Two new species and additional records of the genus *Acylophorus* from Africa south of Sahara (Coleoptera: Staphylinidae: Staphylininae)

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**Abstract.** *Acylophorus meriodioafricanus* sp. nov. from South Africa and *A. smetanai* sp. nov. from R. D. Congo are described, illustrated, and distinguished from similar species. New records of nine species from sub-Saharan Africa are given. The distribution of the genus *Acylophorus* Nordmann, 1837 in South Africa is discussed and mapped.

**INTRODUCTION**

Lott (2010, 2011) revised the species of *Acylophorus* Nordmann, 1837 from sub-saharan Africa excluding Madagascar. Thirty species have been recognized from the region.

The study of the further specimens from unsorted material from Muséum Royal d’Afrique Centrale (Tervuren) and the material collected by the author in South Africa in November and December 2009 have expanded our knowledge of the habitats and distributions of existing species and facilitated descriptions of two new species.

**METHODS**

All males were dissected and male genitalia were glued on the same plates with the respective beetle specimens or embedded in Euparal on celluloid plates.

Dry-mounted specimens were studied under binocular stereomicroscope MBS 10. Line drawings were made using an ocular grid of Zeiss compound microscope Laboval. Measurements were taken with the above mentioned compound or stereomicroscope using ocular scale.

For the species descriptions, total length of the body was measured from the tip of closed mandibles to the apex of abdomen; length of forebody - from the tip of mandibles to the posterior margin of elytra; length of head - from neck constriction to the anterior margin of the clypeus; width of head - across the widest part of head including eyes; and length of elytra - along the sutural line and including scutellum (if the base of the scutellum was covered by the posterior margin of pronotum a corresponding correction was made).

The material examined is deposited in the following collections:

**JJRC** private collection of Jiří Janák, Rtyně nad Bílinou, Czech Republic,

**MRAC** Musée Royal des Sciences Naturelles de Belgique, Tervuren (M. de Meyer), Belgie;

**TMSA** Transvaal Museum, Pretoria (R. Müller), South Africa.
Abbreviation used in the text: L- length, W- width, HT- holotype, PT- paratype, n = number of specimens measured.

TAXONOMY

A. orientalis group

_Acylophorus capensis_ Cameron, 1945


_Discussion._ The additional material comes from within the known distributional range of this species, which is rather narrow and extends from Western Cape province to Kwa-Zulu Natal in South Africa. In Fort Fordyce the species was collected together with _A. meridioafricanus_ sp. nov.

_Acylophorus dankalensis_ Bordoni, 1994


_Discussion._ Known from Sierra Leone, Namibia, South Africa and D. R. Congo (three localities).

_Acylophorus nitens_ Lott, 2010


_Discussion._ Widespread in continental Africa ranging from South Africa and Namibia. The new records extend the known range of _A. nitens_ to one new country: Angola. Pronotum of the Angolan specimens are bright orange, sometimes slightly darkened in the middle; pronotum of the specimens from R. D. Congo is darker, reddish brown with orange margins.

_Acylophorus orientalis_ Fauvel, 1907

Discussion. All the specimens from South Africa (published as new to this country by Lott 2011) represent the smaller typical form of *A. orientalis* (body length = 6.5-7 mm). For details and map see Lott (2011).

*Acylophorus tschuapensis* Lott, 2010


Discussion. Hitherto known only from the holotype taken in Tshuapa.

*Acylophorus sp.*

**Material examined.** SOUTH AFRICA: KwaZulu-Natal: Ndumo, 5.xi.2001, 26°56’S, 32°14’E, swamp, Dr R. Fenc lgt., 1 ♀, (JJRC).

Discussion. Externally this specimen is the most similar to *A. orientalis* Fauvel, from which it differs by a larger body and wider head.

*A. densipennis* group

*Acylophorus micans* Lott, 2010


Discussion. The species is so far known only from Cameroun, Ivory Coast and Gabon.

*Acylophorus meridioafricanus* sp. nov.

