

On *Odontiomorpha* JACOBY, 1900 with description of two new species (Coleoptera: Chrysomelidae)*

● STEFANO ZOIA

Abstract. A redescription of *Odontiomorpha minuta* JACOBY, 1900 (Natal) and a description of *O. capensis* sp. nov. (Cape Province) and *O. cuprina* sp. nov. (Cape Province) are provided; the position of the genus *Odontiomorpha* JACOBY, 1900 is briefly discussed and its relationship to *Odontionopa* CHEVROLAT, 1836 is pointed out.

Zusammenfassung. *Odontiomorpha minuta* JACOBY, 1900 aus Natal wird wiederbeschrieben, *O. capensis* sp. nov. und *O. cuprina* sp. nov., beide aus der Kap-Provinz Südafrikas, werden neu beschrieben. Die systematische Stellung von *Odontiomorpha* JACOBY, 1900 wird kurz diskutiert und ihre Nähe zu *Odontionopa* CHEVROLAT, 1836 herausgestellt.

Riassunto. Viene ridescritta *Odontiomorpha minuta* JACOBY, 1900 (Natal) e descritte *O. capensis* sp. nov. (Cape Province) e *O. cuprina* sp. nov. (Cape Province); viene brevemente discussa la posizione del genere *Odontiomorpha* JACOBY, 1900 evidenziandone le affinità con *Odontionopa* CHEVROLAT, 1836.

Key words. Taxonomy, *Odontiomorpha*, *Odontionopa*, new species, South Africa, Afrotropical Region.

Introduction

Describing the new genus *Odontiomorpha*, for the new species *O. minuta*, JACOBY (1900) arranged it in a group, namely *Odontionopinae* (following CHAPUIS 1874 and LEFÈVRE 1885), which included the African genera *Odontionopa* CHEVROLAT, 1836, *Obelistes* LEFÈVRE, 1885 and *Phascus* LEFÈVRE, 1884. *Odontiomorpha* was later considered by SELMAN (1965, 1972) in the tribe *Colaspoidini* due to the “pygidium grooved medially”, together with the genus *Platycorynus* CHEVROLAT, 1836. The description of two new species of *Odontiomorpha* gives me the opportunity to reconsider the position of this genus.

Depositories

MCZH – Museum of Comparative Zoology at Harvard University, Cambridge, Massachusetts, USA; NHML – Natural History Museum, London, England; MDcoll (MAURO DACCORDI coll., Verona, Italy; MSNM – Museo Civico di Storia Naturale di Milano, Italy; SZcoll – STEFANO ZOIA coll., Milano, Italy.

Odontiomorpha JACOBY, 1900

CLAVAREAU, 1914: 65.
SELMAN, 1965: 172 (*Odontomorpha*, sic!).
SELMAN, 1972: 15 (*Odontomorpha*, sic!).

Type species. *Odontiomorpha minuta* JACOBY, 1900.

Diagnosis. Eumolpinae of small size (1.8–2.9 mm) with oblong body, the prothorax narrower than the elytra, the latter oblong, with humeri well developed, moderately protruding. Head orthognathous, scarcely retracted into the prothorax; eyes relatively wide and prominent, intere; frons punctured, with a fine pubescence, without any sulcus near inner border of the eyes; labrum with distal margin concave or straight; mandibles short, robust; palpi with the last joint twice the second in length. First antennomere oblong, second oblong, a little shorter than the third, third to sixth slender, seventh to eleventh moderately enlarged. Pronotum transverse, almost so wide at base as at distal border, sides curved throughout; pronotal base finely bordered, sides with moderately wide and finely serrate border, reaching the distal corners; pronotum densely punctate, with a fine pubescence, in the known species with a transverse impression in the basal third, almost reaching the pronotal sides; anterior margin of proepisterna nearly

straight, continuous with prosternal anterior margin; prosternum a little longer than wide, transversely convex in the middle, finely pubescent. Mesothoracic episterna triangular; mesosternum with distal margin concave; metathoracic epimera oblong, moderately wide (about four times longer than wide), pubescent; metasternum with distal border impressed in the middle. Abdomen dorsally poorly sclerotized; pygidium sclerotized, with a longitudinal median groove (Figs 3, 7, 11), covered by the elytra; sternites finely pubescent. Elytra either glabrous or pubescent, irregularly punctured, only at sides with traces of rows of punctures; epipleura moderately wide, tapering to the elytral apex. Metathoracic wings fully developed. Legs moderately robust, with very fine pubescence; femora moderately widened, each with a small median tooth; pro- and mesotibiae arched; meso- and metatibiae emarginate distally; tarsal claws appendiculate. Aedeagus tube-like, strongly flexed dorso-ventrally; apex wide and robust, with distal margin more or less rounded; tegmen open dorsally, the two arms hardly reaching the sides of the median lobe; ostium dorsal, subovate. Spermatheca C-shaped; spermathecal ductus not sclerotized, moderately long; spermathecal gland tubular, thin, longer than the spermathecal body; vagina without inner sclerotized plates. Styli small, coni-

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cal, sclerotized. A relatively long and thin spiculum gastrale is present.

