

***Centroscelis kadleci* sp. nov. from Yemen  
and a new synonymy in the genus *Centroscelis*  
(Coleoptera: Chrysomelidae: Chrysomelinae)**

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**Abstract.** *Centroscelis kadleci* sp. nov. from Yemen is described and illustrated. Geographical distribution of the Afrotropical genus *Centroscelis* Chevrolat, 1836 is extended to the southernmost part of the Arabian Peninsula. Lectotype is designated for *Chrysomela decempustulata* Thunberg, 1787. *Centroscelis inenarrabilis* Vogel, 1871 (with its synonyms *C. trifibulata* Vogel, 1871, *C. bisquinquepustulata* Vogel, 1871, *C. nigripennis* Achard, 1924 and *C. quatuordecimmaculata* Achard, 1924) is proposed as a new synonym of *C. decempustulatus* (Thunberg, 1787), comb. nov.

**Key words.** Coleoptera Chrysomelidae, Chrysomelinae, *Centroscelis*, new species, new synonym, Africa, Yemen, Palaearctic Region

### Introduction

The genus *Centroscelis* Chevrolat, 1836 belonging to the tribe Goniocetenini Motschulsky, 1860 was accurately described by VOGEL (1871). Recent revision was presented by DACCORDI (1983) who also downgraded the genus *Coccimela* Weise, 1898 to a subgenus of *Centroscelis*. Now it comprises 4 species in *Centroscelis* (s. str.) and 3 species in the subgenus *Coccimela*.

*Centroscelis* species can be easily distinguished from the Oriental and Holarctic genus *Goniocetena* Chevrolat, 1836 by absence of the furrow on the outer side of mandibles. Both genera have apex of tibiae (not always in all pairs of tibiae) expanded in more or less broad and acute tooth. Similar teeth are also present in a few species of the Australian genus *Faex* Weise, 1901 (Chrysomelini: Paropsina Weise, 1915) or in the monospecific genus *Palimbola* Weise, 1900 from Central Africa (Chrysomelini: Chrysomelina Chen, 1936).

So far, subfamily Chrysomelinae has never been reported from Yemen (MEDVEDEV 1996, KIPPENBERG 2010). Recently, we received long series of *Centroscelis* collected by our late colleague Stanislav Kadlec. This species proved to be new to science and is described below. The discovery of this new *Centroscelis* extended the geographical distribution of this Afrotropical genus to the southern part of the Arabian Peninsula. During the examination of various type materials from different institutions one of us (M. D.) found one new synonymy in *Centroscelis* which is also briefly discussed here.

### Material and methods

The material examined is housed in the following collections:

BMNH	The Natural History Museum, London, United Kingdom (Sharon Shute, Maxwell Barclay);
FKCK	František Kantner collection, Klatovy, Czech Republic;
JBCB	Jan Bezděk collection, Brno, Czech Republic;
JVCJ	Jiří Voříšek collection, Jirkov, Czech Republic;
MDCV	Mauro Daccordi collection, Verona, Italy;
NHMB	Naturhistorisches Museum, Basel, Switzerland (Michael Geiser, Michel Brancucci);
NMPC	National Museum, Praha, Czech Republic (Jiří Hájek);
UUZM	Uppsala University Zoological Museum, Uppsala, Sweden (Hans Mejlom);
ZMHB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany (Joachim Willers, Johannes Frisch).

Exact label data are cited for all type specimens; a double slash (//) divides data on different labels and a single slash (/) divides data in different rows. Other comments and remarks are placed in square brackets: [p] – preceding data are printed, and [w] – white label.