(Figs 1, 4-9, 15-19)

**Type material.** Holotype (♂): „South Africa, Eastern Cape, Fort Fordyce NR, pond, 32°40’S, 26°29’E, treading, 1.xii.2009, J. Janák lgt.“ (TMSA). Paratypes (2 ♂♂, 3 ♀♀♀): same data as holotype, (JJRC); same data as holotype but „stream banks, treading“, (JJRC); (1 ♂, 3 ♀♀♀): „S. Afr: Tv [= Mpumalanga], Nelshoogte, gallery for. below St., 25.51 S - 30.53 E / 2.xii.1986: E-Y: 2343, shorewashing, leg. Endrödy-Younga“, (TMSA: 1 ♂, 2 ♀♀♀; JJRC: 1 ♀).

**Description** (n = 16). Length 6.6-7.5 mm (M = 7.1 mm, HT = 6.6 mm), length of forebody 3.0-3.6 mm (M = 3.3 mm, HT = 3.2 mm). Black, with margins of pronotum dark brown, or with pronotum dark reddish brown with paler reddish brown margins (Fig. 1). Abdominal tergites very weakly iridescent. Antennae brown with first and last two segments reddish brown. Tarsi and mouthparts reddish brown (Fig. 1).
Head of average size (pronotum 1.61-1.75x wider than head, M = 1.68, HT = 1.66), about as long as wide (W/L = 0.95-1.01, M = 0.98, HT = 0.97) with rounded, slightly pronounced temples, with pigmented area produced well in front of antennal insertion. Dorsal surface of head covered with dense micro-punctures. Dense pale grey pubescence behind eyes. Two pairs of interocular setae arising from foveate punctures much closer to eyes than each other. Four postocular setae visible on each side, additional seta on hind margin of eye absent. Mandibles with well developed medial tooth on right and untoothed on left (Fig. 18). Maxillary palpi with terminal segment wide, pubescent, asymmetric, much wider and longer than glabrous penultimate segment which is broadly triangular (Fig. 19). First segment of antenna nearly as long as next five. Segments 1 to 4 elongate, 5 about as long as wide (L/W = 0.90-1.08, M = 0.98, HT = 0.96), 8 to 10 transverse (L/W of segment 10 = 0.58-0.74, M = 0.67, HT = 0.71) (Fig. 15).

Pronotum slightly transverse (1.10-1.18x wider than long, M = 1.14, HT = 1.14) with sides well rounded, widest in basal half, covered with dense micro-punctures. One pair of dorsal setae and one pair of lateral setae. Marginal setae short. Elytra transverse (1.34-1.45x wider than long, M = 1.41, HT = 1.36) with short, pale, but not shining pubescence arising from dense aspirate punctures. Apical fringe of bristles slightly longer than pubescence on other parts of the elytra. Abdominal tergites with short, moderately dense pubescence, barely overlapping in centre of tergite III, though longer on apical tergites, arising from aspirate punctures that are evenly distributed across each tergite and finer and denser than on elytra.

Meso- and metatarsi with empodial setae much longer than claws (Fig. 17).

Apex of sternite X entire (Fig. 16). Aedeagus (Figs 4, 5) 0.80-0.87 mm long (M = 0.83 mm, HT = 0.80 mm). Parameres bilobed, lobes widely separated, sensory pegs confusedly arranged right at apex, basal region of pegs without short setae (Figs 6-8). Median lobe of aedeagus slightly longer than paramere, apex broadly rounded (Figs 6, 7, 9).

**Comparative notes.** The new species is similar to *A. ziloensis* Levasseur, 1968, *A. congoensis* Cameron, 1932 and *A. janaki* Lott, 2011 in lacking bright yellow pubescence on the elytra. Externally, this species resembles mostly *A. ziloensis*, but can be distinguished by the larger and wider terminal segment of the maxillary palpi, the presence of short setae on the ventral side of paramere and short pubescence on the centre of tergite III.

**Distribution and bionomics.** The new species was found by treading at the pond and on banks of a brook in Fort Fordyce National Reserve in Eastern Cape (Fig. 3) and by shorewashing in Nelshoogte in Mpumalanga Province, South Africa.

