19.II.2010, leg. W. Schawaller (SMNS, 4 ex.). S Namibia, N Tiras Mts., Farm Lovedale, 1600 m, 25.54S 16.39E, 16.-17.II.2010, leg. W. Schawaller (SMNS). S Namibia, S Solitaire, Farm Weltevrede, 1100 m, 24.10S 15.58E, 11.-13.II.2010, leg. W. Schawaller (SMNS, 2 ex.). 7.10.90 Schüle, Namibia, Farm Kromhoek (SMNS). Namibia/Hardap, 50 km SW Rehoboth, 1525 m, 23°34.64"S 16°40.792"E, e.l. Acacia spec. 2016 leg. H. Mühle 152 (RGCM, 2 ex.). Namibia, Karas 690m, Fishriver Canyon (Hobas), 27°37.192'S 17°42.865'E, 23.2.2012, leg. H. Mühle, 176 (RGCM). Namibia, Distr. Karasburg, Fish River Canyon, Hobas Camp, S27°37' E17°42', 15.2.2005, leg. R. Gerstmeier & M. Müller (RGCM, 2 ex.). Namibia, Gibeon dist., Hardapdam (light), ca. 24.30S 17.56E, W. Lorenz, 5.2.1995 (RGCM, 2 ex.). Namibia, Lower Kuiseb River, Homeb (SANC). S.W. Afr., C. Namib, Tsondab vlei, 23.59S - 15.26E, 12.1.1974, E-Y: 538 at light, leg. Endrödy-Younga (RGCM). SWA, 24.2.1988, Karasburg, Farm Satco 88/21, Tal 12 km W der Stadt, 27.55S / 18.42E, 900 m, leg. Hubert Rausch (OLML, 2 ex.). S.W. Afr., Namib, Gobabeb Kuiseb Riv., November 1974, leg. Wharton & Grey (RGCM).

Distribution: Namibia (Schenkling 1908).

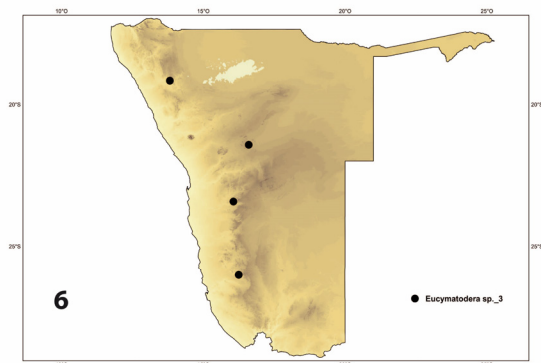
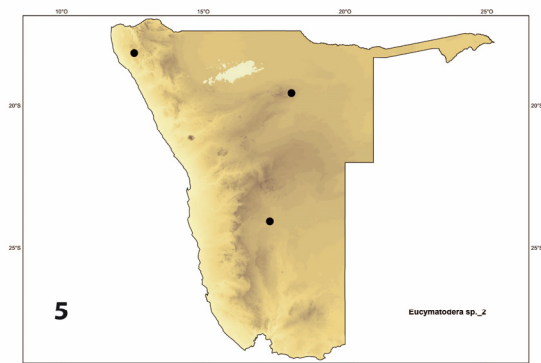
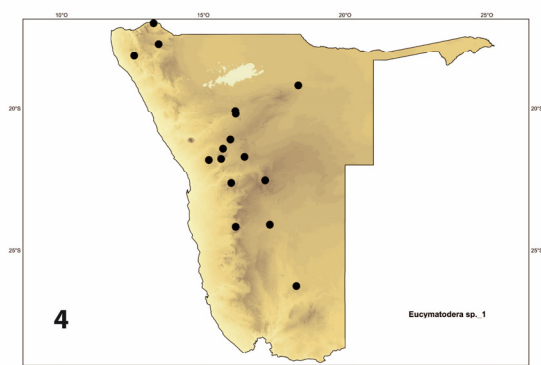
***Eucymatodera* sp. 1.** Plate 1, Fig. 4, Map 4

Namibia, 5.3.2008, Spitzkoppe, G. Werner leg. (RGCM). Namibia, Ameib Farm, S21°47.299'



Maps 1–3: 1) All cited locations 2) *Diplocladus louvelii*, *Diplocladus oculicollis* 3) *Eucymatodera parva*

E15°37.685', 1054 m, 29.02.–03.03.2016 (UV trap), leg. R. Gerstmeier (RGCM, 18 ex.). Namibia, Boscia Farm, 17 km SE Schlip, S24°04.620' E17°20.684', 1285m, 08.03.2016 (UV trap), leg. R. Gerstmeier (RGCM, 2 ex.). Namibia, W Omaruru, 25.1.1996, leg. K.+F. Adlbauer (RGCM). Namibia, Haasenhof, SE Omaruru, 21.2.1996, leg. K.+F. Adlbauer (RGCM, 3 ex.). Namibia, E Windhoek, 1900 m, 6.1.1996, leg. K. & F. Adlbauer (RGCM). Namibia, Schönfeld, N Omaruru, 1650 m, 10.1.1996, leg. K.+F. Adlbauer (RGCM, 2 ex.). Namibia, ca. 2000 m, Khomas Hochland, 22°24'82"S 16°36'00"E, Holzeintrag 1.04.1997, M. & O. Niehuis; - ditto 5.04.1997 (RGCM, 6 ex.). NW Namibia, Epupa Falls, 660 m, 11.-12.IV.2005, leg. W. Schawaller (SMNS). NW Namibia, 50 km NW Opuwo, 1300 m, 13.IV.2005, leg. W. Schawaller (SMNS). NE



Maps 4–6: 4) *Eucymatodera sp. 1* 5) *Eucymatodera sp. 2* 6) *Eucymatodera sp. 3*

Namibia, 50 km NE Grootfontein, 1200 m, 8.-9.III.2006, leg. W. Schawaller (SMNS). N Namibia, 10 km S Outjo, 1200 m, 20.-21.IV.2005, leg. W. Schawaller (SMNS). NW Namibia, Orupembe, 700 m, 14.IV.2005, leg. W. Schawaller (SMNS, 2 ex.). S Namibia, NE Keetmanshoop, Mesosaurus Fossil Farm, 1100 m, 26.24S 18.28E, 18.-19.II.2010, leg. W. Schawaller (SMNS, 4 ex.). S Namibia, Naukluft Park East, 1500 m, 24.15S 16.14E, 7.-10.II.2010, leg. W. Schawaller (SMNS, 3 ex.). Namibia, Region Kunene, Buschfeld Camp, bei Outjo, S20°05.694' E16°07.623', 1306 m, 16.03.2018, leg. R. Gerstmeier (RGCM).

Eucymatodera sp. 2. Plate 1, Fig. 5, Map 5

NW Namibia, Orupembe, 700 m, 14.IV.2005, leg. W. Schawaller (SMNS). NE Namibia, 50 km NE Grootfontein, 1200 m, 8.-9.III.2006, leg. W.

Schawaller (SMNS). Namibia, Boscia Farm, 17km SE Schlip, S24°04.620' E17°20.684', 1285 m, 8.03.2016 (UV trap), leg. R. Gerstmeier (RGCM, 2 ex.).

Eucymatodera sp. 3. Plate 1, Fig. 6, Map 6

Namibia, 16.03.2013, Farm Rooiklip, S 23°24'23" E 16°03'37", 1000 m a.s.l., leg. T. Wagner & C. Fischer, UV trap Plot 24 (RGCM). Namibia, 2013, Farm Rooiklip, S23°24'23" E16°03'37", 1000 m a.s.l., leg. T. Wagner & C. Fischer, Pitfall F2-DG 1 Plot 13K (RGCM). NW Namibia, Ongongo Falls, 700 m, 17.-18.IV.2005, leg. W. Schawaller (SMNS, 2 ex.). NAMIBIA, Region Karas, Tirasberge, Namtip Camp, S26°01.141' E16°14.814', 1319 m 03.-04.03.2018, leg. R. Gerstmeier (RGCM). Namibia, ca. 2000 m, Khomas Hochland, 22°24'82"S 16°36'00"E, Holzeintrag 5.04.1997, M. & O. Niehuis (RGCM).

