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Contribution to the knowledge of the tribe Dyschiriini from tropical Africa (Coleoptera: Carabidae: Scaritinae)

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Coleoptera, Carabidae, Scaritinae, *Dyschiriodes*, *Cribrodyschirius*, new species, new subspecies, key, Afrotropical region

Abstract. Seven new species of the genus *Dyschiriodes* Jeannel, 1941: *D. becvari* sp. n. from Zimbabwe, Malawi, South Africa, Tanzania and Mozambique; *D. moraveci* sp. n. from Benin and Ghana, *D. addisabeba* sp. n. from Ethiopia, *D. mafuga* sp. n. from D. R. of Congo, *D. szeli* sp. n. from Tanzania, *D. malawicus* sp. n. from Malawi and *D. fianarensis* sp. n. from Madagascar are described, illustrated and compared with the related taxa. New *Dyschiriodes malawicus* species group is established. *Cribrodyschirius basilewskyi angolanus* ssp. n. is described and illustrated. Species status of *C. basilewskyi* Fedorenko, 1991 and subspecies status of *C. puncticollis elgonensis* (Basilewsky, 1948) is returned, and key to the genus *Cribrodyschirius* Bruneau de Miré, 1952 (published Fedorenko, 1999b) is refined.

INTRODUCTION

Species of the genera *Dyschiriodes* and *Cribrodyschirius* from Afrotropical region were firstly revised by Kult (1954) within his revision of Afrotropical species of the genus *Dyschirius* Bonelli, 1810. After this article only a few new species were described and some species groups were established or revised (Basilewsky, 1962, Fedorenko, 1991, 1994, 1996, 1997, 1999a,b,c, 2000) and genera *Dyschiriodes, Cribrodyschirius* were upgraded in Fedorenko (1996).
The main purpose of this paper is to describe and illustrate new taxa and to compare them with most allied African taxa. It is a contribution to the knowledge of Afrotropical Dyschiriini and could be used for needful revision of Afrotropical Dyschiriini.

MATERIAL AND METHODS

I have studied very rich material of Afrotropical Dyschiriini; either type material (including holotypes) of following species: *Cribrodyschirius elgonensis* (Basilewsky, 1948), *Dyschiriodes vadoni* (Jeannel, 1946) and *D. lambertoni* (Vuillet, 1910) from MNHN; *D. hessei* (Kult, 1954), *D. peringueyi peringueyi* (Kult, 1954), *D. zanzibaricus palmeni* (Kult, 1954), *D. franzi* (Kult, 1954), *D. havelkai* (Kult, 1954), *D. hoberlandti* (Kult, 1954) and *D. straneoi* (Kult, 1954) from coll. AD (ex. coll. K. Kult, Prague); *D. assegaaicus* Fedorenko, 1999, *D. angolensis* Fedorenko, 1999 and *D. limpopo* Fedorenko, 1999 from BMNH; *D. zambesiensis* Fedorenko, 1999, *D. fulvus fumosus* Fedorenko, 1999 from coll. PB, or undescribed material belonging to the collections of diverse museums or private collectors including the author´s collection.
The methods of measurement of total length and proportions of different body parts follow

Fedorenko (1996). I also adhere to Fedorenko´s style of description and composition of his key to *Cribrodyschirius puncticollis* group species.
I did not find any important measurement differences between males and females. Length of body is quoted with accuracy 0.05 mm*;* length of median lobe of aedeagus with accuracy 0.01 mm. For measurement were mostly used all available specimens; exceptions are quoted within descriptions of new species. Male genitalia (aedeagi) were embedded in Canada Balsam (by HT) or were fixed with water-soluble glue (other specimens).
List of used abbreviations:
AD: collection of A. Dostal, Vienna, Austria (incl. coll. K. Kult)
BMNH: The Natural History Museum, London, M. Barclay, R. Booth, London, U. K.
DF: collection of D. N. Fedorenko, Moscow, Russia
HNHM: Hungarian Natural History, Museum, G. Szel, Budapest, Hungary
MaB: collection of M. Bähr, Munich, Germany
MiB: collection of M. Balkenohl, Denzlingen, Germany
MRAC: Royal Museum of Central Africa, M. de Meyer, Tervuren, Belgium
MNHN: Muséum National d´Histoire Naturelle, T. Deuve, Paris, France
PB: collection of P. Bulirsch, Prague
PS: collection of P. Schüle, Herrenberg, Germany
TMSA: Transvaal Museum, Pretoria, R. Müller, South Africa
ASP: apical setiferous puncture(s)
DSP: dorsal setiferous puncture(s)
PASP: preapical setiferous puncture(s)
BSP: basal (prescutellar) setiferous puncture(s)
PHSP: posthumeral setiferous puncture(s)
HT: Holotype(s)
PT: Paratype(s)

RESULTS

Dyschiriodes Jeannel, 1941

The genus, very widely distributed around the world except Australian region, was upgraded by Fedorenko (1996). It is widespread around the Africa in its diverse parts and biotopes from arid zones in its N and SW parts to rain forests in western Africa. About 40 taxa from Afrotropical region have been hitherto known, next 7 are described below.