**Etymology.** Named after South Africa.

*Acylophorus uhligi* Lott, 2011


**Discussion.** *Acylophorus uhligi* has been hitherto known only from the type series collected in Nyanga National Park in Zimbabwe. The elytra in the specimen from Malawi are less transverse than mentioned in the description (Lott 2011) - about 1.55x wider than long.
Figs 1-3. 1- *A. meridioafricanus* sp. nov., HT, habitus, 2- *A. smetanae* sp. nov.; HT, habitus, 3- Fort Fordyce NP, type locality of *A. meridioafricanus* sp. nov., arrow indicates the place at which the specimens were collected.

Fig. 27- Distribution of *Acylophorus* in South Africa. 1- *A. capensis* Cameron, 2- *A. dankalensis* Bordoni, 3- *A. janaki* Lott, 4- *A. meridioafricanus* sp. nov., 5- *A. nitens* Lott, 6- *A. orientalis* Fauvel, 7- *A. rossii* Bordoni, ?- isolated females.
**Acylophorus ziloensis** Levasseur, 1968
(Figs 10-14)


**Discussion.** Revised diagnostic characters were published by Lott (2011) after recognition of the South African specimens as a distinct species (*A. janaki* Lott, 2011). Apex of the median lobe is usually slightly notched medially (Figs 10, 12) and exceptionally broadly rounded (Fig. 14). Ventral side of the paramere, in addition to a group of sensory peg setae, with short setae (Figs 10, 11, 13). *Acylophorus ziloensis* is relatively frequently found in montane forest in eastern Congo and Rwanda.

**Acylophorus sp.**

**Material examined.** SOUTH AFRICA: Eastern Cape: 8 km N of Alexandria, pond nr. rd to Salem, 33°35’S, 26°23’E, treading, 5.xii.2006, J. Janák lgt., 1 ♀, (JJRC).

**Discussion.** Externally, this specimen is the most similar to *A. meridioafricanus* sp. nov. and *A. janaki* Lott.

**Acylophorus sp.**


**Discussion.** Externally, this specimen is the most similar to *A. janaki* Lott.
Figs 4-14. 4-9- *A. meridioafricanus* sp. nov.; 10-14- *A. ziloensis* Levasseur; 4- aedeagus ventral, HT, 5- aedeagus lateral, HT; 6, 7, 10- apex of aedeagus; 8, 11, 13- apex of paramere, 9, 12, 14- apex of median lobe; 6, 8, 9- PT, Fort Fordyce; 7- PT, Nelshoogte; 10- Volcan Mikeno; 11-14- Kalonge; scale 0.25 mm (4, 5) and 0.5 mm (6-13).
**A. salifi group**

**Acylophorus salifi** Lott, 2010


**Discussion.** These records come from within the known distributional range of this species, which extends from Burkina Faso and Ivory Coast to Angola and Zambia. The variation in the shape of the aedeagus and colour of elytra exists both among specimens from different localities and, to some extent, within series of specimens taken from the same locality. Some populations may be described as distinct taxa once sufficient material from further localities becomes available for study.

**A. trigonocephalus group**

**Acylophorus smetanai** sp. nov.  
(Figs 2, 20-26)


**Description** (n = 5). Length 6.6-7.5 mm (M = 6.9 mm, HT = 6.6 mm), length of the forebody 3.0-3.4 mm (M = 3.2 mm, HT = 3.0 mm). Body black with iridescent abdomen, pronotum black or brownish with reddish brown margins, elytra brown, posterior margin of elytra and abdominal segments reddish brown (Fig. 2). Antennae reddish brown, base of first segment reddish yellow, last segment pale, yellow. Legs pale, reddish yellow, femora darker, reddish brown. Palpi and mouthparts pale, reddish yellow.