***Strotocera carinata* Hintz, 1905.** Plate 1, Fig. 7, Map 7

Namibia, Okavango Dist., Mutompo: 60 km S Rundu, 18°18'38.7"S 19°15'29.4"E, 1180 m NN, 11.iii–16.iii.2003, singling, BIOTA 1544, leg. J. Frisch & K. Vohland (ZMB).

Distribution: Namibia, Tanzania (Gerstmeier & Weiss 2009).

***Strotocera convexa* (Hintz, 1905).** Plate 1, Fig. 8, Map 7

Namibia, 20.1.1996, Toshari Inn, NW Outjo, leg. K. & F. Adlbauer (RGCM).

Distribution: Cameroon, Kenya, Namibia (new country record), Nigeria, Rwanda, South Africa, Tanzania, Zimbabwe (Gerstmeier & Weiss 2009).

***Strotocera emerita* (Péringuey, 1899).** Plate 1, Fig. 9, Map 7

Kaoko, Otavi, S.W.A., emerita Pering. (SAMC).

Distribution: Congo, Namibia, Zambia, South Africa, Tanzania, Zimbabwe (Gerstmeier & Weiss 2009).

***Strotocera roberti* Gerstmeier & Weiss, 2009.** Plate 2, Fig. 10, Map 7

Helio, 19°03'S, 16°29'E., Etosha Nat. Park, 14 Feb.–23 Mar. 1987, Pres. pitfall traps, E. Griffin, *Gyponix* sp., det., R. Oberprieler 198 (SANC).

Distribution: Ethiopia, Ivory Coast, Mozambique, Namibia, South Africa, Tanzania, Zimbabwe (Gerstmeier & Weiss 2009).

***Strotocera versicolor* (Chevrolat, 1842).** Plate 2, Fig. 11, Map 7

DSW Afrika, Otjosondou, Casper S.G. (ZMB). S.W. Africa, Okahandja, 1320 m, 1.1934., K. Jordan, *Strotocera*, Ginter Ekis det. (BMNH).

Distribution: Namibia, South Africa, Zimbabwe (Gerstmeier & Weiss 2009).

***Teloclerus* sp.** Plate 2, Fig. 12, Map 8

Namibia, Usakos, 21.2.88, Rausch (RGCM). Namibia, Ameib Farm, S21°47.299' E15°37.685', 1054 m, 29.02.–03.03.2016 (UV trap), leg. R. Gerstmeier (RGCM, 2 ex.). Namibia, Region Kunene, Palmwag, S19°53.237' E13°56.249', 889 m, 12.+13.03.2018, leg. R. Gerstmeier (RGCM). Namibia, Farm Probeer (Nr. 398), ca. 140 km sw Windhoek, 26.12.1996, leg. R. Gerstmeier (RGCM). S Namibia, Farm Namibgrens (Spreetshoogte), 180 m, 23.37S 16.14E, 3.-6.II.2010, leg. W. Schawaller (SMNS). NW Namibia, Purros (Hoaruzsib Valley), 300 m, 15.-16.IV.2005, leg. W. Schawaller (SMNS). NW Namibia, Ongongo Falls, 700 m, 17.-18.IV.2005, leg. W. Schawaller (SMNS). NAMIBIA, Brandberg, Wasserfallfläche at: 21°10'0.9"S, 14°32'0.9"E, 1980 m, 12.xi.1998, A.H. Kirk-Spriggs, light trap plateau edge (NMNW). NAMIBIA, Brandberg, Inside Hungorob ravine at: 21°11'30"S, 14°31'40"E, 1200 m, 26.x.1998, R. Butlin & J. Altringham, at light 1900-0700 (NMNW). NAMIBIA, Brandberg, Inside Hungorob ravine at: 21°11'30"S, 14°31'40"E, 1200 m, 25.x.1998, R. Butlin & J. Altringham, at light 1900-0700 (NMNW). NAMIBIA, Brandberg, Plateau valley at: 21°10.46'S, 14°32.52'E, 1950 m, 20.x.1998, R. Butlin & J. Altringham, at light 1900-0700 (NMNW).

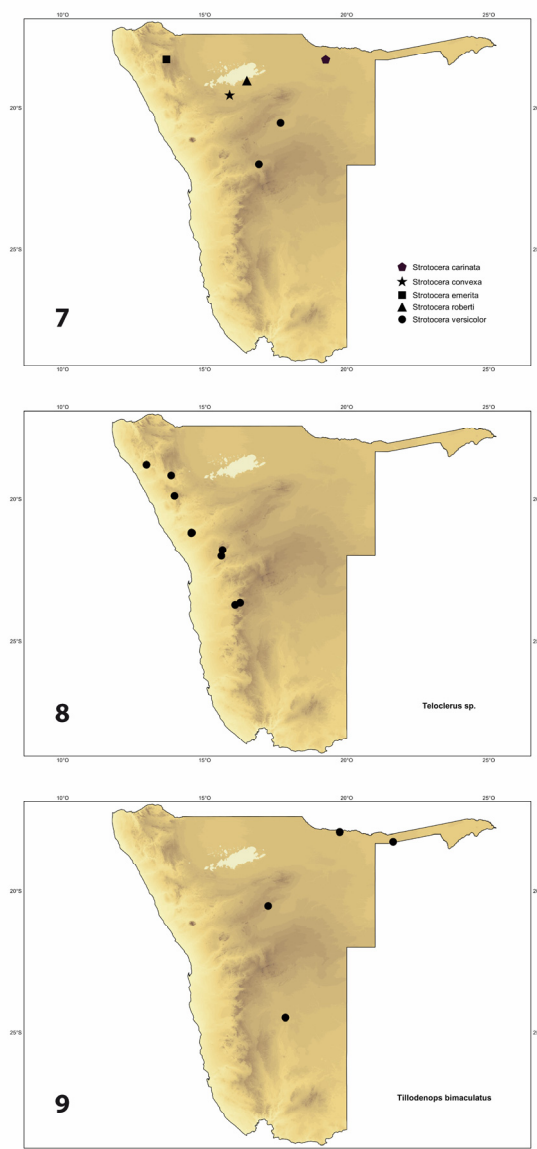
***Tillodenops bimaculatus* (Schenkling, 1899).** Plate 2, Fig. 13, Map 9

Namibia, 27.12.1997, Waterberg Plateau Park, leg. J. Schindler (RGCM). Namibia, Gibeon Dist., Hardap Dam (light), ca. 24.30S 17.56E, W. Lorenz, 5.2.1995 (RGCM). NE Namibia, 20 km SE Divundu, 1000 m, 17.III.2006, leg. W. Schawaller (SMNS). NAMIBIA, Rundu (an Licht), 21.1.1993, leg. J. Gusenleitner (OLML).

Distribution: Egypt, Namibia (new country record), Niger, Sahara, Saudi Arabia, Somalia, Sudan, Chad.

***Wittmeridecus* sp.n.** Plate 2, Fig. 14, Map 10

S Namibia, NE Keetmanshoop, Mesosaurus Fossil Farm, 1100 m, 26.24S 18.28E, 18.-19.II.2010, leg. W. Schawaller (SMNS, 7 ex.). S Namibia, NE Keetmanshoop, Mesosaurus Fossil Farm, 1100 m, 26.24S 18.28E, 18.-19.II.2010, leg. W. Schawaller (RGCM, 5 ex.). NAMIBIA, Region Karas,



Maps 7–9: 7) *Strotocera carinata*, *Strotocera convexa*, *Strotocera emerita*, *Strotocera roberti*, *Strotocera versicolor* 8) *Teloclerus* sp. 9) *Tillodenops bimaculatus*

Tirasberge, Namtip Camp, S26°01.141' E16°14.814', 1319 m 03.-04.03.2018, leg. Gerstmeier (RGCM). NAMIBIA, Region Karas, Tirasberge, Kooimasis Camp, S25°55.257' E16°15.767', 1307 m, 05.03.2018, leg. R. Gerstmeier (RGCM).