### *Centroscelis (Centroscelis) kadleci* sp. nov.

(Figs. 1–13)

**Type locality.** South Yemen, Kawr Saybān Mt., NW of Al Mukallā, 14°37'N, E 49° 03'E.

**Type material.** HOLOTYPE: ♂, 'S YEMEN, Kawr Saybān Mt. / NW Al Mukallā, N 14°37' / E 49° 03', 29.III.2007 / lgt. S. Kadlec [w, p]' (NMPC). PARATYPES: 12 ♂♂ 32 ♀♀, same data as holotype (1 ♂ 4 ♀♀ in NMPC, 4 ♂♂ 11 ♀♀ in FKCK, 3 ♂♂ 9 ♀♀ in JBCB, 4 ♂♂ 3 ♀♀ in MDCV, 2 ♀♀ in NHMB, 2 ♀♀ in BMNH, 1 ♀ in ZMHB); 5 ♀♀, 'S YEMEN, Kawr Saybān Mt. / NW Al Mukallā, N 14°37' / E 49° 03', 575 m / lgt. S. Kadlec, 29.III.2007 [w, p]' (FKCK); 7 ♂♂ 25 ♀♀, 'S YEMEN, Kawr Saybān / Mt., NW Al Mukallā / N 14°37' E 49° 03' 575m / 29.III.2007 S. Kadlec lgt. [w, p]' (JVCJ); 1 ♂ 2 ♀♀, 'S Yemen, Kawr Saybān mt. / NW Al Mukallā, 29.III.2007 / N14°37' E49° 03', 575 m, / lgt. S. Kadlec [w, p]' (JVCJ). The specimens are provided with additional printed red labels: 'HOLOTYPUS [or PARATYPUS], / *Centroscelis / kadleci* sp. nov., / Bezděk, Daccordi & / Kantner det., 2011'.

**Description.** Body length: ♂♂ 5.2–5.7 mm (holotype 5.2 mm), ♀♀ 5.1–6.6 mm; body width: ♂♂ 3.6–3.7 mm, ♀♀ 3.7–4.2 mm; body height: ♂♂ 2.6–2.7 mm, ♀♀ 2.8–3.2 mm.

Male (holotype, Fig. 1). Body shortly elongate, strongly convex, glabrous. Head including mouthparts pale orange, lateral parts of ventral side of head and apices of mandibles black. Pronotum mahogany with pale orange anterior and posterior margins, anterior angles, thin stripe from the middle of anterior margin reaching the middle of pronotal disc and two thin oblique stripes from the middle of posterior margin reaching pronotal midlength. Scutellum dark mahogany. Elytra pale orange with black extreme anterior margin, wide sutural margin,

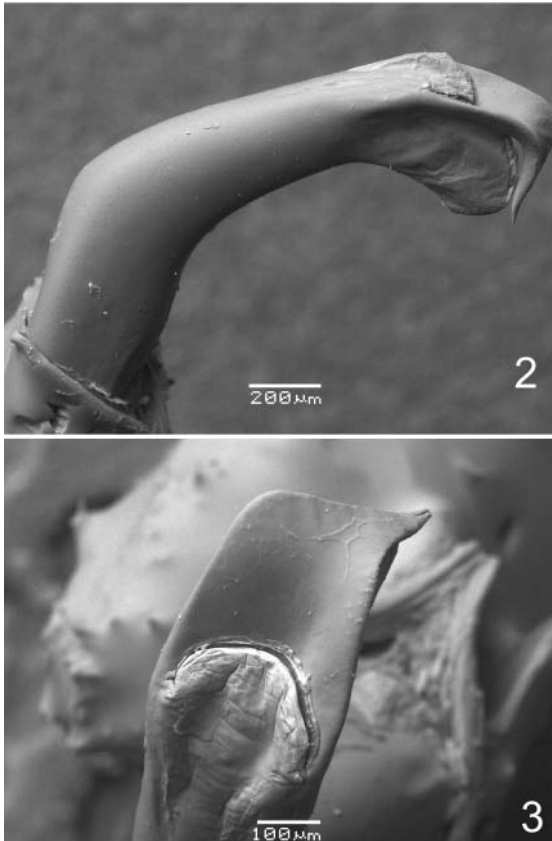


Fig. 1. Habitus of *Centroscelis kadleci* sp. nov. (holotype, male, 5.2 mm).

spot on humeral callus touching anterior margin, posthumeral spot touching humeral one, postscutellar spot widely touching sutural margin, postmedian spot touching sutural margin and large elongate lateroapical spot touching both elytral apex and postmedian spot. Prosternum pale orange with central part mahogany. Meso- and metasternum black with paler extreme posterior margin of metasternum. Abdomen black, last ventrite with posterior margin and transverse furrow along posterior margin orange. Antennae orange with last 5 antennomeres darkened. Legs orange with basal halves of pro- and mesofemora and basal three quarters of metafemora infuscated.

