

Two new species of *Clivina* LATREILLE, 1802 (Coleoptera: Carabidae: Scaritinae) from Africa

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Abstract

Two new species of *Clivina* are described: *Clivina (Physoclivina) donabaueriana* sp.n. and *Clivina (Physoclivina) bulirschi* sp.n. The three known species of the subgenus *Physoclivina* KULT, 1959 are differentiated in a key.

Key words: Coleoptera, Carabidae, Scaritinae, Clivinini, *Clivina*, *Physoclivina*, Africa, Senegal, Burkina Faso, new species, identification key.

Zusammenfassung

Zwei neue *Clivina*-Arten werden beschrieben: *Clivina (Physoclivina) donabaueriana* sp.n. und *Clivina (Physoclivina) bulirschi* sp.n. Die drei nun bekannten Arten der Untergattung *Physoclivina* KULT, 1959 werden in einem Bestimmungsschlüssel differenziert.

Introduction

The subgenus *Physoclivina* was established by Karel KULT (1959), monobasic for *Clivina physopleura* BURGEON, 1935 (VIII. *physopleura* group) and has been continuously treated as a subgenus since then (LORENZ 2005: 145). *Physoclivina* is characterized by widely set pores of the anal ventrite and by the absence of the spur on the extensor side of the mesotibia (KULT 1959: 176, 214). In addition, *Physoclivina* specimens are easily recognizable by a notable cylindrical shape, small body size, absence of dorsal pores, and paired carinae on the head: on the clypeus and in the middle of the frons, forming an inverted “V”.

This subgenus *Physoclivina* is restricted to tropical Africa. Former records of *C. physopleura* lie in today’s Democratic Republic of the Congo and South Sudan. More recent investigations yielded a new record of *C. physopleura* from Zambia and new species from Senegal and Burkina Faso which are described below.

Material and methods

Preserved specimens from different private collections are used, which are mounted on commercially available paper cards. I strongly recommend to use triangular ones, for more convenient investigation of the lower surface of the pronotum. I would further advise to detach the abdomen which bears important distinguishing characters and to mount it, ventral side up, beside the specimen. Genital organs of males and females were dissected and also glued to the cards beneath the specimens.

The species descriptions are based on the most distinguishing external characters as defined by BAEHR (2008: 9). Label data for examined material are given in full length, with exact label wording, except for the date format, which is transcribed to the format “dd.mm.jjjj”.

Measurements were taken with a calibrated Leica ocular scale at absolute magnifications of 39.1× for pronotal length and width, and 19.4× for all other measurements. All measurements are in millimetres. L = total body length, from apex of mandible to apex of elytra. W = maximum body width (situated at apical third or near mid-length of elytra). PL = maximum pronotum length, measured along median line from base of anterior bristle fringe to base of posterior one. PW = maximum pronotum width, measured normal to midline (in most cases situated near posterior angles). P-LW = length-width-index of pronotum (length : width). F-LW = length-width-index of both elytra.

Taxonomy

Clivina Subgenus *Physoclivina* KULT, 1959

Clivina subgen. *Physoclivina* KULT, 1959: 176, 214; LORENZ 2005: 145.

VIII. *physopleura* group KULT 1959: 176, 214.

Type species: *Clivina physopleura* BURGEON, 1935 by original designation (KULT 1959: 214).

Key to the species of the subgenus *Physoclivina*

- 1 Smaller species, length 2.55–2.75 mm. Pronotum 1.20–1.25× as long as wide, with longitudinal groups of punctures situated paramedian and lateral on each side. Frons without coarse punctures. Democratic Republic of the Congo (formerly Zaire, Belgian Congo), South Sudan, Zambia. *C. physopleura*
- More robust species, length 2.88–3.32 mm. Pronotum 1.08–1.19× as long as wide, with paramedian group of punctures missing or reduced, the lateral one present. Frons with scattered coarse punctures in posterior part, especially at sides. 2
- 2 Pronotum with paramedian group of punctures missing. Senegal. . *C. donabaueriana* sp.n.
- Pronotum with paramedian group of punctures reduced, but evident; form of group oval. Burkina Faso. *C. bulirski* sp.n.