Subfamily Clerinae

***Aphelochroa sanguinea* (Thomson, 1857).** Plate 2, Fig. 15, Map 11

Namibia, 25 km SE Tsumeb, 15.1.1993, leg. J. Gusenleitner (OLML).

Distribution: Democratic Republic of the Congo, Ivory Coast, Namibia (new country record), Kenya, Malawi, South Africa, Tanzania, Uganda, Zambia, Zimbabwe.

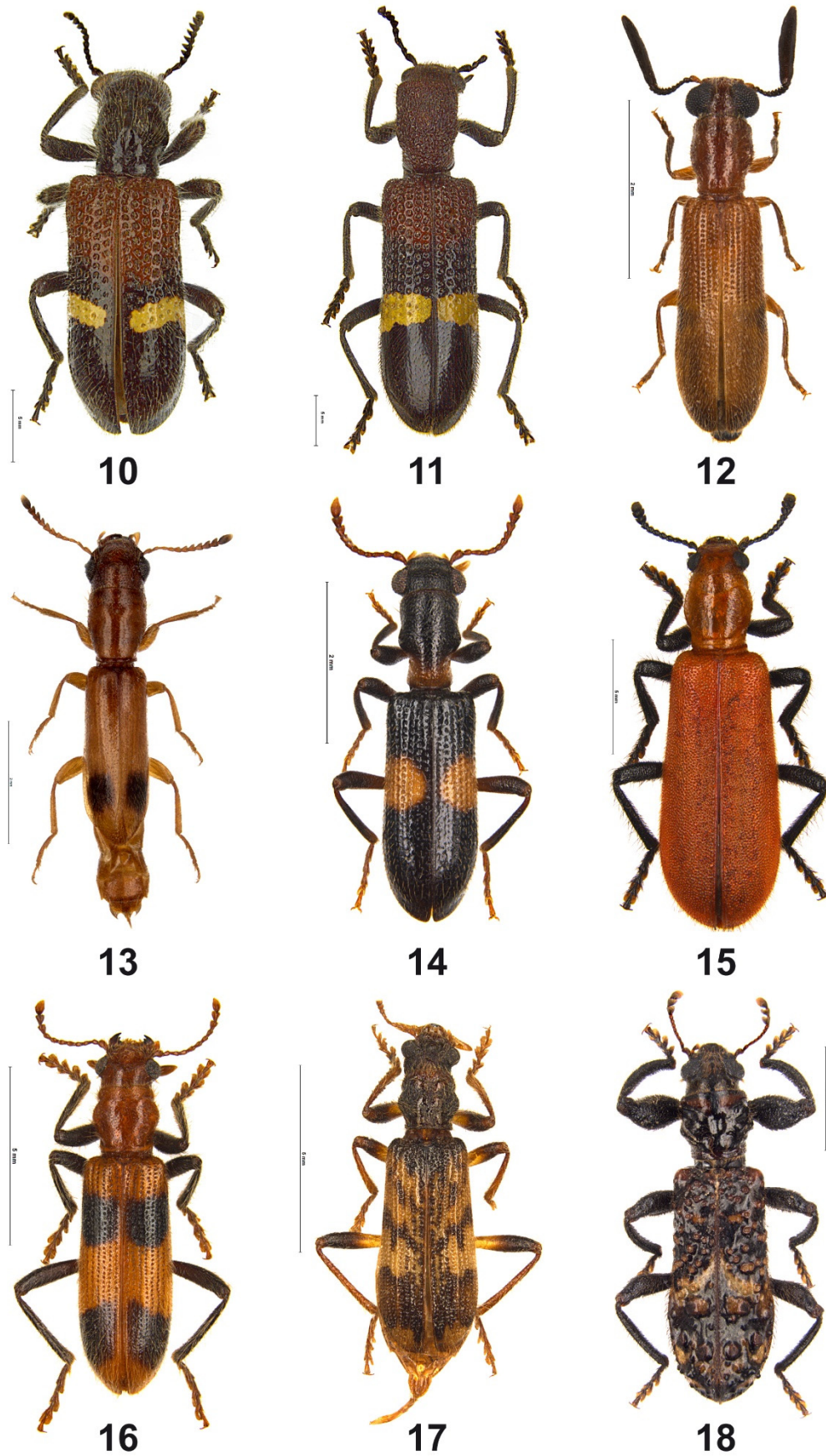


Plate 2: Figures 10–18: 10) *Strotocera roberti* 11) *Strotocera versicolor* 12) *Teloclerus sp.* 13) *Tillodenops bimaculatus* 14) *Wittmeridecus sp. n.* 15) *Aphelochroa sanguinea* 16) *Aphelochroa sp.* 17) *Caridopus sp.* 18) *Erymanthus pustulosus*

***Aphelochroa* sp.** Plate 2, Fig. 16, Map 11

Namibia, Rundu, L1992, leg. Rautenstrauch (RGCM, 4 ex.).

***Caridopus* sp.** Plate 2, Fig. 17, Map 12

Namibia, D. Grootfontein, Tigerschlucht, NE Kombat, 19°27'18"S 17°37'53"E GPS, 1600-1700 m, 10.02.1994, leg. H.&R. Rausch, LF 94/15 (OLML).

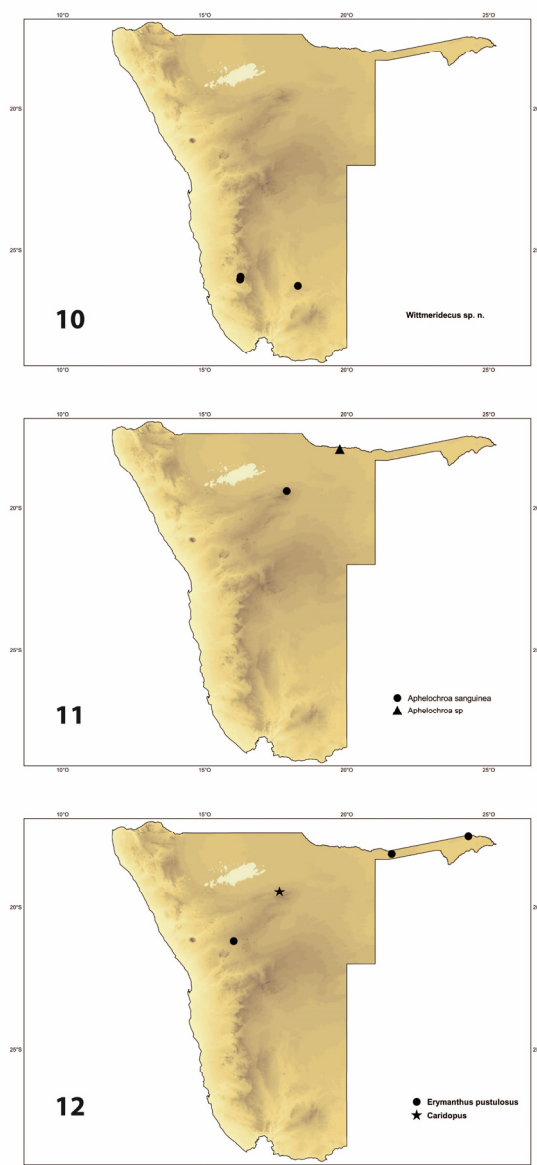
***Erymanthus pustulosus* (Quedenfeldt, 1888).** Plate 2, Fig. 18, Map 12

Namibia: b. Omaruru, Farm Otjua, 5.–7.X.1991, leg. U. Göllner (ZMB). Namibia, Popa Falls, Kavango, 24.xi.1993, 18°07'S/21°35'E, leg.: F. Koch (SMNS). Swa/Namibia, Caprivi, Katima Mulilo, SE17 24 Ad 10–11.I.1985, Univ. Pretoria, Dept. Entomol. Tour '85, National Coll. of Insects, Pretoria, S. Afr. (SANC).