Dyschiriodes (*Eudyschirius*) *becvari* sp. n.
(Figs 1, 1a,b)

Type material. Holotype (♂) labelled: „Zimbabwe centr., 20 km W of Ngezi recr. park, (Kwekwe env.), 30.xi.-1.xii.1998, lgt. S. Bečvář" (PB). Paratypes: (3 ♀♀) with the same data as HT, but 2 of them lgt. J. Halada (PB, MaB); (3 ♀♀) labelled: „Zimbabwe NE, 10-30 km E and NE of Shamva, Nyagui river, 15.-16.xii.1998, lgt. S. Bečvář" (PB); (1 ♀) with the same data but lgt. J. Halada

(PB); (1 ♀) labelled: „N Zimbabwe, Karoi, Vuti env., 18.xii.1998, M. Snížek leg." (AD); (1 ♀) labelled: „Malawi occ.; Balaka env.; 160 km S of Lilongwe; 19.xii.2001, F+L Kantner lgt." (PB); (1 ♀) labelled: „S. Afr; Tv. Nelshoogte galery for. below St., 25.51 S - 30.53 E, 4.xii.1987; E-Y: 2354/ UV light collection, leg. Endrödy-Younga" (TMSA); (1 ♂, 1 ♀) labelled: „Mozambique, Sofala Province, Gorongosa Reserve, 18./19.XII.2005, P. Schüle leg." (PS, PB); (1 ♂, 1 ♀) labelled: „Mozambique; Sofala P, Gorongosa Nat. Pk, 24 m, 18.58 S – 34.21 E, 19.12.2005; E-Y: 3707, day collecting & at light,leg. Gussmann, Müller (TMSA, PB); (1 ♂, 1 ♀) labelled: „RSA, Transvaal, near Leydsdorp, 21./23.I.1999, P. Schüle leg." (PS, PB); (1 ♀) labelled: „Tanzania, Uluguru Mts., IV.1991, leg. A. Rautenstrauch" (MiB).

Description. Length 3.60-4.20 mm (HT 4.00 mm, mean 3.82 mm), brown-red, without metallic lustre; legs uniformly red, mouthparts and antennae yellow-red.

Head. Anterior margin of clypeus between lateral lobes nearly straight, transverse clypeofrontal suture deep, broad and straight or very slightly arcuated, facial furows rather short, deep and narrow, moderately diverged apically. Surface vaulted, especially before clypeofrontal suture, even and smooth, with fine micropunctures. Eyes moderately big and convex. Antennae moniliform.

Pronotum. Rather strongly convex, even and smooth, 0.98-1.03 (HT 1.02, mean 1.01) times as wide as long, 1.38-1.48 (HT 1.44, mean 1.44) times as wide as head; moderately to distinctly attenuated anteriorly, broadest in fourth fifth; outline in anterior part slightly rounded. Anterior angles rounded, not protruding, posterior ones very broadly rounded. Front transverse impression deep, impunctate; median line hardly visible; reflexed lateral margin shortened, disappearing just behind anterior setiferous punctures.

Elytra. Slightly ovate, 1.56-1.67 (HT 1.62, mean 1.61) times as long as wide, 1.21-1.29 (HT 1.25, mean 1.25) times as wide as pronotum, base moderately sloping; humeri broadly rounded, moderately protruding, without humeral tooth; outline rather strongly convex, elytra broadest just before middle; suture not depressed at base. Base without basal border and tubercles, with distinct, almost isolated BSP. Striae 1-6(7) in basal part moderately deep, rather strongly and densely punctate in basal half, evidently attenuating apically, very finely and sparsely punctate in last fifth (first striae) or last third (lateral ones, mainly stria 7); first stria at base not deeper; stria 8 missing or composed from very minute punctures; first intervals in basal part moderately convex, lateral ones slightly vaulted, apically flattened. PHSP: 3, DSP: 1 (first in middle of interval 3), ASP: 2 (in rather deep apical stria).

Protibia. Apical spine on protibia rather long, almost not curved backwards, moderately curved inwards, longer than slightly curved apical spur; distal marginal tooth just visible, very small, blunt, proximal one indistinct.

Aedeagus. As in Figs 1a,b; by HT 0.83 mm long, apical part of median lobe rather narrow, slightly arcuated; flagellum long, rather broad. Apical lamella as in Fig. 1b; from ventral view very broadly, regularly rounded. Parameres with one apical seta.

Differential diagnosis. *D. becvari* sp. n. belongs or is closely allied to *D.* (*Eudyschirius*) *franzi* group (sensu Fedorenko, 1999a). It can be distinguished from the most similar *D. franzi* (Kult, 1954) by surface without metallic tinge, by fore tibia with apical spur almost not curved back-

wards and without distinct lower tooth, by less distinct humeri, by striae punctured throughout its length, by only single DSP and by ovate elytra; from *D. hoberlandti* (Kult, 1954) by bigger size, by only one DSP and by more protruding humeri; from *D. angolensis* Fedorenko, 1999 by paler colour, by pronotum slightly attenuated anteriorly, by striae not shortened, punctured throughout its length, by fore tibia without distinct lower tooth and by only one DSP.

Name derivation. Named in honour of my friend Stanislav Bečvář (České Budějovice), a famous specialist in Tenebrionidae, who collected some specimens of the type series.

Dyschiriodes (*Eudyschirius*) *moraveci* sp. n.

(Figs 2, 2a,b)

Type material. Holotype (♂) labelled: „NE Benin, Tandafa env., ca 45 km N of Natitingou, 20.VI.2001" (PB). Paratype (1 ♂) labelled: „West Africa, Ghana, Northern region, Tamale, No. 52, Lichtfalle, Quarz, 30.viii.1970, leg. Dr. S. Endrődi" (HNHM).

Description. Length HT 3.65 mm, PT 3.70; rusty-brown, without metallic lustre; legs uniformly red, mouthparts and antennae yellow-red.