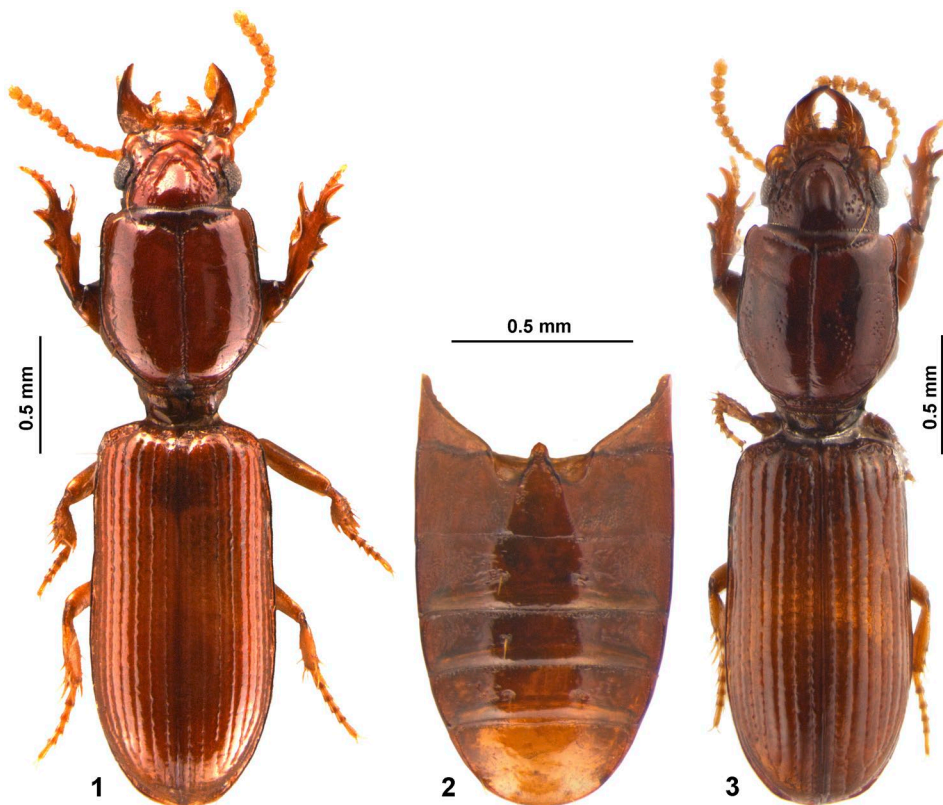
Clivina (Physoclivina) donabaueriana sp.n. (Figs. 1, 2, 4–6, 8, 9, Tab. 1)

Material examined: Holotype (male): Senegal, Niokolo Koba NP, 13°01.13'N, 13°18.48'W, 15.07.2004, Marek Halada leg., in coll. Dostal (Vienna); Paratypes: 1 female, Senegal-E, 35 km W Kedougou Nbebou, 23.06.2004, Marek Halada leg., in coll. Dostal (Vienna); 2 females, Senegal, Fatick reg., vic. of Bandiala prim. forest, Dielmo, 29.07.2006, light trap, J.B. Huchet lgt., in coll. Bulirsch (Prague); 1 female, Senegal, Kaolak, Norio du Rip, alla luce, 24.07.2009, leg. Ph. Moretto, in coll. Bulirsch (Prague).

Recognition: A more robust species of the subgenus *Physoclivina*, distinguishable by its wide pronotum that has reduced puncturation, and by coarse puncturation of the middle of the neck.

Description: Measurements (see also Tab. 1): length 3.16–3.34 mm, width 0.77–0.82 mm.

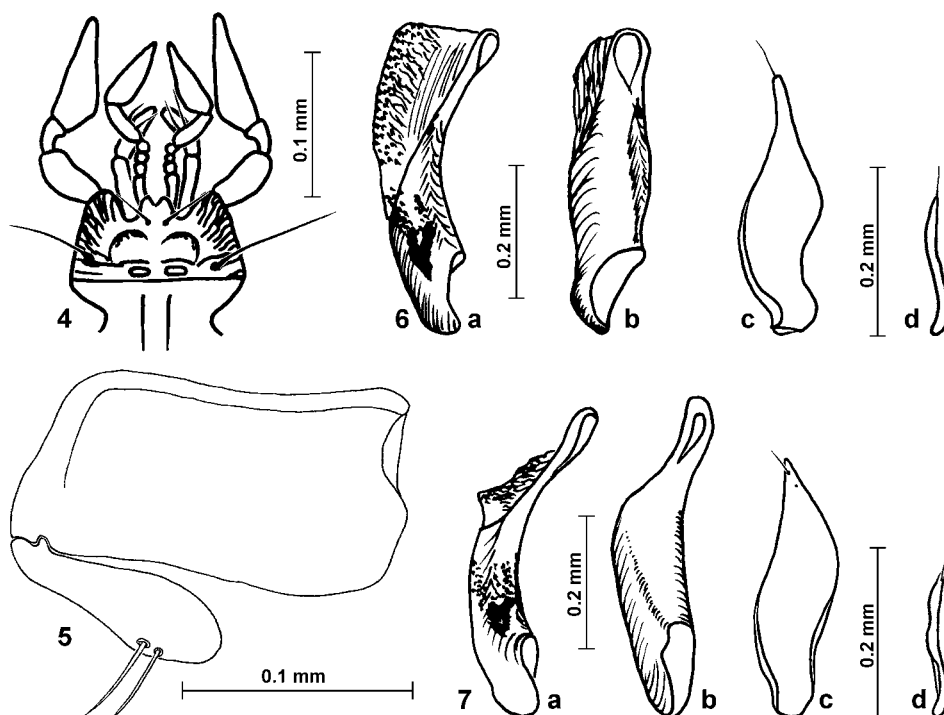
Color: Unicolorous reddish-brown, antennae and mouthparts except mandibles lighter, yellowish-brown.