Distribution: Benin, Cameroon, Democratic Republic of the Congo, Ethiopia, Ivory Coast, Kenya, Namibia, Mozambique, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe (Gerstmeier & Salvamoser 2014).

***Gyponyx* sp. 1.** Plate 3, Fig. 19, Map 13

Namibia, 20.1.1996, Toshari Inn, NW Outjo, leg. K. & F. Adlbauer (RGCM, 6 ex.). Namibia, 18.1.1996, Toshari Inn, NW Outjo, leg. K. & F. Adlbauer (RGCM, 2 ex.). Namibia, Region Erongo, Achab Camp (bei Usakos), S22°05.091' E15°32.940', 850 m, 10.03.2018, leg. R. Gerstmeier (RGCM, 3 ex.). Namibia, Region Karas, Mesosaurus Camp, S26°24.375' E18°28.598', 1065 m, 28.02.2018 (RGCM). Namibia, Region Kunene, Palmwag, S19°53.237' E13°56.249', 889 m, 12.+13.03.2018, leg. R. Gerstmeier (RGCM). Namibia, Halali Lodge, Etosha Pan NP, 6.1.1997, leg. R. Gerstmeier (RGCM). Namibia, Windhoek, 24./25.12.1997, leg. J. & R. Schindler (RGCM, 5 ex.). Namibia, Waterberg Plateau Park, 27.12.1997, leg. J. Schindler (RGCM, 2 ex.). Namibia: Waterberg Plateau Park, 9–11.1.1997, leg. R. Gerstmeier (RGCM, 2 ex.). Namibia, W Omaruru, 25.1.1996, leg. K.+F. Adlbauer (RGCM). Namibia, Schönfeld, N Omaruru, 1650 m, 10.1.1996, leg. K.+F. Adlbauer (RGCM, 4 ex.). NAMIBIA, Region Khomas, Farm Rooiklip, Bee trail, S23°24.738' E16°04.341', 987 m, 07.-09.03. 2018, leg. R. Gerstmeier (RGCM, 2 ex.). Namibia, Region Erongo, Brandberg Nord (vic. White Lady Lodge), S21°01.302' E14°38.844', 417 m, 11.03.2018, leg. R. Gerstmeier (RGCM, 3 ex.). SWA, 19.-20.2.88, Namib/Naukluft Park 88/16, Homeb, 18 km NW Gobabeb 23.38 S 15.12 E, 350 m, leg. Hubert Rausch (OLML, 2 ex.).



Maps 10–12: 10) *Wittmeridecus* sp. n. 11) *Aphelochroa sanguinea*, *Aphelochroa* sp. 12) *Caridopus* sp., *Erymanthus pustulosus*

***Gyponyx* sp. 2.** Plate 3, Fig. 20, Map 14

Namibia, E Windhoek, 1900 m, 6.1.1996, leg. K. & F. Adlbauer (RGCM, 4 ex.). Namibia, Finkensteen, 1.2.1996, leg. K.+F. Adlbauer (RGCM, 4 ex.). NAMIBIA, Brandberg, Wasserfallfläche, 1960m, 21°10.77'S, 14°32.87'E, 07.iv.1999, S. van Noorr & S.G. Compton, UV Light trap, overlooking well vegetated valley below waterfall, Bushy Karoo-Nama shrubland NA99-L03 (NMNW).

***Gyponyx* sp. 3.** Plate 3, Fig. 21, Map 14

Namibia, 27.12.1997, Waterberg Plateau Park, leg. J. Schindler (RGCM, 2 ex.). Namibia: Waterberg Plateau Park, 9–11.1.1997, leg. R. Gerstmeier

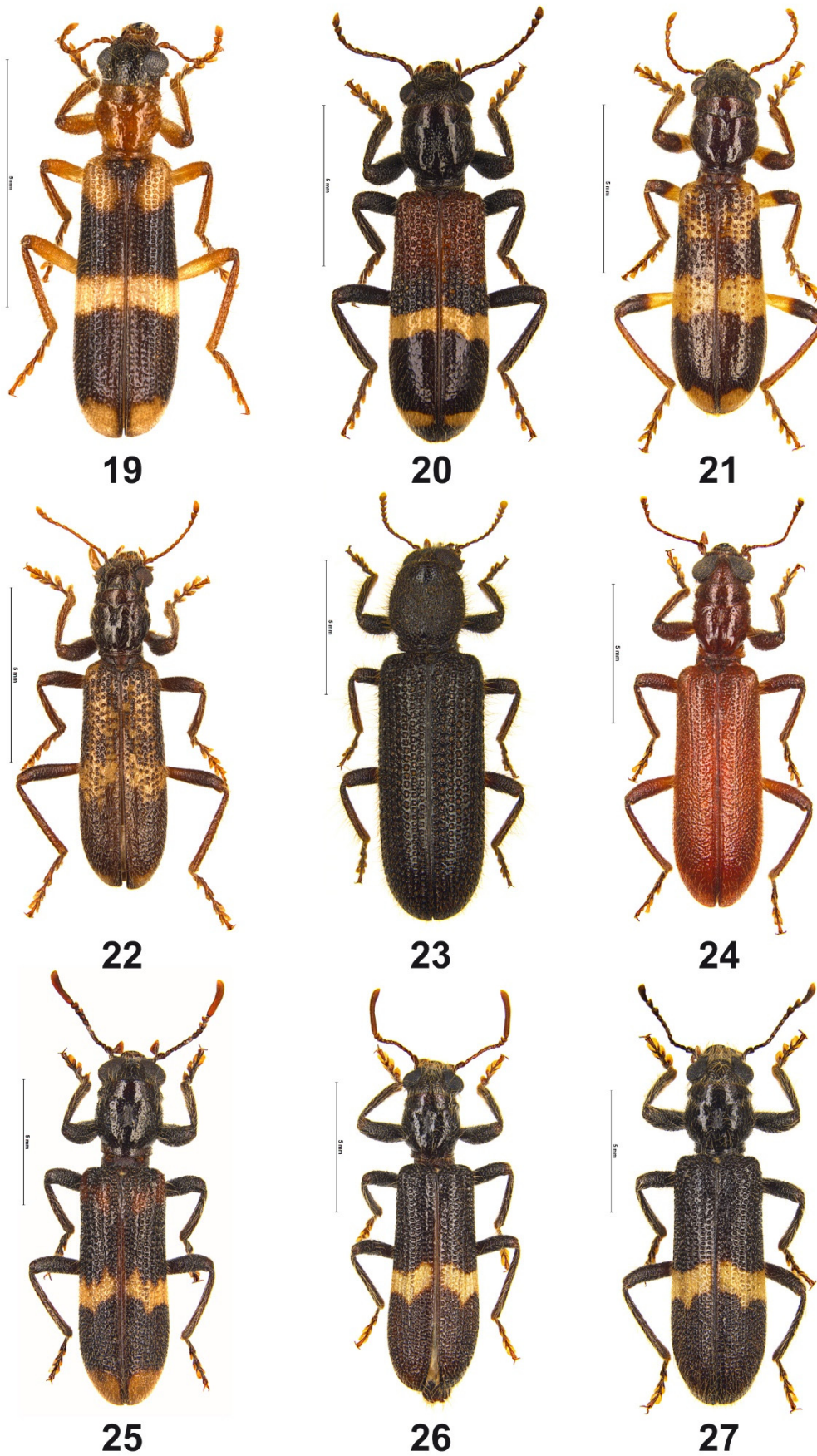
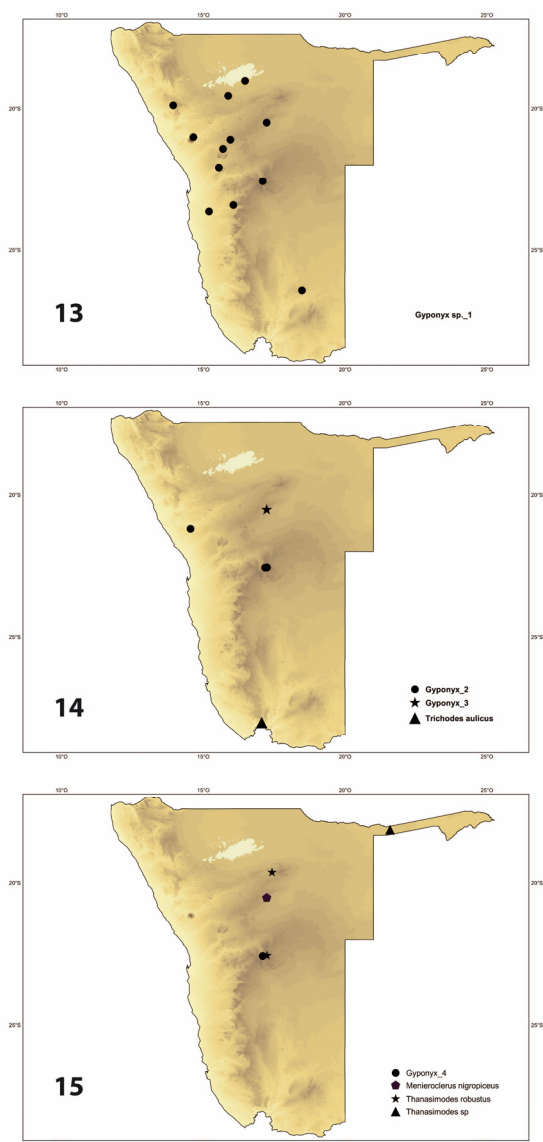