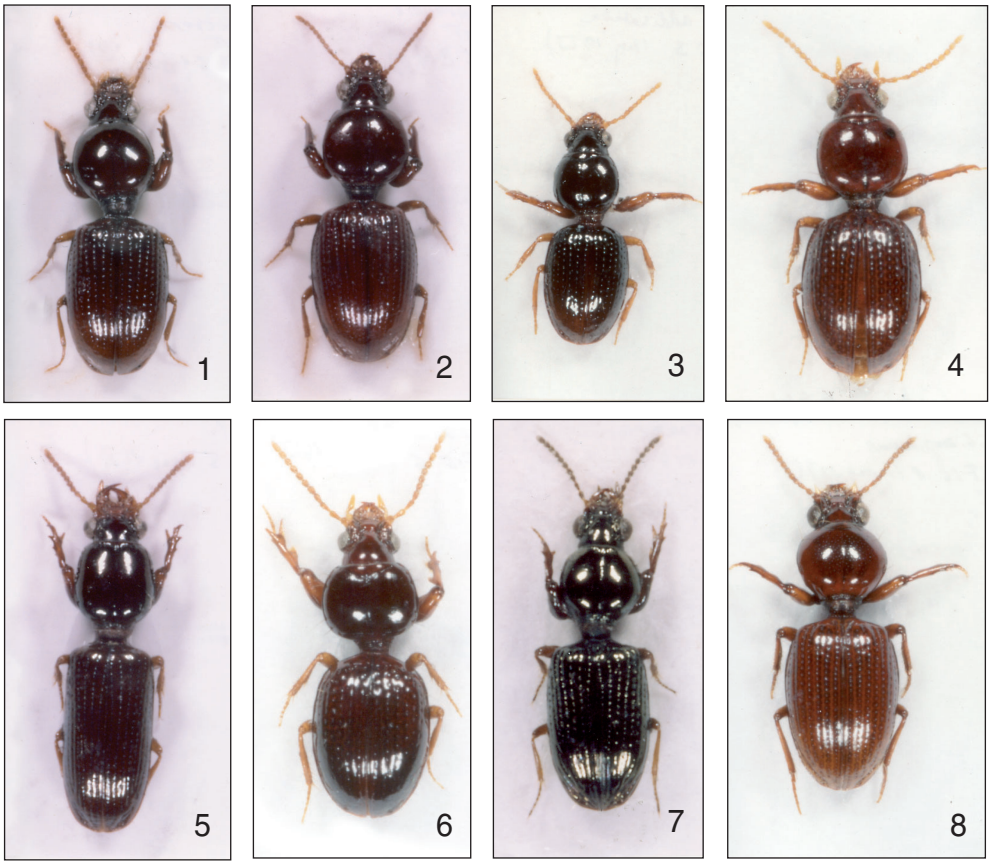
Head. Anterior margin of clypeus between lateral lobes slightly emarginated, transverse clypeofrontal suture very deep, broad, straight; facial furrows deep and rather broad, strongly diverged apically. Surface vaulted especially before clypeofrontal suture; even and smooth, with very fine and sparse micropunctures. Eyes moderately big and moderately convex. Antennae almost moniliform, antennomeres 6-10 slightly longer than broad.

Pronotum. Rather strongly convex, even and smooth by HT 1.05, by PT 1.02 times as wide as long, by HT 1.49, by PT 1.50 times as wide as head; moderately attenuated anteriorly, broadest in fourth fifth; outline in anterior part slightly rounded; front angles rounded, not protruding, hind ones very broadly rounded. Front transverse impression deep, impunctate; median line, especially in middle, hardly visible; reflexed lateral margin shortened, disappearing just behind anterior setiferous punctures.

Elytra. Strongly vaulted, slightly ovate, by HT 1.58, by PT 1.55 times as long as wide, by HT 1.23, by PT 1.25 times as wide as pronotum, base rather strongly sloping, humeri broadly rounded, rather slightly protruding, without humeral tooth; outline very strongly convex, broadest far before middle, at about one third of length; suture not depressed at base. Base without basal border and tubercles, with distinct BSP connected with stria 1. Striae 1-7 deep, coarsely and densely punctate, first striae in basal part rather deep, rather strongly and densely punctate in basal half, evidently attenuating apically; very finely and sparsely punctate in last fifth (inner striae) or last fourth (mainly stria 7); stria 1 on base slightly deeper, stria almost 8 vanishing; first intervals in basal part rather convex, lateral ones moderately vaulted, apically flattened. PHSP: 3, DSP: 2 (first and middle in interval 3), ASP: 2 (in rather deep apical stria).

Protibia. Apical spine on protibia rather long, almost not curved backwards, moderately curved inwards, longer than slightly curved apical spur; distal marginal tooth very small, blunt, proximal one indistinct.

Aedeagus. As in Figs 2a,b; by HT 0.88 mm long, apical part of median lobe moderately broad,



Figs 1-8. Habitus of HT (real length in parentheses behind name). 1: *D. becvari* sp. n. (4.00 mm); 2: *D. moraveci* sp. n. (3.65 mm); 3: *D. addisabeba* sp. n. (2.20 mm); 4: *D. mafuga* sp. n. (2.70 mm); 5: *D. szeli* sp. n. (3.70 mm); 6: *D. malawicus* sp. n. (2.50 mm); 7: *D. fianarensis* sp. n. (2.85 mm); 8: *C. basilewskyi angolanus* ssp. n. (2.70 mm).

slightly arcuated; flagellum long, rather broad. Apical lamella as in Fig. 2b; from ventral view broad, right with indistinct, blunt tooth. Parameres with one apical seta

Differential diagnosis. *D. moraveci* sp. n. belongs or is closely allied to *D.* (*Eudyschirius*) *franzi* group (sensu Fedorenko, 1999a). It is a sibling species to above described *D. becvari* sp. n. It can be distinguished by 2 DSP, by slightly broader pronotum, by more convex outline of elytra with maximum width distinctly before middle, by coarsely punctate striae and by different shape of median lobe of aedeagus. By *D. moraveci* sp. n. is median lobe from lateral view broader and apical lamella has indistinct tooth from ventral view (Figs 2a,b versus 1a,b).

Name derivation. Named in honour of my friend Pavel Moravec (Litoměřice), a specialist in Trechinae, who helped me with not only this article.

Dyschiriodes (*Eudyschirius*) *addisabeba* sp. n.

(Figs 3, 3a,b)

Type material. Holotype (♂) labelled: „/Ethiopia/, Addis Abeba, 7-8./19/41, Patrizi /lgt./" and „Coll. Mus. Congo, Coll. P. Basilewsky" (MRAC). Paratypes (1 ♀) labelled: „/Ethiopia/, Addis Abeba, 6.VIII./19/41" (PB); (1 unsexed specimen) labelled: „Ethiopia: R. Hawash, S of Adama, 6000 ft., 7.VI./19?/46, K. M. Guichard /leg./,B.M.1945-39" (BMNH).