Figs. 1–3: (1–2) *Clivina donabaueriana* sp.n., holotype (male): (1) Habitus, dorsal view. (2) Abdomen, ventral view. (3) *Clivina bulirschi* sp.n., holotype (male), habitus, dorsal view.

Tab. 1: Measurements and indices of *C. donabaueriana* sp.n. (N = 5). Given are measurements for all types, minimum (Min) and maximum (Max) values, arithmetical mean (M), and standard deviation (SD).

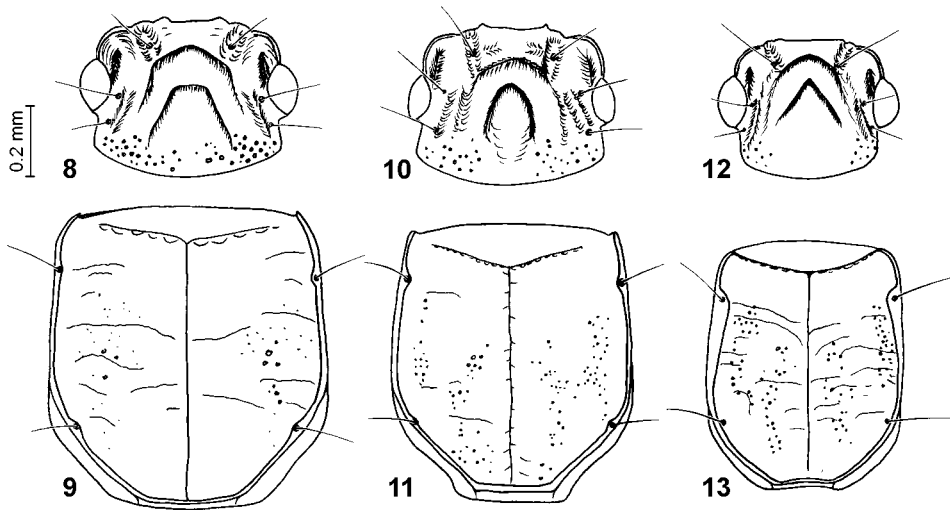
	Sex	P-LW	E-LW	L (mm)	W (mm)	PL (mm)	PW (mm)
Holotype	m	1.15	2.15	3.32	0.82	0.83	0.72
Paratype	f	1.09	2.15	3.32	0.80	0.81	0.74
Paratype	f	1.11	2.20	3.20	0.77	0.82	0.74
Paratype	f	1.12	2.17	3.20	0.77	0.83	0.74
Paratype	f	1.10	2.13	3.30	0.82	0.85	0.77
Min		1.09	2.13	3.16	0.77	0.81	0.72
Max		1.15	2.20	3.34	0.82	0.85	0.77
Mean		1.11	2.16	3.26	0.79	0.83	0.74
SD		0.02	0.03	0.09	0.03	0.01	0.02



Figs. 4–7: (4–6) *C. donabaueriana* sp.n. (4, 6: holotype, male; 5: paratype, female), (7) *C. bulirschi* sp.n.: (4) Mouthparts, ventral view. (5) Female genitalia, right ovipositor stylomeres, ventral view. (6a, 7a) Median lobe, left lateral view; (6b, 7b) median lobe, ventral view. (6c, 7c) Left paramere, lateral view. (6d, 7d) Right paramere, lateral view.

Microsculpture: glossy. Head and pronotum scattered with extremely fine, microscopic puncturation. Labium entirely and sterna 2–4 at sides isodiametrically microreticulated.