Distribution. Eastern South Africa.

Comparative notes. The sulcus on the pygidium (Figs 3, 7, 11) is in relation to presence of an internal raised carina along the elytral suture, on its distal part (Figs 4, 12), maintaining the elytral coaptation. In *Odontiomorpha* this carina is connected to a similar structure along the distal part of the elytral external border, in the inner side (Figs 4, 12), which ultimately limits the abdominal movements giving a better fastening of the set. The apomorphic presence of a sulcus on the pygidium developed independently in different Eumolpinae groups; it characterizes some genera at present ranged in different “sections” of Eumolpinae, as briefly discussed by MEDVEDEV (2005). In the Afrotropical the character was reported only for *Odontiomorpha* and *Platycorynus*; in the latter the inner carina along the lateral elytral border is totally missing, while the one along the suture is stronger (Fig. 14); it corresponds to a more complex median sulcus of the pygidium (Fig. 13), showing a substantial different organization in these genera; hence the inclusion of *Odontiomorpha* in a group close to *Platycorynus* as done in the past (SELMAN 1965, 1972) has no support, stating that no other synapomorphies can be found to support this theory.

The position of *Odontiomorpha* near *Odontionopa* has to be re-evaluated in relation to several synapomorphies: distal border of proepisterna continuous with the prosternal one, division between proepisterna and prosternum well marked by a sulcus (deeper in *Odontiomorpha*) and by a different level of the two, well separated coxae, appendiculate claws, last joint of labial palps almost twice the penultimate, elongated second antennomere (although clearly shorter than the third), clypeus continuous with frons, head without any sulcus along the inner border of eyes, elytra irregularly punctured, abdomen dorsally poorly sclerotized, aedeagus strongly bent dorso ventrally with wide, rounded apex.

Odontionopa mainly differs from *Odontiomorpha* in body size (*Odontionopa* > 3.5 mm; *Odontiomorpha* < 3.0 mm) and habitus, in meso- and metatibiae not emarginated near apex, narrower pro-

sternum, dorsum glabrous, pygidium without median sulcus.

Key to species

- 1 Head and pronotum with a very fine pubescence; elytra almost bare, only at sides and on the apical slope the punctures bearing very short hairs visible at high enlargement; elytra wide (length/width ratio: 1.3), moderately impressed on the basal third, without raised areas; profemora arched; aedeagus and spermatheca as in Figs 15–19 *O. minuta* JACOBY, 1900
- Dorsum obviously pubescent 2
- 2 Dorsum with relatively long golden pubescence; elytra oblong (length/width ratio: 1.4), strongly impressed on the basal third and with a longitudinal, not punctured, shiny low carina on the apical slope of each elytron; elytral sides almost straight from base to midlength; protibiae longer, feebly bent, almost straight near base; aedeagus and spermatheca as in Figs 20–22 *O. capensis* sp. nov.
- Dorsum with shorter, bent, light pubescence; elytra wide (length/width ratio: 1.3), feebly impressed on the basal third, the apical slope scatteredly punctured throughout, without raised areas; elytral sides bent throughout, clearly widened from base to midlength; protibiae shorter, bent throughout; spermatheca as in Fig. 23 *O. cuprina* sp. nov.

***Odontiomorpha capensis* sp. nov.**

Holotype. ♂, “South Africa (Cape Prov.) Stormriver, Tsitsikamma-berge, 1.XII.1981, Klapperich leg. [white printed label]; Holotypus *Odontiomorpha capensis* n. sp., S. ZOIA det. 2010 [red printed label]” (NHML).

Paratypes. 37 ex., South Africa (Cape Prov.) Stormriver, Tsitsikamma-berge, 1.XII.1981, KLAPPERICH leg. (31 ex. SZcoll; 3 ex. MDcoll; 3 ex. MSNM); 1 ex., South Africa, Cape Prov., 10 km N Knysna, 430 m, 6.II.1995, S. ZOIA leg. (SZcoll); 4 ex., South Africa, Western Cape, Swellendam, 19.XI.2007, C. GIUSTO E. COLONNELLI G. OSELLA (SZcoll); 3 ex., South Africa, Cape Prov., road Uniondale-Knysna, 6–15 km N Knysna, 170–300 m, 2.XI.1993, P. A. AUDISIO leg. (SZcoll)

Derivatio nominis. The name refers to the Cape Province, original land of this species.