Labrum lustrous, wide and short, lateral margins rounded and convergent, anterior margin with distinct shallow incision, with 6 large punctures in transverse row along basal margin, laterally covered with several long pale setae. Clypeus and frons semiopaque, covered with sparse large punctures, more dense at ocular margins, sparsely mixed with very fine punctures. Frontoclypeal suture very widely obtusangulate. Eyes elongated. External margin of mandibles with shallow hollow covered with large punctures. Maxillar palpomeres elongated, last palpomere truncated apically, not dilated (Fig. 8). Antennae (Fig. 12) short, not reaching the posterior margin of pronotum.

Pronotum transverse, twice as wide as long (pronotal length 1.4 mm, width 2.8 mm), widest at posterior angles, strongly convex with even surface, glabrous. Middle part of anterior margin straight, laterally bent anteriorly, lateral margins convergent, nearly straight, posterior margin widely regularly rounded. All margins very thinly bordered. Anterior angles moderately pro-



Figs. 2–3. Median lobe of aedeagus of *Centroscelis kadleci* sp. nov. (SEM micrographs): 2 – lateral view; 3 – apex in dorso-lateral view.

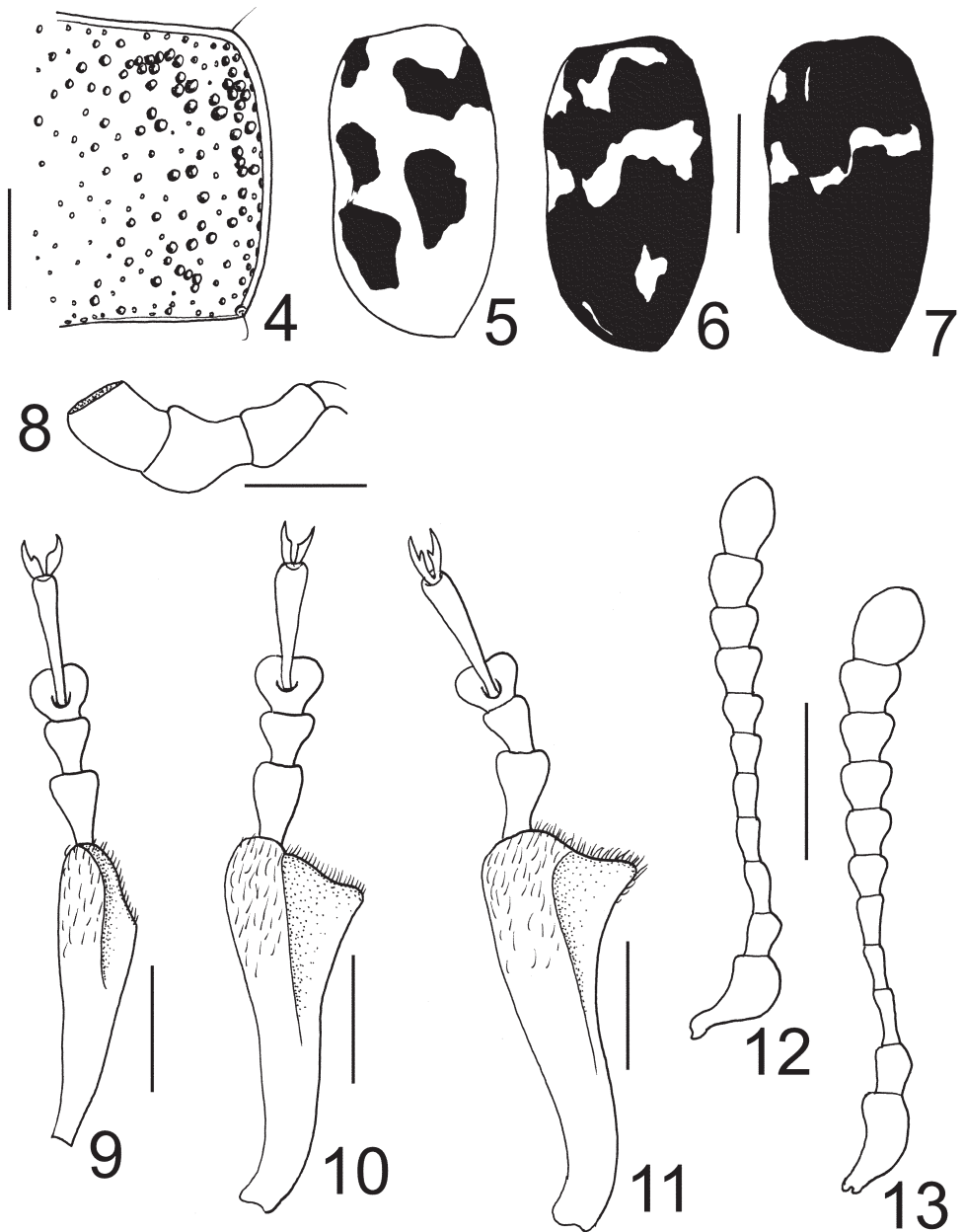
truding anteriorly, widely rounded, posterior angles nearly rectangular. Surface lustrous, disc sparsely covered with small punctures, towards lateral margins with gradually larger and deeper punctures (Fig. 4). Posterior angles with distinct setigerous pore bearing pale seta, anterior angles with setigerous pore placed on ventral margin (invisible from dorsal view), only long pale seta visible. Scutellum large, as wide as long, widely rounded with almost indistinct tip, lustrous, impunctate.