Head of average size (pronotum 1.69-1.81x wider than head, M = 1.73, HT = 1.72) about as long as wide (W/L = 1.00-1.07, M = 1.04, HT = 1.04) with well developed temples behind large eyes. Head pigmented in front of antennal insertion. Micro-punctures very
Figs 15-26. 15-19- *A. meridioafricanus* sp. nov., 20-26- *A. smetanai* sp. nov., 15, 23- antenna; 16- male sternite X; 17- last segment of metatarsus, ventral, transmitted light; 18- mandibles; 19, 20- maxillary palpus; 21- apex of male sternite X; 22- last segment of metatarsus, lateral; 24- aedeagus ventral; 25- aedeagus lateral; 26- apex of paramere; 15, 16, 18, 20-26- HT; 17, 19- PT, Fort Fordyce; scale 0.1 mm (17, 22), 0.25 mm (16, 18 = 19, 20 = 21), 0.5 mm (15, 23, 24 = 25, 26).
sparse and scarcely detectable at x40 magnification. Short pubescence behind eyes. Three pairs of interocular setae and a line of five postocular setae just visible from above on each side. Mandibles similar as in *A. meridioafricanus* sp. nov. with well developed medial tooth on right (slightly longer than in *A. meridioafricanus* sp. nov.) and untoothed on left (cf. Fig. 18). Maxillary palpi with last two segments pubescent, terminal segment elongate, rounded on both sides, but slightly asymmetric, longer than penultimate segment which is broadly triangular (Fig. 20). First segment of antenna longer than next five. Segments 1 to 4 elongate, 5 slightly longer than wide (L/W = 1.02-1.19, M = 1.07, HT = 1.02), 7 to 10 transverse (L/W of segment 10 = 0.64-0.81, M = 0.73, HT = 0.81) (Fig. 23).

Pronotum slightly transverse (1.16-1.20x wider than long, M = 1.18, HT = 1.19) with less rounded sides, widest in basal half. Micro-punctures very sparse and shallow, scarcely detectable at x40 magnification. Marginal setae very long. One pair of dorsal and one pair of lateral setae. Elytra transverse (1.48-1.56x wider than long, M = 1.53, HT = 1.48) with long but sparse pubescence and coarse aspirate punctures. Apical bristles much longer than hairs on the rest of the elytra. Abdominal tergites also with long, sparse pubescence. Punctures much sparser on apical half of each tergite than on basal half. Apical fringe of bristles on each tergite of two distinct lengths, the shorter bristles more numerous than the longer bristles.

Meso- and metatarsi with empodial setae much longer than claws (Fig. 22).

Male sternite X with simple, broadly rounded apex (Fig. 21). Aedeagus 0.75 mm (PT, teneral) to 0.85 mm (HT), with bilobed paramere (Fig. 24), each lobe narrow, parallel, pegs confusedly arranged toward apex, which has numerous short apical hairs (Fig. 26). Median lobe with barely expanded apex, slightly surpassing paramere, in lateral view with distinct preapical tooth (Fig. 25).

**Comparative notes.** Within the *A. trigonocephalus* group it can be recognized by a distinctive shape of the aedeagus. Externally (shape of head and pubescence of body) this species most of all resembles *A. trigonocephalus*, but it can be distinguished from the latter by less transverse pronotum and elytra.

**Distribution and bionomics.** Found in humus in the mountains in Kivu district (Kabare, Kalehe and Lubero), R. D. Congo.

**Etymology.** This new species is dedicated to Dr. Aleš Smetana from Ottawa (Canada), a prominent specialist in systematics of Staphylinidae, who, in particular, revised the genus *Acylophorus* of the Nearctic and Oriental Regions. The dedication is made on the occasion of his 80th birthday.

**Discussion.** Lott (2010) recorded a female of *A. trigonocephalus* Cameron, 1949 from Kivu: Kabari, SE Kahuzi, 2080/2200m, N Leleup, viii.1951. It may represent this new species as well, but this specimen was not checked during this study.
scarcity of material of *Acylophorus* from Africa south from Sahara was already mentioned by Lott (2010).

Longer series of specimens were collected by first author in South Africa by treading of banks of well-vegetated marshes and stream banks. *Acylophorus* in these localities were observed living hidden in vegetation and detritus at the water level and when they are disturbed by treading of a collector and following overflooding of the habitat, they were usually found swimming in water or ascending the pieces of vegetation rising from water.

All South African provinces with no records of *Acylophorus* may be less attractive for entomologists than others. Collecting efforts focussed on these regions and for suitable habitats for this genus using the treading as the method of collecting should improve our knowledge of the diversity and distribution of the genus.

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<td><em>A. rossii</em> Bordoni, 1994</td>
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Tab. 1- Distribution of *Acylophorus* recorded from South Africa

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REFERENCES