Head (Figs. 1, 4, 8): Antenna short, reaching about mid-length of pronotum; antennomeres 5–10 transverse, distinctly wider than long; antennomeres 3–11 pubescent, without glossy areas in middle. Mandibles short, almost equally bent inwards; left mandible marginally broader than right one; both with short basal denticulation and acute apex. Anterior margin of labrum slightly convex, with slightly produced middle part, with 6 setae. Anterior margin of clypeus straight, finely bordered, laterally with two small triangular denticles; middle part and wings fused; clypeus delimited from supraantennal plates by a deep, short, longitudinal furrow, which carries a deep fovea in the anterior, and a stout seta in the proximal part; basal border to frons built by a ridge forming a flat inverted “V”. Outer margin of supraantennal plate finely bordered and somewhat upturned; surface convex, with a distinct longitudinal ridge connecting anterior supraorbital setae. Frons basally with a central ridge forming a steep inverted “V” with truncated top; frontal furrows beginning at lateral part of the anterior “V”, running backwards just beyond posterior border of eye, with triangularly raised border above supraorbital setae. Supraorbital sulcus moderately deep, bearing two supraorbital setae, which are not inserted on a tubercle. Neck not constricted, entirely beset with coarse punctures, which are more dense at sides.



Figs. 8–13: Head (8, 10, 12) and pronotum (9, 11, 13), dorsal view, of (8, 9) *C. donabaueriana* sp.n., holotype, (10, 11) *C. bulirschii* sp.n., holotype, and (12, 13) *C. physopleura*, male from Kinshasa.

Eye slightly spherical; postorbital area not developed, posterior edge of eye and neck forming a right angle.

Ventral surface of head: Gula distinctly microreticulated. Adjacent sides of head microreticulated, coarsely punctured and wrinkled. Submentum with two setae at each side. Median tooth of mentum bicuspid, at base with one pair of setae, as long as lateral wings of mentum; mentum wings rounded at sides anteriorly, anterior margin broadly rounded, surface with oblique wrinkles; mentum with flat convex paramedian convexities above basal, transverse-oval foveae; mentum wings without border, except on inner side next to median tooth, surface glossy. Apex of glossa triangular, acute, bisetose. Penultimate labial palpomere bisetose at inner edge; last labial palpomere spindle-shaped, widest in basal half, longer than penultimate one. Last maxillary palpomere spindle-shaped, widest in basal half, penultimate one short, about one third of length of last palpomere; basal palpomere distinctly thickened.

Pronotum (Figs. 1, 9) more or less cylindrical, with convex declivity to base, $1.09\text{--}1.15\times$ as long as wide (Tab. 1). Surface glossy, without microreticulation on disc, with some traces of reticulation in lateral channel, the ground of middle longitudinal furrow crenulate. Anterior corner slightly produced forward as a small denticle. Posterior corner completely rounded, not breaking outline of pronotum. Base and sides finely bordered, with broader lateral channel between marginal and postangular pore. Basal border close to peduncle. Epipleura bullous in basal part and forming the contour at sides. Anterior transversal sulcus oblique, deep, coarsely punctured. Median line deeply impressed, with irregular edges. Epipleura very small, enlarged at base. Proepisternum broad, wider than half of the thickness of pronotum in lateral view, with distinct isodiametric microreticulation, but glossy, separated from prosternum by a distinct suture. Proepisternum bullous in basal part and building the contour at sides and base. Prosternum glossy, with fine punctation and deep transversal furrow along anterior margin; prosternal processus keel-like before procoxae, between them narrow, flattened, unbordered, without setae.

Elytra (Fig. 1) 2.13–2.20× as long as wide (Tab. 1), cylindrical, strongly convex; sides parallel, basal declivity strongly vertical. Surface glossy, smooth, without microreticulation. Base bordered from humerus to the middle of interval 4 (striae 1–3 free at base), ending with a denticle-like tubercle; a small tubercle in the middle of interval 3, above peduncle unbordered. Scutellar striole missing. Scutellar pore present at the end of first stria. Striae straight, deeply engraved from base to apex, with coarse punctures. Elytra without dorsal pores and without preapical pore. Umbilical pores in lateral channel (9th interval) close together at humeri and apex, more distant in the middle.

Legs (Fig. 1): Protibia with four teeth, proximal denticle small, triangular; upper surface glossy with fine microreticulation and very shallow longitudinal sulcus from the proximal end of incision to base; surface of posterior side with two denticles at middle. Basal tarsomere of foreleg conically shaped, not incised or petiolate, about as long as tarsomeres 2–4 together, without setae or pubescence on dorsal surface. Upper edge of mesotibia with 6–7 tubercular pores carrying short and broad setae at extensor side and 3–5 smaller ones at flexor side; without distal setiferous spur. Meso- and metatibia at flexor side asetose.