Elytra glabrous, semiopaque, strongly convex, widest in the middle, 0.7 times as long as body and 1.05 times as long as wide (measured in elytral midlength), densely covered with small confused punctures and sparsely with very fine wrinkles (more distinct on lateral sides of posterior third). Humeral calli distinct, wide, impunctate, sparsely covered with fine wrinkles. Epipleura glabrous, impunctate, moderately wide in anterior third, in middle part gradually narrowed, in posterior third thin, reaching elytral tip; in lateral view visible for its entire length. Macropterous.

Ventral surface semiopaque, sparsely covered with small punctures with short pale setae. Proepimera distinctly concave, covered with irregular striae. Prosternum narrow with sparse large punctures, prosternal process short, slightly enlarged posteriorly, covered with large punctures. Mesosternum with deep subtriangular cavity in the middle. Metasternum thinly bordered along anterior margin, with thin longitudinal groove in the middle. Last visible ventrite with semicircular impression in the middle deepest along posterior margin.

All femora short, slightly enlarged. Protibiae slightly widened without any distinct lateral tooth, meso- and metatibiae apically dilated in large tooth.

Protarsomere 1 subtriangular, 1.2 times as long as wide, as wide as protarsomere 2, onychium long, thin, as long as protarsomeres 2 and 3 combined, length ratios of protarsomeres 1–4 equal to 12-8-10-17. Metatarsomere 1 subtriangular, 1.2 times as long as wide, as wide as metatarsomere 2, onychium long, 1.1 as long as metatarsomeres 2 and 3 combined, length ratios of metatarsomeres 1–4 equal to 12-8-8-18. Third tarsomeres of all tarsi undivided. Claws shortly bifid, with inner branch shorter than outer one.



Figs. 4–13. Details of *Centroscelis kadleci* sp. nov. 4 – sculpture of pronotum; 5–7 – variability of elytral pattern; 8 – maxillary palpus; 9 – right male protibia and protarsus; 10 – male mesotibia and mesotarsus; 11 – male metatibia and metatarsus; 12 – male antenna; 13 – female antenna. Scale bar = 0.5 mm for Figs. 4 and 8–13, 1 mm for Figs. 5–7.

Apex of median lobe of aedeagus with sharp pointed tip, divided in the middle, bent laterally and strongly curved ventrally. Apical part of median lobe with wide lamellar expansion on ventral side. In lateral view, median lobe obtusely bent behind the middle (Figs. 2, 3).

Female has no spermatheca.

**Sexual dimorphism.** Males differ in the presence of a distinct semicircular impression in the middle of the last visible ventrite, deepest along posterior margin (missing in females). Tarsomeres of all legs in males are slightly wider than in females. Antennae of males are slightly thinner than in females (Figs. 12, 13).