Plate 3: Figures 19–27: 19) *Gyponyx* sp. 1 20) *Gyponyx* sp. 2 21) *Gyponyx* sp. 3 22) *Gyponyx* sp. 4 23) *Menieroclerus nigropiceus* 24) *Opilo raveti* 25) *Phloiocopus ferreti* 26) *Phloiocopus* sp. 1, male 27) *Phloiocopus* sp. 1, female



Maps 13–15: 13) *Gyponyx sp. 1* 14) *Gyponyx sp. 2*, *Gyponyx sp. 3*, *Trichodes aulicus* 15) *Gyponyx sp. 4*, *Menieroclerus nigropiceus*, *Thanasimodes robustus*, *Thanasimodes sp.*

(RGCM, 3 ex.). Namibia, Waterberg, 25.1.96, Richter leg. (RGCM).

***Gyponyx sp. 4*. Plate 3, Fig. 22, Map 15**

Namibia, Windhoek, III-IV.1997, leg. R. Schindler (RGCM).

***Menieroclerus nigropiceus* (Kuwert, 1893). Plate 3, Fig. 23, Map 15**

Namibia: Waterberg Plateau Park, 9–11.1.1997, leg. R. Gerstmeier (RGCM).

Distribution: Ethiopia, Kenya, Namibia, South Africa, Tanzania, Yemen, Zimbabwe (Bartlett & Gerstmeier 2016).

***Opilo raveti* Pic, 1933. Plate 3, Fig. 24, Map 16**

Namibia, 27.12.1997, Waterberg Plateau Park, leg. J. Schindler (RGCM, 2 ex.). Namibia, Waterberg Plateau Park, 9.-11.1.1997, leg. R. Gerstmeier (RGCM). NE Namibia, 120 km E Rundu, 1000 m, 15.-16.III.2006, leg. W. Schawaller (SMNS).

Distribution: Kenya, Mozambique, Namibia (new country record), Zimbabwe.

***Phloiocopus ferreti* (Reiche, 1849). Plate 3, Fig. 25, Map 17**

Namibia, Waterberg Plateau Park, 9–11.1.1997, leg. R. Gerstmeier (RGCM). Namibia, L1992, Grootfontein, leg. Rautenstrauch (RGCM). Namibia, 1.2.97, Waterberg, Richter leg. (RGCM). Namibia, 18.1.1996, Toshari Inn, NW Outjo, leg. K. & F. Adlbauer (RGCM).

Distribution: Ethiopia, Kenya, Namibia, Rwanda, Somalia, South Africa, Tanzania, Transvaal, Uganda, Zimbabwe.

***Phloiocopus sp. 1*. Plate 3, Fig. 26, 27, Map 16**

Namibia, ca. 2000 m, Khomas Hochland, 22°39'91"S 15°59'04"E, Holzeintrag 1.04.1997, M. & O. Niehuis (RGCM). Namibia, ca. 1500 m, ca. 140 km N Okahandja, 20°50.85'S 16°47.77'E, Holzeintrag 1.04.1997, M. & O. Niehuis (RGCM). Namibia, Haasenhof, SE Omaruru, 21.2.1996, leg. K.+F. Adlbauer (RGCM). Namibia, Febr. 1988, leg. M. Stelzl (RGCM). Namibia, or.-centr., Kalahari Randgebiet, Farm Pepperkorrel 294, 1640 m, 22°46'S 18°01'E, 10.-16.III.1998, H.J. Bremer leg. (RGCM). Namibia, ca. 2000 m, Khomas Hochland, 22°24'82"S 16°36'00"E, Holzeintrag 5.04.1998, M. & O. Niehuis (RGCM). Namibia, L1992, Grootfontein, leg. Rautenstrauch (RGCM). Namibia, Farm Hebron, Otjiwarongo, 11.-16.11.1996, leg. J. Schindler (RGCM). Namibia, Kaokoveld, 40-50 km N Sesfontein, 18°50'S 13°45'E, 02.III.1986, leg. F. Koch (SMNS). Namibia, Waterberg Plateau, 22.XI.1993, 30°30'S 17°14'E, F. Koch SMNS, 2 ex.). Namibia, Mahango Game Reserve, 31.X.97, leg. F. Koch (SMNS, 6 ex.). NW Namibia, Purros (Hoaruzsib Valley), 300 m, 15.-16.IV.2005, leg. W. Schawaller (SMNS, 2 ex.). Namibia, 18.1.1996, Toshari Inn, NW Outjo, leg. K. & F. Adlbauer (RGCM). SWA, 17.2.1988, Namaqualand 88/14, Helmeringhausen, 25.53S 16.49E, 1250 m, leg.: Hubert Rausch (OLML). Namibia, SW Afrika, Etoscha Nationalpark, Nähe Namutoni, 28.02.1994, leg. W.-H. Liebig (NME). Namibia, Region Kunene, Palmwag, S19°53.237' E13°56.249', 889 m, 12.+13.03.2018, leg. R. Gerstmeier (RGCM). NAMIBIA, Region Karas, Tirasberge, Namtip Camp, S26°01.141' E16°14.814', 1319 m 03.-04.03.2018, leg. Gerstmeier (RGCM).

***Phloiocopus* sp. 2.** Plate 4, Fig. 28, Map 17

Namibia, Mahango Game Reserve, 31.X.97, leg. F. Koch (SMNS).