Ventral surface: Peduncle microreticulated. Mesosternum without setae. Elytral epipleura broad in basal third, then abruptly narrowed, and towards apex evenly narrowed; glossy, with traces of microreticulation, with row of few indistinct punctures along midline at anterior part. Metepisternum with lateral margin about 1.8× as long as anterior one, constricted towards apex, glossy, with few scattered punctures and wrinkles, anteriorly finely bordered. Metasternum smooth and glossy, between mesocoxae triangular, distinctly bordered, without setae. Meso- and metacoxa bisetose. Abdominal sterna (Fig. 2) glossy, sternum 1 completely microreticulated, 2 except for its middle part, and 3 only at sides. Sternum 2 with an impressed, more or less oval, flat area in middle, with irregular punctures along anterior margin, but without paramedian suture. Sterna 3–5 with few irregular and fine punctures at side, 4–6 with basal transversal sulcus. Sterna 3–5 each with one pair of paramedian setae. Anal sternum with microscopic punctures; lateral margins each with two setae, far apart from each other in both sexes.

Male genitalia (Fig. 6): Median lobe of aedeagus (Fig. 6a, b) slightly curved, dorsally open in distal two thirds; distal half dorso-ventrally flattened, ligula-like, apex broadly rounded in dorsal aspect. In apical third dorso-laterally with field of fine, parallel striae, which are usually visible in the phase contrast adjustment of the microscope only. Internal sac basally with sclerotized, V-shaped basal sclerite that is connected with a membranous part covered with round to triangular scales, apically with large, irregular scale field. Left paramere (Fig. 6c) slender, rhomboid-shaped, about 5× as wide as right one. Right paramere (Fig. 6d) very small and thin. Both parameres with one seta at apex.

Female genitalia (Fig. 5): Stylomeres thin and flat. Stylus 2 clavate, apex broadly rounded, upper edge with two stout setae. Basal stylomere 1 broad, more or less rectangular about 1.9× as wide as long.

Geographical distribution: Senegal.

Specific epithet: Latinized adjective, an eponym based on the surname of my friend and colleague Dipl. Ing. Martin Donabauer (Vienna).

Differential diagnosis: The new species is a typical representative of the subgenus *Physoclivina* (KULT 1959: 176, 214) by the following characteristics: scapus unisetose; maxillary fissure extending posteriorly beyond base of mentum; elytron with deep lateral channel (interval 9) extending from humerus to apex, separating inner elytral intervals

from lateral margin, and with continuous row of umbilical pores along entire length of marginal channel which are somewhat more distant to each other in the middle; inner side of meso- and metatibia asetose; antennomeres 5–10 wider than long, pubescent on antennomeres 4–11, which are not glossy and less densely pubescent in the middle; anal sternum with two setae, widely distant from each other in both sexes.

From the previously known species of the subgenus *Physoclivina*, *C. physopleura* BURGEON, 1935, *C. donabaueriana* sp.n. significantly differs by the broader pronotum, which is 1.09–1.15× as long as wide in the new species (Tab. 1) and 1.20–1.25× in *C. physopleura* (Tab. 3). The missing paramedian and the strongly reduced lateral group of punctures on the disc of the pronotum is characteristic for the new species. In addition, the frontal ridge is truncated in *C. donabaueriana* sp.n., and acute in *C. physopleura*, the neck of *C. donabaueriana* sp.n. is more coarsely punctured at sides, and punctures are also more numerous in the middle. The anterior edge of the clypeus is more or less straight in *C. physopleura*, whereas anteriorly produced at sides to a little triangular denticle in the new species. *Clivina donabaueriana* sp.n. is also significantly larger than *C. physopleura* (Tabs. 1, 3).

From the other new species, *C. bulirschi* sp.n., *C. donabaueriana* sp.n. differs by the missing paramedian and the strongly reduced lateral group of punctures on the disc of the pronotum; the anterior angles are somewhat more acute and anteriorly more produced, and the basal margin is more steeply ascending antero-laterally.

Clivina (Physoclivina) bulirschi sp.n. (Figs. 3, 7, 10, 11, Tab. 2)