Description. Length HT 2.20 mm, PT 2.50 mm, 2.65 mm. HT and PT from Addis Abeba dark brown, with faint green-bronze lustre, second PT lighter, without lustre, immature; legs rusty-brown, antennae rusty-yellow.

Head. Anterior margin of clypeus between lateral lobes straight, transverse clypeofrontal suture deep, almost straight; facial furrows very deep and rather broad, strongly diverged apically. Surface vaulted, even and smooth. Eyes relatively small, moderately convex. Antennae moniliform.

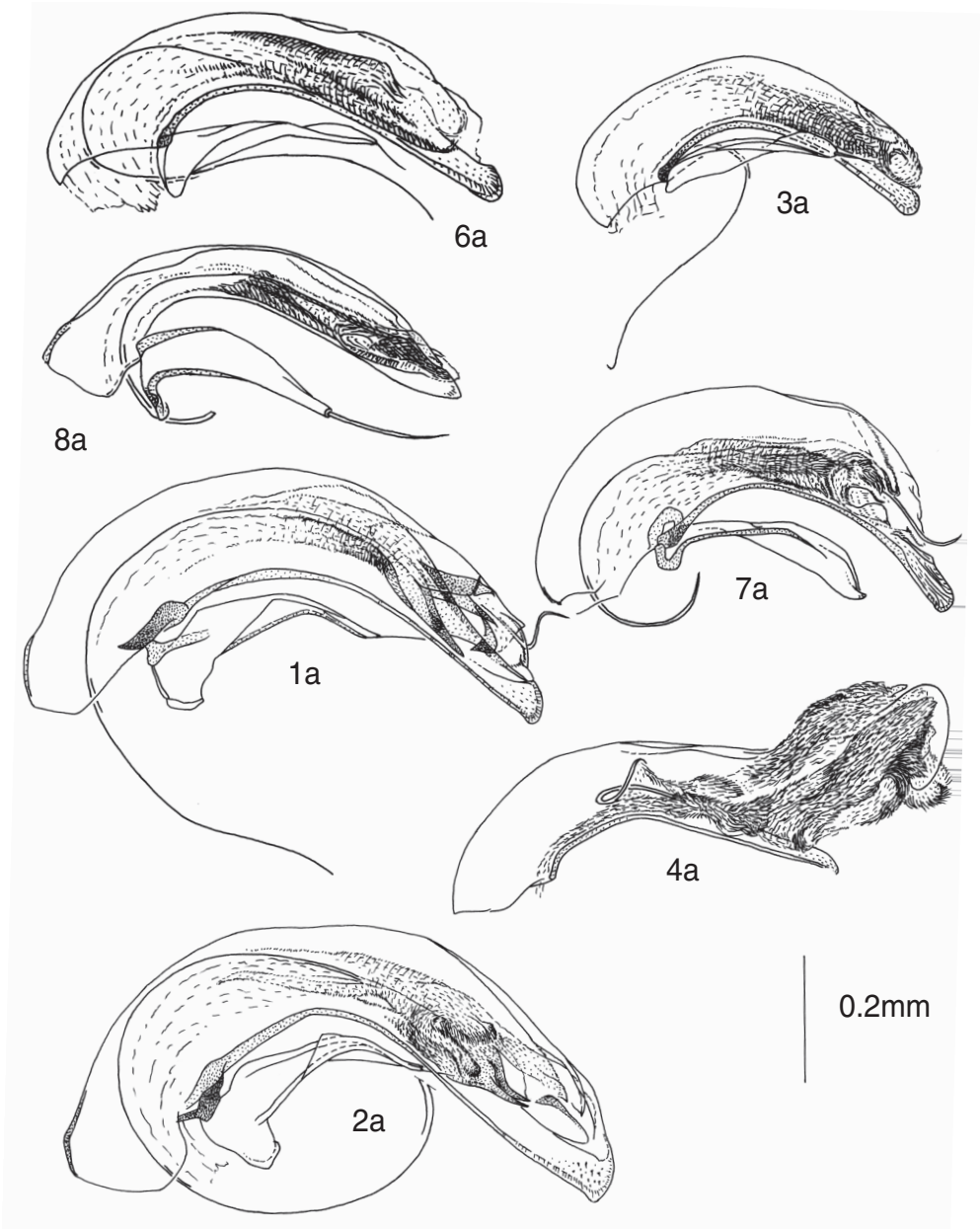
Pronotum. Slightly transverse, even and smooth, convex; HT 1.11, PT 1.13, 1.15 times as wide as long, HT 1.45, PT 1.48, 1,49 times as wide as head; slightly attenuated anteriorly, broadest in second third; outline in anterior part moderately rounded. Anterior angles blunt, posterior ones very broadly rounded. Front transverse impression rather deep, impunctate; median line hardly visible; reflexed lateral margin disappearing just behind posterior setiferous punctures.

Elytra. Moderately vaulted, ovate, HT 1.45, PT 1.47, 1.47 times as long as wide, HT 1.27, PT 1.25, 1.21 times as wide as pronotum; base moderately sloping; humeri rounded, slightly protruding; outline strongly convex, broadest before middle; suture not depressed at base. Base without basal border and tubercles, BSP missing. Striae very fine; first striae equally deep, lateral ones much finer, stria 8 composed of minute punctures; striae very finely but densely punctate; evidently disappearing apically; first striae vanishing just before apex, lateral ones in last third; first stria complete, at base not deeper; intervals flattened. 3 PHP, 2 ASP, 3 DSP (in middle of third interval).

Protibia. Apical spine rather long, slightly curved backwards and moderately curved inwards, longer than apical spur; distal marginal tooth distinct, sharp, proximal one small, blunt.