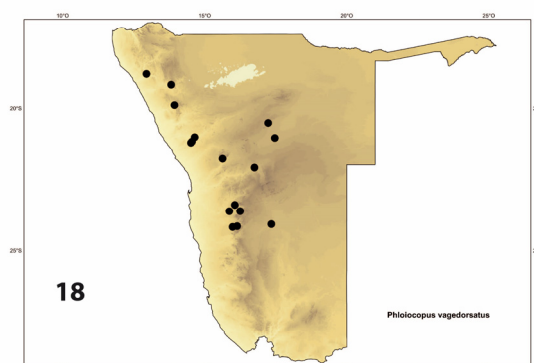
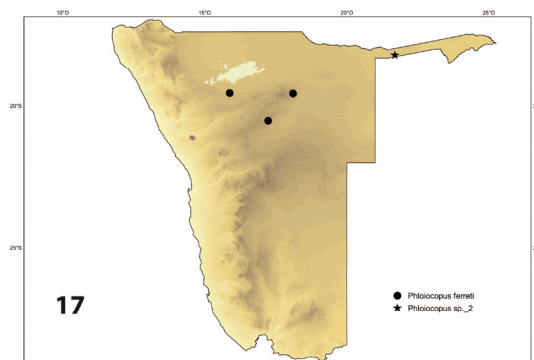
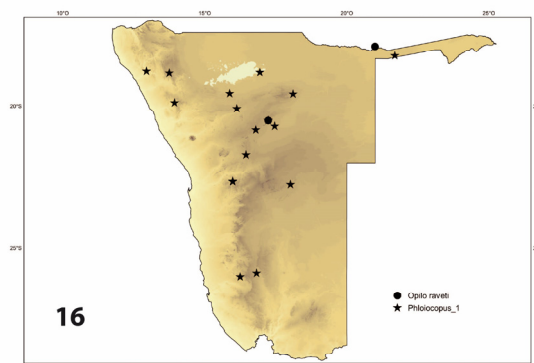
***Phloiocopus vagedorsatus* (Fairmaire, 1888) comb. n.** Plate 4, Fig. 29, Map 18

= *Thanasimodes vagedorsatus* (Fairmaire, 1888)

N Namibia, 50 km S Okakarara, 1400 m, 4.-5.III.2006, leg. W. Schawaller (SMNS). S Namibia, Farm Namibgrens (Spreetshoogte), 180 m, 23.37S 16.14E, 3.-6.II.2010, leg. W. Schawaller (SMNS). S Namibia, Naukluft Park East, 1500 m, 24.15S 16.14E, 7.-10.II.2010, leg. W. Schawaller (SMNS). S Namibia, S Solitaire, Farm Weltevrede, 1100 m, 24.10S 15.58E, 11.-13.II.2010, leg. W. Schawaller (SMNS). NW Namibia, Purros (Hoaruzsib Valley), 300 m, 15.-16.IV.2005, leg. W. Schawaller (SMNS). Namibia, Region Khomas, Farm Boesman, S23°37.080' E15°51.645', 969 m, 06.03.2018, leg. R. Gerstmeier (RGCM). Namibia, Region Kunene, Ongongo Camp, S19°08.442' E13°49.139', 779 m, 15.03.20128, leg. R. Gerstmeier (RGCM). Namibia, Waterberg, Lichtfang, Camp, 21.9.2007, Leg. A. Jarzabek-Müller (RGCM, 2 ex.). Namibia, Ameib Farm, S21°47.299' E15°37.685', 1054 m, 29.02.-03.03.2016 (UV trap), leg. R. Gerstmeier (RGCM, 4 ex.). Namibia, Boscia Farm, 17 km SE Schlip, S24°04.620' E17°20.684', 1285 m, 08.03.2016 (UV trap), leg. R. Gerstmeier (RGCM, 2 ex.). Namibia, Region Kunene, Palmwag, S19°53.237' E13°56.249', 889 m, 12.+13.03.2018, leg. R. Gerstmeier (RGCM). Namibia, 11.2.97, Groß Barmen, Richter leg. (RGCM). NAMIBIA, Region Khomas, Farm Rooiklip, Bee trail, S23°24.738' E16°04.341', 987 m, 07.-09.03. 2018, leg. R. Gerstmeier (RGCM, 2 ex.). Namibia, Region Erongo, Brandberg Nord (vic. White Lady Lodge), S21°01.302' E14°38.844', 417 m, 11.03.2018, leg. R. Gerstmeier (RGCM). NAMIBIA, Brandberg, Messum Valley, 700 m, 21°13.29'S, 14°30.98'E, 03.iv.1999, S. van Noorr & S.G. Compton, UV Light trap, sparsely vegetated river valley, Bushy Karoo-Nama shrubland NA99-L01 (NMNW, 3 ex.). NAMIBIA, Brandberg, Hungorob River at: 21°13'0.5"S, 14°31'0.1"E, 1200 m, 09.xi.1998, A.H. Kirk-Spriggs, light trap plateau edge (NMNW). NAMIBIA, Brandberg, Pools on Wasserfallfläche, 21°10'40"S, 14°33'08"E, 2000 m, 21.x.1998, R. Butlin & J. Altringham, at light 1900-0700 (NMNW).
Distribution: Namibia, South Africa.

***Thanasimodes* sp.** Plate 4, Fig. 30, Map 15

Namibia-Exp. ZMB 1992, Kavango: Popa Falls, im Kavango, 18°07'S 21°35'E, 13.III.92, leg. F. Koch (SMNS).



Maps 16–18: 16) *Opilo raveti*, *Phloiocopus* sp. 1 17) *Phloiocopus ferreti*, *Phloiocopus* sp. 2 18) *Phloiocopus vagedorsatus*

***Thanasimodes robustus* (Boheman, 1851).** Plate 4, Fig. 31, Map 15

Namibia, 31.1.1996, Finkenstein E Windhoek, leg. K. & F. Adlbauer (RGCM). Namibia, E Otavi, 14.1.1996, leg. K.+F. Adlbauer (RGCM).
Distribution: Kenya, Namibia (new country record), Rwanda, Somalia, South Africa, Tanzania, Zimbabwe.

***Trichodes aulicus* Klug, 1842.** Plate 4, Fig. 32, Map 14

Namibia: Boom River Canyon; 4 km N of Orange River; (ESE of Rosh Pinah); 28.00, 5S 17.03E 200 m; 25.-30.X.1996; M & A Wedd Expedition (SANC).
Distribution: Namibia, South Africa (Gerstmeier & Huesmann 2004).