Material examined: Holotype (male): Burkina Faso: Sanguie, Foret de Sorobouli, 270 m, 11°47'44"N, 002°53'25"O, 13.08.2005, F. Génier, zone soudanienne sud, piege lumineux, 2005–18, in coll. Bulirsch (Prague); Paratypes: 1 female, 1 ex., same locality, 13.08.2005, 2005–15, in coll. F. Génier (Gatineau); 1 ex., same label data, in coll. Bulirsch (Prague); 1 female same locality, 14.08.2005, 2005–18, in coll. F. Génier (Gatineau); 2 females, Burkina Faso: Bale, Boromo, 250 m, 11°45'06"N, 002°51'58"O, 10.08.2005, F. Génier, zone soudanienne sud, piege lumineux, 2005–10, in coll. Bulirsch (Prague); 1 male, 1 female, same locality, in coll. Dostal (Vienna); 2 females, 2 males, same label data, in coll. F. Génier (Gatineau); 1 female, 1 male, Burkina Faso: Boromo, Foret de Sorobouli, 264 m, 11°47'44"N, 2°53'25"O, 12.08.2005, leg. Moretto, in coll. Bulirsch (Prague); 1 male, same label data, in coll. Dostal (Vienna); 2 ex., Burkina Faso: Comoé, Koflandé (village), 290 m, 10°14'42"N 004°27'50"O, 04.07.2006, zone soudanienne, savane boisee, piege lumineux, F. & S. Génier, 2006–01, in coll. F. Génier (Gatineau); 1 ex., same label data, in coll. Bulirsch (Prague), 1 ex., same label data, in coll. Dostal (Vienna); 1 ex., Burkina Faso: Comoé, Foret de Boulon, 270 m, 10°16'27"N 004°27'15"O, 06.07.2006, zone soudanienne, savane boisee, piege lumineux, F. & S. Génier, 2006–05, in coll. F. Génier (Gatineau); 1 male, 26 ex., Burkina Faso: Nahouri, Foret de Nazinga, Barka, 265 m, 11°08'30"N, 001°36'35"O, 24.07.2006, zone soudanienne, savane boisee, piege lumineux, F. & S. Génier, 2006–62, in coll. F. Génier (Gatineau), 8 ex., same label data, in coll. Bulirsch (Prague), 6 ex., same label data, in coll. Dostal (Vienna); 5 ex., Burkina Faso: Nahouri, Foret de Nazinga, Naguio, 270 m, 11°07'52"N 001°34'38", zone soudanienne, savane boisee, piege lumineux, F. & S. Génier, 2006–66, in coll. F. Génier (Gatineau); 2 ex., same label data, in coll. Bulirsch (Prague); 2 ex., same label data, in coll. Dostal (Vienna); 1 ex., Burkina Faso: Nahouri, Foret de Nazinga, Akwazena, 275 m, 11°09'24"N 001°36'44"O, 26.07.2006, zone soudanienne, savane boisee, piege lumineux, F. & S. Génier, 2006–76, in coll. F. Génier (Gatineau); 1 ex., same label data, in coll. Bulirsch (Prague); 1 female, Burkina Faso: Kompienga, Pama, 230 m, 11°17'00"N, 000°42'59"E, 24.08.2005, F. Génier, zone soudanienne sud, piege lumineux, in coll. F. Génier (Gatineau); 1 female, Burkina Faso: Kompienga, 15 km E Nadiagou, 155 m, 11°04'31"N, 00°56'08"O, 22.08.2005, lux, leg. Moretto, zone soudanienne sud, in coll. Faccini (Piacenza).

Tab. 2: Measurements and indices of *C. bulirschi* sp.n. (N = 17). Given are measurements for the holotype, minimum (Min) and maximum (Max) values, arithmetical mean (M), and standard deviation (SD).

	P-LW	E-LW	L (mm)	W (mm)	PL (mm)	PW (mm)
Holotype	1.13	2.13	3.00	0.77	0.78	0.69
Min	1.08	1.91	2.88	0.74	0.74	0.65
Max	1.19	2.21	3.26	0.82	0.83	0.73
Mean	1.13	2.09	3.02	0.77	0.79	0.70
SD	0.03	0.08	0.09	0.02	0.02	0.02

Recognition: A more robust species of the subgenus *Physoclivina*, remarkable by its wider pronotum, which has a lateral and a paramedian longitudinal field of coarse puncturation on each side of the disc, and coarse puncturation at the side of neck.

Description: Measurements (see also Tab. 2): length 2.88–3.26 mm, width 0.74–0.82 mm.

Color: Unicolorous reddish-brown, antennae and mouthparts except mandibles lighter, yellowish-brown.

Microsculpture: glossy. Head and pronotum scattered with single extremely fine, microscopic punctures. Labium entirely and sterna 2–4 at sides isodiametrically microreticulated.