Aedeagus. As in Figs 3a,b; by HT 0.45 mm long, apical part of median lobe long, narrow, very slightly bent down, flagellum long, rather broad. Apical lamella from ventral view as in Fig. 3b; long, narrow, turn to right. Parameres with one apical seta.

Differential diagnosis. *D. addisabeba* sp. n. belongs to the subgenus *Eudyschirius* Fedorenko, 1996 and is quite different from all frotropical species. From species of *D. orientalis* group (sensu Fedorenko 1997, 1999) can be distinguished by very fine striae with fine punctation; from all Afrotropical species except *D. natalensis* Fedorenko, 1997 also by absence of BSP; from *D. natalensis* moreover by colour, by shorter elytra and by regularly rounded pronotum. New species differs from species of *D.* (*Dyschiriodes*) *katanganus* group (sensu Fedorenko 1996, 1999)



Figs 1a-4a, 6a-8a. Aedeagus of HT from right lateral view. 1a: *D. becvari* sp. n.; 2a: *D. moraveci* sp. n.; 3a: *D. addisabeba* sp. n.; 4a: *D. mafuga* sp. n.; 6a: *D. malawicus* sp. n.; 7a: *D. fianarensis* sp. n.; 8a: *C. basilewskyi angolanus* ssp. n.

by parameres with single seta; from most similar *D. parvulus* (Péringuey, 1896) moreover by rounded humeri, by distinctly finer striae and by regularly rounded pronotum.

Name derivation. Named after Addis Abeba, capital of Ethiopia.

Dyschiriodes (*Eudyschirius*) *mafuga* sp. n.
(Figs 4, 4a,b)

Type material. Holotype (♂) labelled: „Zaire /now Democratic Republic of Congo/: P. N. V, Mission Karisimbi, Kanyamafuga: 2000/2500 m, dans l´humus, Coll. Mus. Tervuren.,13.VIII./ 19/70, R. P. M. Lejeune /leg./" (MRAC).

Description. Length 2.70 mm. Brown-red, without metallic lustre; legs uniformly red, antennae slightly paler, yellow-red.

Head. Anterior margin of clypeus between lateral lobes straight; transverse clypeofrontal suture straight, very deep, broad, facial furrows deep, narrow, moderately diverged apically. Surface even and smooth. Eyes rather small, moderately convex. Antennae moniliform.

Pronotum. Slightly transverse, moderately convex, even and smooth; 1.07 times as wide as long, 1.47 times as wide as head; very slightly attenuated anteriorly, broadest just behind middle; outline regularly rounded. Anterior angles narrowly rounded, posterior ones very broadly rounded. Front transverse impression deep, almost impunctate; median line hardly visible; reflexed lateral margin not shortened, disappearing just behind posterior setiferous pores.

Elytra. Strongly vaulted, ovate, 1.50 times as long as wide, 1.24 times as wide as pronotum; base strongly sloping, humeri broadly rounded, slightly protruding, without tooth; outline strongly broadened, broadest before middle; suture not depressed at base. Base without basal border, tubercles, BSP missing. Striae moderately impressed; striae 1-4 equally deep, striae 5-7 slightly finer, stria 8 composed from few minute punctures; striae rather coarsely, irregularly punctate; evidently attenuating apically; striae 1-2 disappearing just before apex, striae 3-4 in apical third, lateral ones in apical half. Intervals in basal part moderately convex, slightly to moderately broader than striae punctures. PHSP: 3, ASP: 2/1, DSP: missing.

Protibia. Apical spine rather long, moderately curved backwards and inwards, not longer than apical spur; distal marginal tooth distinct and sharp, proximal one almost invisible.

Aedeagus. As in Figs 4a,b (extracted from body long time before study: base of median lobe damaged, left paramere lost and internal sac blowed out); by HT 0.58 mm long, apical part of median lobe long, narrow, straight. Apical lamella from ventral view as in Fig. 4b; long, moderately narrow, turn to right. Right (smaller) paramere with one apical seta.

Differential diagnosis. *D. mafuga* sp. n. species belongs to the subgenus *Eudyschirius* (sensu Fedorenko, 1996) and is very different from other Afrotropical species. From all species of the most similar *D. orientalis* group (sensu Fedorenko 1997, 1999) can be distinguished by missing DSP; moreover from all afrotropical species, except *D. natalensis* Fedorenko, 1997, also by missing BSP; from *D. natalensis* by colour, shorter elytra and by regularly rounded pronotum and humeri. From species of *D.* (*Dyschiriodes*) *katanganus* group (sensu Fedorenko 1996, 1999)

D. mafuga sp. n. differs by missing DSP, by aedeagal parameres with one seta; from *D. parvulus* (Péringuey, 1896) moreover by shorter elytra with more rounded humeri and by regularly rounded pronotum. From above described *D. addisabeba* sp. n. *D. mafuga* sp. n. can be distinguished by missing DSP, by different colour, by coarsely striate elytra and by more rounded humeri.

Name derivation. Derived from abbreviation of Kanyamafuga, type locality.

Dyschiriodes (*Dyschiriodes*) *szeli* sp. n.
(Fig. 5)

Type material. Holotype (♀) labelled: „Tanganyika [Tanzania]: 2 miles to lake Manyara, SE shore, 3150 feet, singled material, 1-26.vi.1965, Coll. Dr. J. Szunyoghy (HNHM). Paratypes (2 ♀♀: one of them with cracked elytra): with the same locality and data as holotype (HNHM, PB).

Description. Length: HT 3.70 mm, PT 3.95, 4.25 mm. Rusty-brown, with slight metallic lustre; legs lightly rusty-red, antennae slightly paler, yellow-red.

Head. Anterior margin of clypeus between lateral lobes almost straight; clypeus elevated posteriorly as very blunt transverse carina before rather deep and very broad clypeofrontal suture; frons behind suture with irregular rugosity, vertex distinctly punctured just behind eyes; facial sulci narrow, rather short, rather slightly diverged apically. Eyes moderately big, convex. Antennae moniliform.