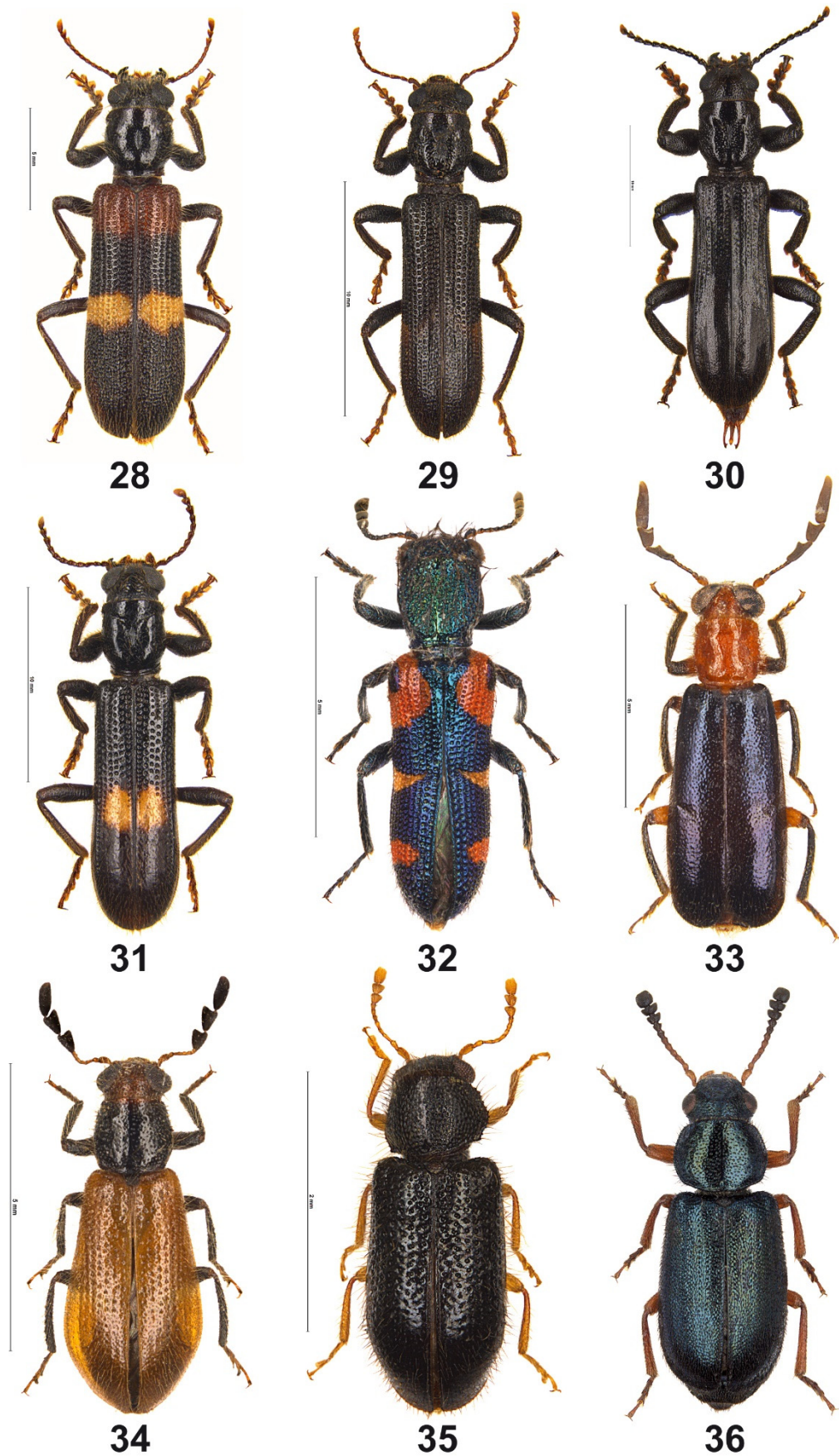


Plate 4: Figures 28–36: 28) *Phloiocopus* sp. 2 29) *Phloiocopus vagedorsatus* 30) *Thanasimodes* sp. 31) *Thanasimodes robustus* 32) *Trichodes aulicus* 33) *Enopliomorpha cyanipennis* 34) *Enopliomorpha* sp. 35) *Korynetes semistriatus* 36) *Necrobia rufipes*

Subfamily Enopliinae

***Enopliomorpha cyanipennis* Pic, 1948.** Plate 4, Fig. 33, Map 19

Namibia: Waterberg Plateau Park, 9–11.1.1997, leg. R. Gerstmeier (RGCM). Namibia, 27.12.1997, Waterberg Plateau Park, leg. J. Schindler (RGCM, 3 ex.). Namibia, SE Omaruru, 26.1.1996, leg. K.+F. Adlbauer (RGCM). Namibia, N Usakos, 22.1.1996, leg. K.+F. Adlbauer (RGCM).

Distribution: Central African Republic, Namibia (new country record).

***Enopliomorpha* sp.** Plate 4, Fig. 34, Map 19

Namibia, Schönfeld, N Omaruru, 1650 m, 10.1.1996, leg. K.+F. Adlbauer (RGCM).

Subfamily Korynetinae

***Korynetes semistriatus* Spinola, 1844.** Plate 4, Fig. 35, Map 20

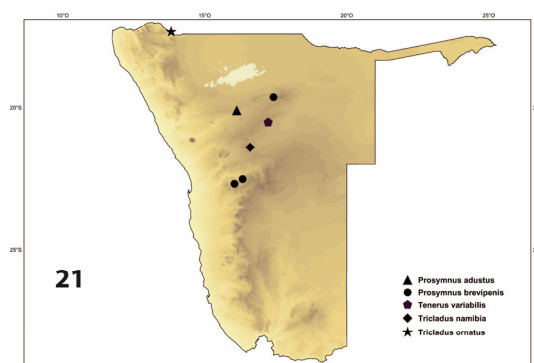
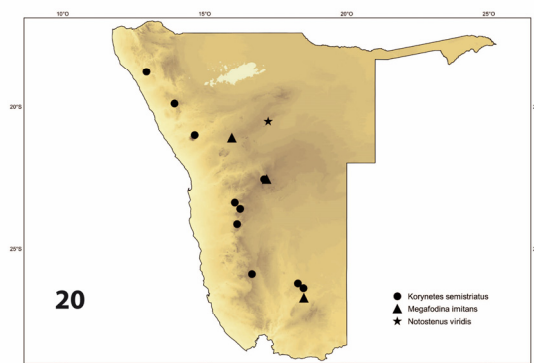
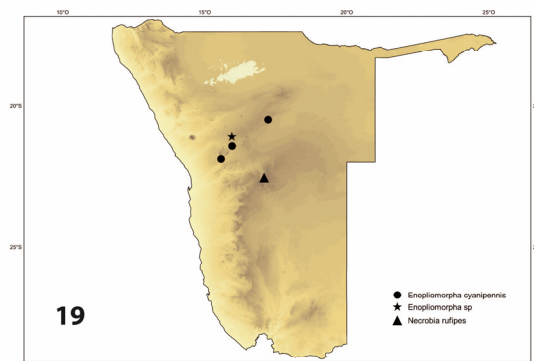
Namibia, Region Karas, Mesosaurus Camp, S26°24.375' E18°28.598', 1065 m, 28.02.2018 (RGCM). Namibia, Windhoek, 24./25.12.1997, leg. J. & R. Schindler (RGCM). Namibia, Umgebung Palmwag, 4.1.1997, leg. R. Gerstmeier (RGCM). S Namibia, Farm Namibgrens (Spreetshoogte), 180 m, 23.37S 16.14E, 3.-6.II.2010, leg. W. Schawaller (SMNS, 6 ex., RGCM, 2 ex.). NAMIBIA, Region Khomas, Farm Rooiklip, Bee trail, S23°24.738' E16°04.341', 987 m, 07.-09.03. 2018, leg. R. Gerstmeier (RGCM). Namibia, Region Erongo, Brandberg Nord (vic. White Lady Lodge), S21°01.302' E14°38.844', 417 m, 11.03.2018, leg. R. Gerstmeier (RGCM). S Namibia, N Tiras Mts., Farm Lovedale, 1600 m, 25.54S 16.39E, 16.-17.II.2010, leg. W. Schawaller (SMNS). S Namibia, Naukluft Park East, 1500 m, 24.15S 16.14E, 7.-10.II.2010, leg. W. Schawaller (SMNS). S Namibia, NE Keetmanshoop, Mesosaurus Fossil Farm, 1100 m, 26.24S 18.28E, 18.-19.II.2010, leg. W. Schawaller (SMNS, 2 ex.). NW Namibia, Purros (Hoaruzsib Valley), 300 m, 15.-16.IV.2005, leg. W. Schawaller (SMNS).

Distribution: Namibia (new country record), South Africa.

***Necrobia rufipes* (Degeer, 1775).** Plate 4, Fig. 36, Map 19

Namibia, Umg. Windhoek, 12.1996, leg. J. Schindler (RGCM).

Distribution: Cosmopolitan.



Maps 19–21: 19) *Enopliomorpha cyanipennis*, *Enopliomorpha* sp., *Necrobia rufipes* 20) *Korynetes semistriatus*, *Megafodina imitans*, *Notostenus viridis* 21) *Prosymnus adustus*, *Prosymnus brevipennis*, *Tenerus variabilis*, *Tricladus namibia*, *Tricladus ornatus*

***Notostenus viridis* (Thunberg, 1781).** Plate 5, Fig. 37, Map 20

Namibia, Distr. Otjozondjupa; Waterberg Plateau Park, 1520 m, S20°31' / E17°14', 28.02.-03.03.2011 (RGCM).

Distribution: Namibia (new country record), South Africa.

***Prosymnus adustus* Opitz, 2016.** Plate 5, Fig. 38, Map 21

Namibia, Region Kunene, Buschfeld Camp, bei Outjo, S20°05.694' E16°07.623', 1306 m, 16.03.2018, leg. R. Gerstmeier (RGCM).