Head (Figs. 3, 10): Antenna short, reaching about mid-length of pronotum; antennomeres 5 - 10 transverse, distinctly wider than long; antennomeres 3–11 pubescent, without glossy areas at middle. Mandibles short, almost equally bent inwards; left mandible marginally broader than right one; both with short basal denticulation and acute apex. Anterior margin of labrum slightly convex, with slightly produced middle part, with 6 setae. Anterior margin of clypeus straight, finely bordered, laterally with two small triangular denticles; middle part and wings fused; clypeus delimited from supraantennal plates by a deep, short longitudinal furrow that carries a deep fovea in distal, and a stout seta in proximal part; basal border to frons built by a ridge forming a flat inverted “V”. Outer margin of supraantennal plate finely bordered and somewhat upturned; surface convex with a distinct longitudinal ridge connecting anterior supraorbital setae. Frons basally with central ridge forming a steep inverted “V” with truncated top; frontal furrows beginning at the lateral part of the anterior “V”, running backwards just beyond posterior border of the eye, with triangularly raised border above supraorbital setae. Supraorbital sulcus moderately deep, bearing two supraorbital setae which are not inserted on a tubercle. Neck not constricted, in middle part smooth or, in some specimens, with single punctures there, sides coarsely punctured. Eye slightly spherical. Postorbital area not developed; posterior edge of eye and neck forming a right angle.

Ventral surface of head: as in *C. donabaueriana* sp.n. (see Fig. 4).

Pronotum (Figs. 3, 11) more or less cylindrical, with convex declivity to base, 1.08–1.19× as long as wide (Tab. 2). Surface glossy, without microreticulation on disc; ground of lateral channel finely crenulated. Anterior corner somewhat produced forward as a small denticle, somewhat more rounded than in *C. donabaueriana* sp.n. Posterior corner completely rounded, not breaking through outline of pronotum. Base and sides finely bordered, with broader lateral channel between the marginal and the postangular pore. Basal border close to peduncle. Basal margin less steeply ascending anteriorly and laterally

towards hind corners than in the other species. Anterior transversal sulcus oblique, deep, coarsely punctured. Median line deeply impressed, edges irregular. Epipleura very small, enlarged at base. Proepisternum broad, wider than half of height of pronotum in lateral view, with distinct isodiametric microreticulation, but glossy, limited to prosternum by a distinct suture. Proepisternum bullous in basal part and building the contour at sides and base. Prosternum glossy, with fine puncturation and with deep transversal furrow along anterior margin which is interrupted in middle; prosternal processus keel-like in front of procoxae, between them narrow, flattened, unbordered, without setae.

Elytra (Fig. 3): 1.91–2.21× as long as wide (Tab. 2) convex; sides parallel, basal declivity strongly vertical. Surface glossy, smooth, without microreticulation. Base bordered from humerus to the middle of interval 4 (striae 1–3 free at base), ending with a denticle-like tubercle; a small tubercle in the middle of interval 3, above peduncle unbordered. Scutellar striole missing. Scutellar pore present at the end of stria 1. Striae straight, deeply engraved from base to apex, with coarse punctures. Elytra without dorsal pores, without preapical pore. Umbilical pores in lateral channel (interval 9) close together at humeri and apex, more distant in the middle.

Legs (Fig. 3): as in *C. donabaueriana* sp.n.

Ventral surface: Peduncle microreticulated. Mesosternum without setae. Elytral epipleura broader in basal third, then abruptly narrowed, towards apex steadily narrowed; glossy, with traces of microreticulation, with row of few indistinct punctures along midline in the anterior part. Metepisternum with lateral margin about 1.8× as long as anterior one, constricted towards apex, glossy, with few scattered punctures and wrinkles, anteriorly finely bordered. Metasternum smooth and glossy, between mesocoxae triangular, distinctly bordered, without setae. Meso- and metacoxa bisetose. Abdominal sterna glossy, sternum 1 completely microreticulated, sternum 2 except for its middle part, and 3 at sides only. Sternum 2 with an impressed, more or less oval, flat area in the middle, with irregular punctures along the border, but without paramedian suture. Sterna 3–5 with few irregular and fine punctures at side, 4–6 with basal transversal sulcus. Sterna 3–5 with paramedian seta at each side. Anal sternum with microscopic punctures; lateral margins each with two setae, far apart from each other in both sexes.

Male genitalia (Fig. 7): Median lobe (Figs. 7a, b) of aedeagus slightly curved, dorsally open in the distal two thirds; distal half dorso-ventrally flattened, ligula-like, apex broadly rounded in dorsal aspect. Internal sac basally with an sclerotized, V-shaped basal sclerite that is connected with a membranous part covered with round to triangular scales, apically with a large, irregular scale field. Left paramere (Fig. 7c) slender rhomboid-shaped, about 5× as wide as right one. Right paramere (Fig. 7d) very small and thin. Both parameres with one seta at apex.

Female genitalia: as in *C. donabaueriana* sp.n. (comp. Fig. 5).

Geographical distribution: Burkina Faso.

Collecting circumstances: At light, in wooded savannah habitats, in vicinity of water.