**Variability.** The coloration of dorsum is very variable amongst the specimens in the type series. Head is usually orange or at most with darker vertex, very rarely almost completely black. Pronotum varies from completely orange (14 % of specimens), through orange with four indistinct brownish spots transversely (7 %), orange with two large mahogany lateral spots (12 %), orange with an irregular confused mahogany pattern (26 %), black with orange lateral sides or anterior corners (9 %), to completely black (32 %). The black elytral pattern varies from the palest with 5 isolated small black spots with postscutellar spots connected at suture (Fig. 5) (7 % of specimens), through small spots slightly touching each other (Fig. 1) (28 %), spots more expanded (Fig. 6) (16 %), elytra almost black with the rest of orange colour (Fig. 7) (7 %), to elytra completely black (42 %). Coloration of femora varies from completely orange to completely black; tibiae are orange in most specimens, only rarely their inner sides are darkened.

**Differential diagnosis.** *Centroscelis kadleci* sp. nov. can be easily distinguished from any other described species of this genus by anterior tibiae only slightly enlarged and broadly sinuate in the apical part, without the lateral tooth which is always presented in other *Centroscelis* species. Onychium on hind tarsi in *C. kadleci* sp. nov. is longer than tarsomeres 2 and 3 combined while shorter in other *Centroscelis* species (ratio length of onychium / length of tarsomeres 2 and 3 combined: 1.1 in *C. kadleci* sp. nov., 0.8 in *C. notata* (Fabricius, 1781), 0.75 in *C. decempustulata* (Thunberg, 1787) and 0.8 in *C. murrayi* (Baly, 1864)). Also, the peculiar structure of the median lobe of aedeagus with apex laterally bent and strongly curved down cannot be confused with any other *Centroscelis* species (all other species have apex laterally straight or only slightly turned down and ventral part of apex always without lamellar extension – for figures see DACCORDI (1983)).

**Etymology.** This species is dedicated to our good friend and specialist in Cerambycidae, the late Stanislav Kadlec (1948–2008).

**Distribution.** Yemen. Known only from the type locality.

### *Centroscelis (Centroscelis) decempustulata* (Thunberg, 1787) comb. nov.

*Chrysomela 10-pustulata* Thunberg, 1787: 44.

*Centroscelis inenarrabilis* Vogel, 1871: 127, **syn. nov.**

*Centroscelis trifibulata* Vogel, 1871: 131, **syn. nov.**

*Centroscelis bisquinquepustulata* Vogel, 1871: 130, **syn. nov.**

*Centroscelis nigripennis* Achard, 1924: 38, **syn. nov.**

*Centroscelis quatuordecimmaculata* Achard, 1924: 38, **syn. nov.**

**Type localities.** *Chrysomela decempustulata*: not stated. *Centroscelis inenarrabilis*: ‘Cap b. sp. [= Cape of Good Hope], Port Natal’. *Centroscelis trifibulata*: ‘Cap b. sp. [= Cape of Good Hope]’. *Centroscelis bisquinquepustulata*: ‘Cap b. sp. [= Cape of Good Hope]’. *Centroscelis nigripennis*: ‘Colonie du Cap: Dunbrody’. *Centroscelis quatuordecimmaculata*: ‘Colonie du Cap: Port Alfred’.



**Type material.** *Chrysomela decempustulata*: LECTOTYPE (designated here): 1 ♀, 'Uppsala Univ.Zool.Mus. / Thunbergsaml. nr: 9781 / Chrysomela decempustulata / Mus. Thunb. TYP [red label, p] // *Centrosclis / decempustulata* / (Thunberg) [h] / des. Daccordi 2011 [w, p] // Lectotype [red label, p]' (UUZM).

*Centrosclis inenarrabilis*: HOLOTYPE: 1 ♀, '29849 [w, p] // inenarrabilis / et var. Vogel. \* / Pr. b. sp. Krebs [blue label, h] // HOLOTYPUS / Centrosclis / inenarrabilis Vogel, 1871 / labelled by MNHUB 2012 [red label, p]' (ZMHB).

*Centrosclis trifibulata*: not examined, probably deposited in Naturhistoriska Riksmuseet Stockholm (Sweden).