Pronotum. Strongly vaulted, semicylindrical, even and smooth; by HT 0.92, by PT 0.88, 0.89 times as wide as long, by HT 1.29, by PT 1.26, 1.28 times as wide as head, slightly attenuated anteriorly; broadest in third fourth; outline very slightly rounded, almost linear. Anterior angles narrowly, posterior ones moderately rounded. Front transverse impression deep, irregularly punctate, some punctures bigger, prolonged posteriorly as very short impression; median line very deep just in crossing with front transverse impression, fine in anterior half, deeper and broader in posterior third.

Elytra. Vaulted, very long, almost cylindrical; by HT 2.15, by PT 2.18 (second, damaged PT not measured) times as long as wide, by HT 1.09, by PT 1.15 times as wide as pronotum; base slightly sloping, humeri rather strongly protruding, without tooth; outline almost parallel; broadest at about middle; suture very slightly depressed at base. Base smooth, without border, tubercles and BSP. Striae 1-7 complete, deep, stria 8 finer; all striae rather coarsely, densely punctate; punctation only slightly attenuating apically. Intervals moderately convex, slightly broader than striae punctation. PHSP: 1, DSP: 3 (first puncture in interval 3, apical ones near/in stria 3), ASP: 1 (in deep apical stria).

Protibia. Apical spine rather long, moderately curved backwards and inwards, not longer than moderately curved apical spur; distal marginal tooth distinct and sharp, proximal one smaller but still very distinct.

Differential diagnosis. *D. szeli* sp. n. belongs to the *D. minutus* group, subgroup *D. katanganus* (sensu Fedorenko, 1999). It can be easily distinguished from other species by very long pronotum

(ratio broad : length 0.88-0.92) and, especially, by very long, almost cylindrical elytra (ratio 2.15-2.18). From the most similar *D. zambesiensis* Fedorenko, 1999 and *D. limpopo* Fedorenko, 1999 differs moreover by surface of head, by absence of BSP, by deeper, in whole length punctured elytral striae and by only 1 ASP. The shape of body is most similar to *D. auriculatus* (Wollaston, 1867), Palearctic species, known also from northern part of Afrotropical region. *D. szeli* sp. n. differs from the latest species by surface of head, by only 1 PHSP, 1 ASP and by deeper striae, punctured up to apex.

Name derivation. Named in honour of my friend Gyözö Szel (Budapest, Hungary) who loaned me very voluminous material from HNHM including type series.

***Dyschiriodes* (*Eudyschirius*) *malawicus* sp. n.**
(Figs 6, 6a,b)

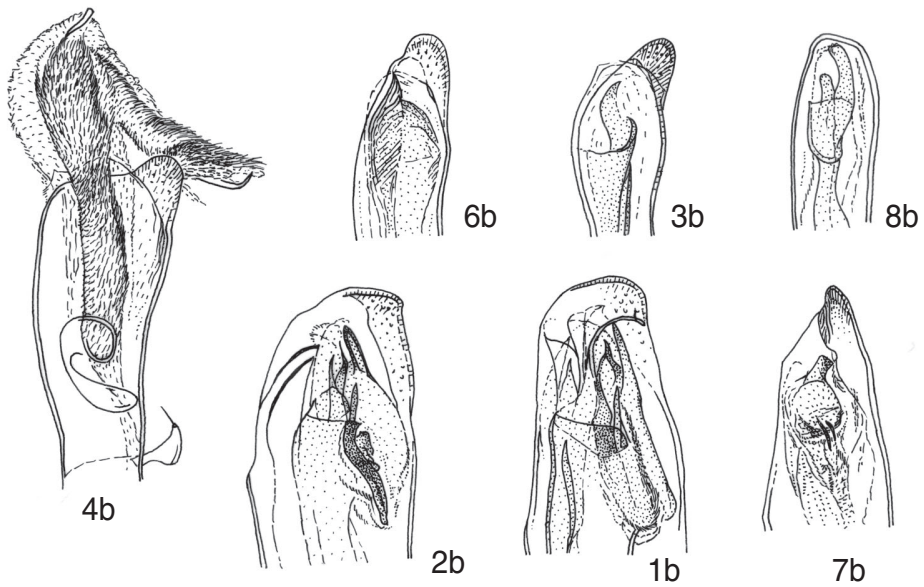
Type material. Holotype (♂) labelled: „Malawi, North. Reg., Nyika Plateau, Mwenembwe, 2300-2400m., 17.xii.1981, Coll. Mus. Tervuren, R. Jocqué /leg./ (MRAC). Paratypes (7 ♂♂, 2 ♀♀): with the same data as holotype (MRAC, PB).

Description. Length 2.45-2.85 mm (HT 2.50, mean 2.57 mm). Dark brown, without metallic lustre; head, epipleura and apex of elytra paler; legs and antennae uniformly red. By some PT pronotum darker.

Head. Anterior margin of clypeus between lateral lobes with very wide, blunt median tooth, transverse clypeofrontal suture straight, very deep and broad; facial furrows very deep and rather broad, strongly diverged apically. Surface strongly vaulted, even and smooth. Eyes relatively small.

Pronotum. Moderately convex, even and smooth, 1.14-1.22 (HT 1.22, mean 1.18) times as wide as long; 1.54-1.63 (HT 1.55, mean 1.58) times as wide as head; slightly attenuated anteriorly, outline regularly rounded, broadest in second third. Anterior angles narrowly rounded, posterior ones moderately rounded. Front transverse impression very deep, impunctate; median line hardly visible; lateral channel broad, reflexed lateral margin extended beyond posterior setiferous punctures. Anterior and posterior setiferous punctures duplicated: lateral channel with 2+2 (in 2 PT at the left side even with 5) setiferous punctures.