Specific epithet: Latinized noun, an eponym based on the surname of my colleague Petr Bulirsch (Prague).

Differential diagnosis: This is a typical representative of the subgenus *Physoclivina* by characteristics listed above. It significantly differs from *C. physopleura* by the

Tab. 3: Measurements and indices of *C. physopleura* (N = 4). Given are minimum (Min) and maximum (Max) values, arithmetical mean (M), and standard deviation (SD).

	P-LW	E-LW	L (mm)	W (mm)	PL (mm)	PW (mm)
Min	1.20	2.11	2.55	0.61	0.69	0.57
Max	1.25	2.25	2.75	0.69	0.75	0.62
Mean	1.22	2.19	2.66	0.64	0.72	0.59
SD	0.03	0.07	0.08	0.03	0.03	0.02

broader pronotum, which is 1.08–1.19× as long as wide in the new species (Tab. 2) and 1.20–1.25× in *C. physopleura* (Tab. 3). On the pronotum the paramedian group of punctures is somewhat reduced in *C. bulirschi* sp.n. and the basal margin is less steeply ascending antero-laterally. On the head the frontal ridge is truncated, but acute in *C. physopleura*, the neck is more coarsely punctured at sides and also more in the middle in the new species. *Clivina bulirschi* sp.n. is also significantly larger than *C. physopleura* (comp. Tabs. 2, 3).

Clivina bulirschi sp.n., differs from *C. donabaueriana* sp.n. by the missing paramedian and the strongly reduced lateral group of punctures on the disc of the pronotum. The anterior corner of the pronotum is slightly less produced in *C. bulirschi* sp.n., and the basal margin is less steeply ascending anteriorly and laterally towards hind corners than in the other species.

Clivina (Physoclivina) physopleura BURGEON, 1935 (Figs. 12, 13, Tab. 3)

Clivina physopleura BURGEON 1935: 151.

Clivina (Physoclivina) physopleura BURGEON, 1935: LORENZ 2005: 145.

Material examined: Democratic Republic of the Congo: 1 male, Kinchassa, Waelbroeck, 21.05.1899, *C. physopleura* [sic] Burg. det. K. Kult, 1946, in coll. Dostal (Vienna); 1 male, Kinchassa, Waelbroeck, 18.01.1900, "Compared with type, K. Kult, 1946", *C. physopleura* [sic] Burg. det. K. Kult, 1946, in coll. Dostal (Vienna); 1 female, ditto, *C. physopleura* [sic] Burg. det. K. Kult, 1946, in coll. Dostal (Vienna); 1 female, Boma, 02–03.1937, Darteville, Metatype, *C. physopleura* [sic] Burg. det. K. Kult, 1946, in coll. Dostal (Vienna). Zambia: 8 Ex., Western Zambia, 30km NW Sesheke, S 20°17.08 E 24°08.49, 13.01.2010, leg. P. Schüle, in coll. Schüle (Düsseldorf).

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References

- BAEHR M., 2008: The Australian Clivinini 1. The genera *Ancus* PUTZEYS, *Aspidoglossa* PUTZEYS, *Clivinarchus* SLOANE, *Platysphyrus* SLOANE, *Pseudoclivina* KULT, *Rhysocara* SLOANE, *Syleter* ANDREWES, the subgenera *Paraclivina* KULT, *Semiclivina* KULT, and the *atrata*-, *biplagiata*-, *brevicornis*-, *coronata*-, *coryzoides*-, *cribrosa*-, *debilis*-, *denticollis*-, *grandiceps*-, *incerta*-, *lobata*-, *obliquata*-, *obsoleta*-, *orbitalis*-, *planiceps*-, *sulcaticeps*-, *tranquebarica*-, and

- wurargae*-groups of the genus *Clivina* LATREILLE. With a note on a record of the genus *Parathlibops* BASILEWSKY (Scapterini) (Carabidae, Scaritinae). – *Coleoptera* 12: 1–220.
- BURGEON L., 1935: Catalogues raisonnés de la faune entomologique du Congo Belge. Coléoptères, Carabides, 1^e partie. – *Annales du Musée du Congo Belge, Serie III, Section II*: 2(3): 135–257.
- KULT K., 1959: Revision of the African species of the old genus *Clivina* LATR. (Col. Carabidae). – *Revue de zoologie et de botanique africaines* 60(1–2): 172–225.
- LORENZ W., 2005: Systematic list of extant ground beetles of the world (Insecta Coleoptera “Geodephaga”: Trachypachidae and Carabidae incl. Paussinae, Cicindelinae, Rhysodinae). – 2nd edition, published by the author, Tutzing, 530 pp.
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