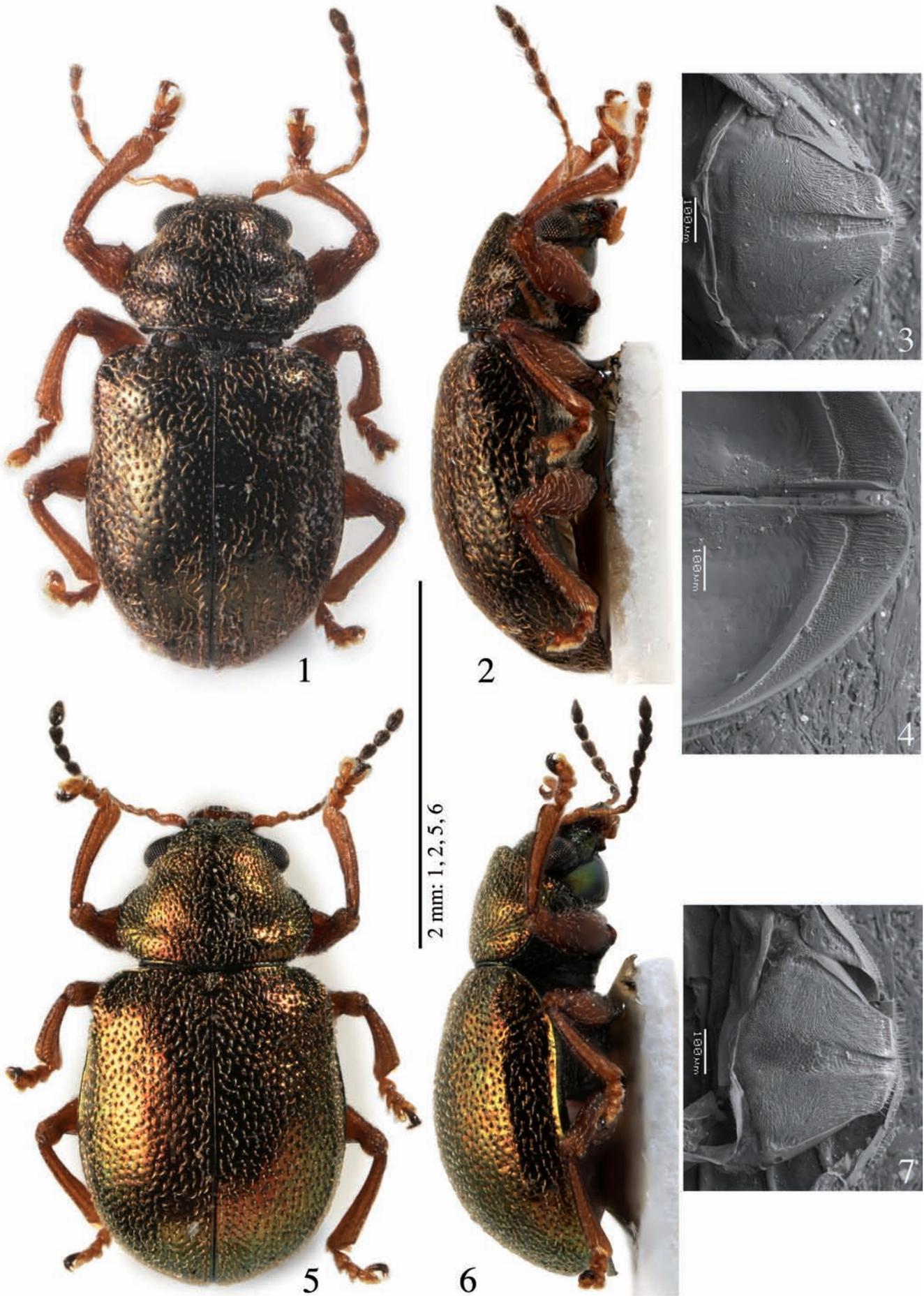
Description. Body length of the holoty-

pus 2.5 mm (length range of the examined specimens 2.3–2.9 mm). Habitus as in Figs 1–2.

Coloration. Body pitch-black, without metallic reflections; head, pronotum and elytra black with cupreous or bronze metallic reflections; labrum, mandibles and legs reddish, palpi yellowish; first to fifth antennomere yellowish, sixth to eleventh more or less darkened, their base usually yellowish.