Elytra. Strongly vaulted, short, ovate, 1.39-1.45 (HT 1.40, mean 1.43) times as long as wide, 1.18-1.25 (HT 1.22, mean 1.21) times as wide as pronotum; base very strongly sloping, humeri rounded, slightly protruding, without humeral tooth; outline convex, mainly in basal half, broadest before middle; suture not depressed at base. Base with distinct basal border, without basal tubercles and BSP. Striae very specific: striae 1-4(5) very deep, broad, especially in basal half, very roughly punctate in basal half, evidently shallowing apically; first stria complete, striae 2-4 in last fifth to fourth very finely, sparsely punctate; striae (5-)6 strongly shallowing in apical third to half, composed from minute, irregularly dislocated punctures, stria 7 much finer, composed from fine punctures in basal half, approached lateral channel, stria 8 missing to just visible, composed from very fine punctures in apicall half. First intervals narrow, very strongly convex, first two or three in basal part narrower than striae, lateral intervals slightly convex. PHSP: 3,



Figs 1b-4b, 6b-8b. Apex of edeagus of HT from ventral view. 1b: *D. becvari* sp. n.; 2b: *D. moraveci* sp. n.; 3b: *D. addisabeba* sp. n.; 4b: *D. mafuga* sp. n.; 6b: *D. malawicus* sp. n.; 7b: *D. fianarensis* sp. n.; 8b: *C. basilewskyi angolanus* ssp. n.

DSP: 3 (in middle of interval 3) +1(in basal part of interval 5), PASP: 3, ASP: 2 (isolated, not in apical stria).

Protibia. Apical spine rather long, curved backwards and inwards, not longer than slightly curved apical spur; distal marginal tooth small but sharp, proximal one obtuse.

Aedeagus. As in Figs 6a,b; by HT 0.50 mm long, apical part of median lobe long, narrow, straight. Apical lamella from ventral view as in Fig. 6b; long, broad, rather regularly rounded. Parameres with one apical seta.

Differential diagnosis. *D. malawicus* sp. n. is very different from all world-wide *Dyschiriodes* species and creates a new *D. malawicus* species group within subgenus *Eudyschirius* or even new subgenus.

D. malawicus new species group is characteristic by long and narrow head, by transverse pronotum with duplicated anterior and posterior setiferous punctures, by short, ovate elytra with distinct basal border, very deep and broad basal part of first striae and with single DSP also in interval 5. This combination is unique; only very different *D*. (*Dyschiriodes*) *setosus* (LeConte, 1857) from N America has multiplied pronotal setiferous punctures; similar appearance of elytral striae is not known by any other *Dyschiriodes* species.

Name derivation. Named after state of Malawi.

Dyschiriodes (*Dyschiriodes*) *fianarensis* sp. n.
(Figs 7, 7a,b)

Type material. Holotype (♂) labelled: „Madagascar, 4 km S of Fianarantsoa, Ambanimaso, 1200-1300 m, 20.-21.4.2001, P. Bulirsch lgt." (PB). Paratypes (7 ♂♂, 8 ♀♀, 20 unsexed specimens): with the same data as HT, 4 specimens with the same data as holotype, except: 6.4.2001 (PB, MRAC, AD, DF, MiB).

Description. Length 2.85-3.30 mm (HT 2.85 mm, mean 3.03 mm). Dark brown to black, with slight metallic lustre; legs brown red, anterior legs slightly darker, antennae brown, two basal joints paler.

Head. Anterior margin of clypeus between lateral lobes slightly bisinuate, clypeofrontal suture transversely, straight, very shallow or interrupted; frons with next irregular, facial furrows moderately deep and broad, parallel in anterior part, moderately diverged apically. Surface even and smooth; without distinct punctures near back margin of eyes. Eyes rather big and moderately convex. Antennae moniliform.

Pronotum. Moderately convex, even and smooth; 1.00-1.11 (HT 1.07, mean 1.05) times as wide as long, slightly to moderately attenuated anteriorly, broadest in fourth fifth; in anterior part moderately to rather strongly rounded on sides. Posterior angles broadly rounded. Front transverse impression deep, impunctate, but sometimes with irregular very broad but shallow cross striation; median line moderately impressed; reflexed lateral margin very thin, hardly visible, often shortened, ending just before posterior setiferous punctures or rarely just reaching ones.

Elytra. Vaulted, longly ovate, 1.57-1.70 (HT 1.62, mean 1.63) times as long as wide, 1.25-1.36 (HT 1.30, mean 1.30) times as wide as pronotum, Base truncate, humeri very square; outline slightly broadened on sides, broadest at middle, suture not to slightly depressed at base. Base without border and tubercles, with BSP. Elytral striae 1-7 deep, very coarsely and densely punctate in basal half; punctures disappearing before third DSP. First stria at base very deep, connected with BSP; all striae (especially striae 1-2, 7-8) very deep just before apex, striae 3-6 in second third much finer; stria 8 much finer than first striae, more or less interrupted behind middle, stria 7 disappearing in second third. Intervals narrow and convex: intervals 4-6 in basal half narrower than striae, slightly convex in second third. PHSP: 3, ASP: 2 (in deep apical stria), DSP: 3 (first in middle of interval 3, other in/close to stria 3.

Protibia. Apical spine rather long, curved backwards and inwards, not longer than apical spur; distal marginal tooth big and sharp, proximal one blunt.

Aedeagus. As in Figs 7a,b; by HT 0.62 mm long; apical part of median lobe long, narrow, very slightly bent down, flagellum long, rather broad. Apical lamella from ventral view as in Fig. 7b; moderately long, narrow, straight. Parameres with one apical seta.

Differential diagnosis. *D. fianarensis* sp. n. belongs to the *D. chalybeus* species group (sensu Fedorenko 2000 = *D. bengalensis* group sensu Fedorenko 1994). In Madagascar there are known 3 species from quoted group: *D. apicesculptus* (Burgeon, 1935), widespread also in East Africa, and 2 endemic species; *D. vadoni* (Jeannel, 1940) and *D. lambertoni* (Vuillet, 1910); all of them are known from Madagascar in very limited series. *D. fianarensis* sp. n. can be distinguished from

D. apicesculptus by finer median line; by very thin, often shortened reflexed lateral margin of pronotum; by finer striae in apical two third of elytra, by stria 8 very fine; much finer than stria 7, by stria 2 and mainly stria 3 often shallowing basally and by slightly broader pronotum. New species differs from *D. vadoni* and *D. lambertoni* by longer, even if very thin, reflexed lateral margin of pronotum, reaching posterior setiferous punctures or almost to; by not shortened striae 2-7 in apical half of elytra; from *D. vadoni* moreover by regularly rounded outline of pronotum.