*Centrosclis bisquinquepustulata*: HOLOTYPE: 1 ♂, '29859 [w, p] // bis-5pustulata / Vogel. \* [w, h] // Pr. b. sp. Krebs [blue label, h] // HOLOTYPUS / Centrosclis bisquinque- / pustulata Vogel, 1871 / labelled by MNHUB 2012 [red label, p]' (ZMHB).

*Centrosclis nigripennis*: SYNTYPE: 1 ♀, 'Dunbr [w, h] // TYPE [pink label, p] // Centrosclis / nigripennis n sp [h] / J. Achard det. [p] TYPE [w, h]' (NMPC).

*Centrosclis quatuordecimmaculata*: SYNTYPE: 1 ♂, 'Port / Alfred [w, h] // J / 39 [w, h] // TYPE [pink label, p] // Centrosclis / 14 maculata n sp [h] / J. Achard det. [p] TYPE [w, h]' (NMPC).

**Distribution.** Republic of South Africa.

**Comments.** Recently, one of us (M. D.) had a possibility to examine the syntype (female) of *Chrysomela decempustulata* Thunberg, 1787 deposited in UUZM which proved to be a representative of *Centrosclis* and conspecific with *C. inenarrabilis* Vogel, 1871. *Centrosclis inenarrabilis* with its previously accepted synonyms *C. trifibulata*, *C. bisquinquepustulata*, *C. nigripennis* and *C. quatuordecimmaculata* (see DACCORDI 1983) are proposed new synonyms of *Centrosclis decempustulata* (Thunberg, 1787) comb. nov. Because THUNBERG (1787) did not stated the number of available specimens, lectotype is designated to fix the name to a single name-bearing type specimen.

## Catalogue of the genus *Centrosclis*

*Centrosclis* Chevrolat, 1836

subgen. *Centrosclis* Chevrolat, 1836

- |  |                    |
|--|--------------------|
| <i>C. decempustulata</i> (Thunberg, 1787) ( <i>Chrysomela</i> ) (comb. nov.) | RSA                |
| = <i>inenarrabilis</i> Vogel, 1871 (syn. nov.)                               |                    |
| = <i>trifibulata</i> Vogel, 1871 (syn. nov.)                                 |                    |
| = <i>bisquinquepustulata</i> Vogel, 1871 (syn. nov.)                         |                    |
| = <i>nigripennis</i> Achard, 1924 (syn. nov.)                                |                    |
| = <i>quatuordecimmaculata</i> Achard, 1924 (syn. nov.)                       |                    |
| <i>C. kadleci</i> sp. nov.   | Yemen              |
| <i>C. murrayi</i> (Baly, 1864) ( <i>Gonioctena</i> )                         | Cameroon, Congo,   |
| = <i>congoensis</i> Burgeon, 1941  | Ivory Coast, Nige- |
| = ? <i>tenuelimbata</i> (Fairmaire, 1887) ( <i>Anomomera</i> )               | ria, Somalia       |
| <i>C. notata</i> (Fabricius, 1781) ( <i>Chrysomela</i> )                     | RSA                |
| = <i>laevigata</i> (Clark, 1864) ( <i>Polysticta</i> )                       |                    |
| = <i>limbaticollis</i> Achard, 1824  |                    |
| = <i>macularis</i> (Clark, 1864) ( <i>Polysticta</i> )                       |                    |
| = <i>melanaspis</i> Vogel, 1781  |                    |
| = <i>nigroaenea</i> (Clark, 1864) ( <i>Polysticta</i> )                      |                    |
| = <i>polychroma</i> Vogel, 1871  |                    |
| = <i>sellata</i> Achard, 1925  |                    |
| <i>C. vogeli</i> Daccordi, 1983  | RSA                |

subgen. *Coccimela* Weise, 1898

<i>C. congoana</i> (Burgeon, 1941) ( <i>Coccimela</i> )	Congo
<i>C. fulgida</i> (Weise, 1898) ( <i>Coccimela</i> ) = <i>thoracica</i> (Weise, 1898) ( <i>Coccimela</i> )	Tanzania
<i>C. lopatini</i> Daccordi, 1983	Tanzania

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