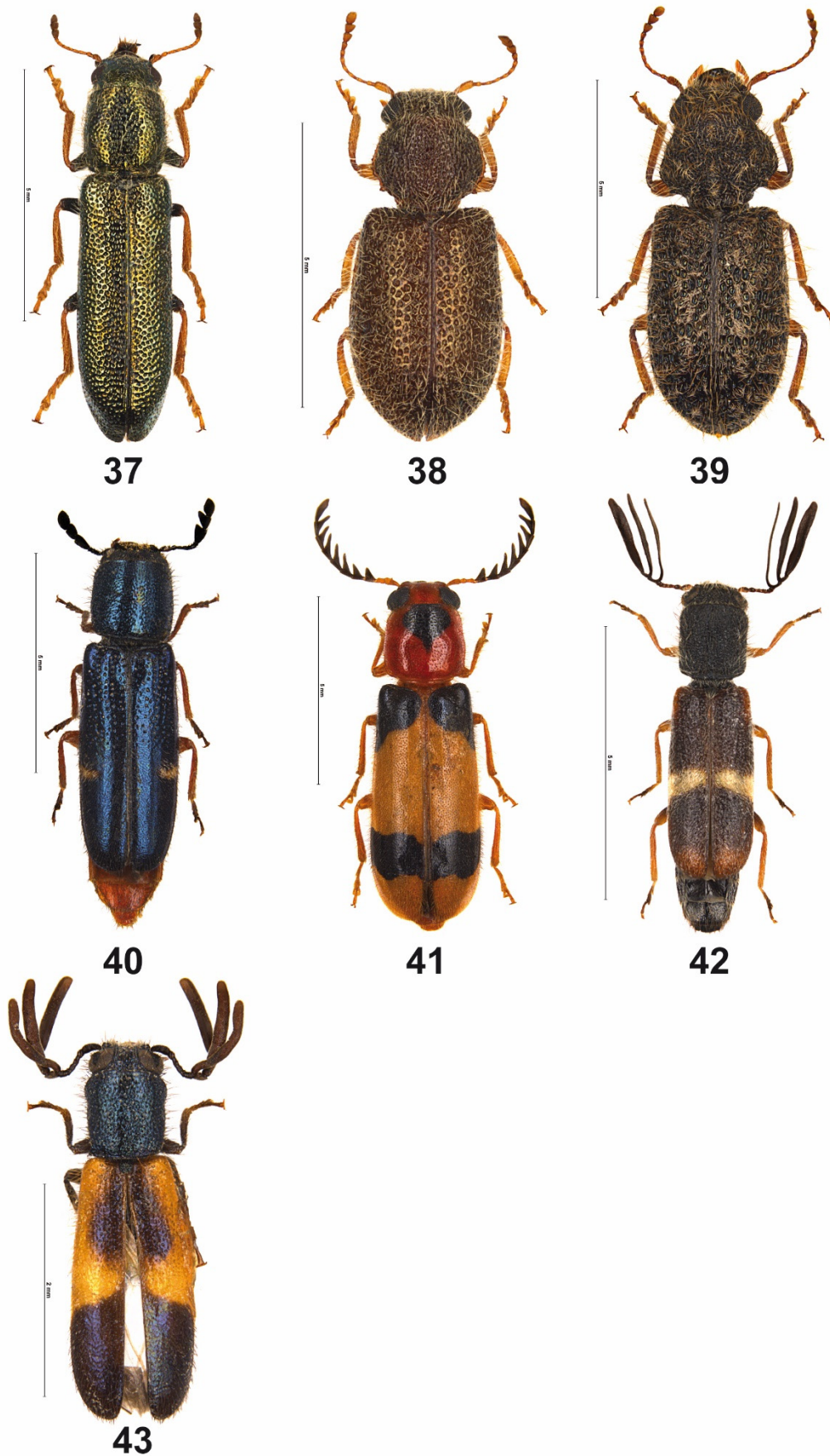


Plate 5: Figures 37–43: 37) *Notostenus viridis* 38) *Prosymnus adustus* 39) *Prosymnus brevipenis* 40) *Megafodina imitans* 41) *Tenerus variabilis* 42) *Tricladus namibia* 43) *Tricladus ornatus*

Distribution: Burkina Faso, Burundi, Ethiopia, Namibia (new country record), Kenya, Somalia.

***Prosymnus brevipennis* Opitz, 2016.** Plate 5, Fig. 39, Map 21

Namibia: Khomas Region, road C 28, 75 km W Windhoek, 22°45'S 14°23'E, 1780 m, 9.11.2012, leg. M. Hornburg (RGCM). Namibia, Khomas Region, road C 28, near Bosua Pass, 22°39'S 16°00'E, 1300 m, 10.11.2012, M. Hornburg (RGCM, 1; WOPC, 1). Namibia, E Otavi, 14.I.1996, leg. K + F. Adlbauer (RGCM).

Distribution: Ethiopia, Kenya, Namibia, South Africa, Tanzania (Opitz 2016).

Subfamily Orthopleurinae

***Megafodina (Orthopleuroides) imitans* (Schenkling, 1908).** Plate 5, Fig. 40, Map 20

Namibia, Karas Region, 42 km SE Keetmanshoop, road B1, Guruchab river, 26°44'S, 18°29'E, 845 m, 25.11.2012, leg. M. Hornburg (RGCM). Namibia, Schönfeld, N Omaruru, 1650 m, 10.1.1996, leg. K.+F. Adlbauer (RGCM). Namibia, E Windhoek, 1900 m, 6.1.1996, leg. K. & F. Adlbauer (RGCM, 2 ex.).

Distribution: Botswana, Democratic Republic of the Congo, Madagascar, Namibia (new country record), South Africa, Swaziland, Transvaal, Zambia, Zimbabwe.

***Tenerus variabilis* (Klug, 1842).** Plate 5, Fig. 41, Map 21

Namibia, Waterberg Plateau Park, 9.-11.1.1997, leg. R. Gerstmeier (RGCM, 10 ex.). Namibia, 27.12.1997, Waterberg Plateau Park, leg. J. Schindler (RGCM, 4 ex.).

Distribution: Kenya, Namibia (new country record), South Africa, Tanzania, Transvaal, Zimbabwe.

***Tricladus namibia* Opitz, 2014.** Plate 5, Fig. 42, Map 21

Namibia, ca. 2000 m, Khomas Hochland, 22°39'91"S 15°59'04"E, Holzeintrag 4.04.1998, M. & O. Niehuis (RGCM).

Distribution: Namibia (Opitz 2014).

***Tricladus ornatus* Opitz, 2014.** Plate 5, Fig. 43, Map 21

Namibia, Southwest Africa, Kaokoveld, Swartbooisdrif, 17°19'S 13°49'E, 10-II-1975, beaten on shore, Endrödy-Younga (WOPC).

Distribution: Namibia, South Africa, Tanzania (Opitz 2014).

Further results

Endemic species of Namibia:

Eucymatodera parva
Tricladus namibia

Southern African species:

Strotocera versicolor
Phloiocopus vagedorsatus
Trichodes aulicus
Korynetes semistriatus
Notostenus viridis

DISCUSSION

The map of all collecting locations (Map 1) shows some gaps, especially in the northern and eastern parts, but also in the south of Namibia. Further excursions are planned to fill these knowledge gaps. I tried to correlate the species distributions with biogeographic biomes, e.g. Namib Desert, Nama Karoo, Succulent Karoo and Savannah (based on Irish 1994, Mendelsohn et al. 2002), but without any success. Checkered beetles of Namibia seem to show a certain correlation with the structural diversity, indicated by the fact that most locations are situated on the Escarpment.

Cleridae are associated with dead wood (*Acacia* trees and other trees and shrubs), because most of the clerids are saproxylic and therefore they hunt larvae and other stages of wood infesting insects. Anecdotally, they appear to be generalist predators within specific niche micro-habitats. Flower visitors may feed on pollen, but mainly hunt other flower-visiting insects, e.g. *Aphelochroa sanguinalis* (Mawdsley & Sithole 2010) – *Trichodes* species are known to be nest robbers and hunt pre-adult stages of various solitary bees (Hymenoptera). In this context Cleridae may appear to transport pollen and may pollinate flowers (Mawdsley 2004).

Almost all genera of Cleridae represented in Namibia require taxonomic revision before species can be reliably identified. In response to this need, Alan Burke and I are preparing a set of revisions of genera of the subfamily Tillinae (starting with the genus *Eucymatodera*).

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