Name derivation. Named after Fiana, commonly used abbreviation of town Fianarantsoa, type locality.

Comment. I have seen HT of both latest species (MNHN). *D. lambertoni* and *D. vadoni* are closely allied or even conspecific. It is necessary to find in diverse part of Madagascar larger material of species of *D. chalybeus* group to solve its species/subspecies or synonymic status.

Cribrodyschirius Bruneau de Miré, 1952

The genus is known from Afrotropical region, single species is also known from oriental region. Seven African species could be divided to two groups: *C. jeanneli* (Basilewsky, 1948), *C. congoensis* (Rousseau, 1905) and *C. guineensis*, Fedorenko, 1999 belong to group with distinctly punctate lateral channel of pronotum whereas *C. puncticollis* (Péringuey, 1896), *C. basilewskyi* Fedorenko, 1991 and two Madagascan species, *C. gibbicollis* (Fairmaire, 1897) and *C. mocquerysi* (Jeannel, 1946), have impunctate lateral channel. *Cribrodyschirius basilewskyi* was described by Fedorenko (1991) as separate species but later was downgraded by himself (Fedorenko, 1999b) to subspecies of *D. puncticollis*. I prefer to keep its separate species status; I have found out new, important and constant difference between both taxa – width of pronotal lateral channel. Both species can be divided into two subspecies: *C. puncticollis* to nominotypical subspecies with very deep elytral striae and strongly vaulted intervals in basal half and to *C. p. elgonensis* (Basilewsky, 1948), stat. n., with much finer striae and rather slightly vaulted intervals; *C. basilewskyi* to nominotypical subspecies and ssp. n. described below.

Cribrodyschirius basilewskyi angolanus ssp. n.
(Figs 8, 8a,b)

Type material. Holotype (♂) labelled: „Angola, 16474-6, Caxiaxia, Poste Camissombo, 8.56 S, 20.38 E, alt. 1050 m, 18-X-/19/61, Champlon /leg./" (MRAC). Paratypes (2 ♂♂, 2 ♀♀, 2 unsexed specimens) : with the same data as HT (MRAC, PB); (1 unsexed specimen) labelled: „Angola: 1672-9, Camissombo, Camp. Caxiaxia, 6.X.1961, A de Barros Machado /leg./" (MRAC); (1 unsexed specimen) labelled: „Angola: 22510-1" (MRAC); (1 unsexed specimen) labelled: „Angola: 21791-4" (MRAC).

Description. As in nominotypical subspecies except as follows. Length 2.55-2.85 mm (HT 2.70 mm, mean 2.72 mm). Uniformly rusty brown, by one PT pronotum and head darker.

Head. Form and sculpture as in nominotypical subspecies.

Pronotum. Regularly vaulted; 1.13-1.25 (HT 1.15, mean 1.20) times as wide as long, anterior angles less strongly protruded, outline rather strongly rounded on sides. Punctures finer, concentrated on disk; large area along reflexed lateral margin, base and anterior angles without any punctures.

Elytra. 1.49-1.57 (HT 1.50, mean 1.53) times as long as wide, 1.24-1.32 (HT 1,30, mean 1.29) times as wide as pronotum. DSP: 1 (first), by two PT 2; ASP: 2 (in very deep, not to very finely and sparsely punctate apical stria).

Aedeagus. As in Figs 8a,b; by HT 0.51 mm long, similar to nominotypical subspecies.

Differential diagnosis. The differences against nominotypical subspecies are quoted in description as well as in the key to the species of *C. puncticollis* sensu lato following below. It can be distinguished by lighter colour (especially head and pronotum are not darker than elytra); by deeper, not to slightly punctate elytral apical stria and by mostly only single DSP.

Name derivation. Named after state of Angola.

Key to species of *Cribrodyschirius puncticollis* species group

This key adapts part of Fedorenko´s (1999b) key. It can be used for determination of African continental *Cribrodyschirius* species with impunctate lateral channel of pronotum.

8(9) Pronotal lateral channel broad to very broad. Elytral striae deep to very deep, intervals moderately to very strongly convex, in latter case nearly cariniform in basal half. Pronotum narrover (ratio width : length about 1.12), with less sharp anterior angles. ..... *C. puncticollis* (Péringuey, 1896)

8a(8b) Elytral striae very deep and broad, intervals very strongly convex in basal part. . *C. p. puncticollis* (Péringuey, 1896)

8b(8a) Elytral striae moderately deep and broad, intervals moderately convex in basal part. .... *C. p. elgonensis* (Basilewsky, 1948)

9(8) Pronotal lateral channel narrow to very narrow. Elytral striae finer, intervals flat to moderately convex. Pronotum broader (ratio width : length about 1.20), with sharper anterior angles.

9a(9b) Body usually rusty brown, pronotum and head often darker. Pronotal lateral channel narrow. Continental Africa. .... *C. basilewskyi* Fedorenko, 1991

9a´ (a´ ´) Elytral apical stria deep and at most slightly punctate, usually 1, exceptionally 2 DSP, pronotum and head usually not darker than elytra; pronotum strongly rounded on sides. ..... *C. b. angolanus* ssp. n.

9a´ ´ (a´) Elytral apical stria not deep, moderately punctate; 2 DSP, pronotum and head usually darker than elytra; pronotum slightly to moderately rounded on sides ..... *C. b. basilewskyi* Fedorenko, 1991

9b(9a) Body dark, elytra with bronze lustre. Pronotal lateral channel very narrow. Madagascar.

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