Head. Frons moderately convex with a thin longitudinal median sulcus; surface finely microreticulated, punctation hardly visible; clypeus almost impunctate, with a fine microreticulation; pubescence whitish to pale yellowish, fine, relatively long, bent, like the one on the pronotum. First antennomere twice longer than wide, moderately bent, second nearly twice longer than wide, feebly bent on the outer side, third thinner, three times longer than wide, subequal to fourth, fifth a little shorter than the fourth and longer than the sixth, seventh to eleventh wider, nearly twice longer than wide.

Thorax. Pronotum 1.5 to 1.6 times wider than long, highly convex along the distal border, less so at base, hence the lateral borders regularly inclined downwards from the base to the distal corners; lateral borders moderately wide, finely serrate; surface with a transverse arcuate impression in the basal third, almost reaching the pronotal sides; another less evident impression near the pronotal distal edge, more evident at sides (Fig. 1). Surface finely and densely punctate, shiny between the punctures, with sparse and moderately long pale yellowish pubescence. Scutellum oblong, pubescent. Elytra oblong (length/width at humeral level = 1.4) with a strong impression on the basal third at both sides of the discus; sides subparallel (males) or feebly widened (females) from humera to the distal third, then regularly curved to the apices, which form a right angle; humeri prominent, covering the elytral sides in dorsal view; punctation strong, close, irregular, partially confluent near the humera, with traces of arrangement in rows near the elytral sides; surface between the punctures shiny, moderately convex on the discus; a longitudinal, not punctured, shiny low carina is present on the apical slope of each elytron in both sexes. Surface pubescent, each puncture with a yellowish



Figs 1-7. New species of *Odontiomorpha*. – 1-4. *Odontiomorpha capensis* sp. nov. 1. Holotypus, dorsal view. 2. Holotypus, lateral view. 3. Pygidium (paratype). 4. Elytral apex, inner view (paratype). – 5-7. *Odontiomorpha cuprina* sp. nov. 5. Holotypus, dorsal view. 6. Holotypus, lateral view. 7. Holotypus, pygidium.

lowish, relatively long, adpressed hair. Epipleura not clearly widened proximally, nearly of the same width from the base to the end of the second abdominal sternite, then gradually restricted to the elytral apex.

Abdomen. Pygidium without a distinct distal raised area, the sulcus extending to over the mid-length of the pygidium (Fig. 3). Aedeagus as in Figs 20, 21, strongly bent distally. Spermatheca (Fig. 22) with ductus relatively long and in a large part narrowly spiralled; spermathecal gland longer than the spermathecal body.

Diagnosis. Dorsum with relatively long golden pubescence; elytra oblong (length/width ratio: 1.4), strongly impressed on the basal third and with a longitudinal, not punctured, shiny low carina on the apical slope of each elytron; elytral sides almost straight from base to midlength; protibiae relatively long, feebly bent, almost straight near base; aedeagus and spermatheca as in Figs 20–22.

Odontiomorpha cuprina sp. nov.

Holotype. ♀, “South Africa: W Cape, Robinson Pass - m 850, 33.52.40 S 22.01.85 E, 6.V.2005 - E. COLONNELLI [white printed label]; Holotypus *Odontiomorpha cuprina* n. sp., S. ZOIA det. 2010 [red printed label]” (NHML).

Derivatio nominis. The name refers to the metallic color of the dorsum in this species.

Description. Body length of the holotypus 2.5 mm. Habitus as in Figs 5, 6.

Coloration. Body pitch-black, without metallic reflections; head, pronotum and elytra metallic cupreous; labrum, mandibles, palpi and legs reddish, tarsi reddish, the last joint and claws in large part black; first to fifth antennomere yellowish, sixth to eleventh darkened.

Head. Frons moderately convex with a thin longitudinal median impression; surface punctate and finely microreticulated; clypeus punctate, shiny; pubescence silvery, fine, bent, like the one on the pronotum. First antennomere 1.2 times longer than wide, second nearly twice longer than wide, feebly bent on the outer side, third thinner, more than three times longer than wide, subequal to fourth, fifth so long as and a little

wider than the fourth, sixth shorter, seventh to tenth wider, nearly 1.5 times longer than wide, eleventh about twice as long as wide.

Thorax. Pronotum 1.6 times wider than long, highly convex along the distal border, less so at base, hence the lateral borders regularly inclined downwards from the base to the distal corners; lateral borders moderately wide, finely serrate; surface with a superficial transverse arcuate impression in the basal third, not reaching the pronotal sides (Fig. 5). Surface densely punctate, shiny between the punctures, with moderately long silvery pubescence. Scutellum oblong, densely pubescent. Elytra oblong (length/width at humeral level = 1.4) with feeble impression on the basal third at both sides of the discus; sides bent, clearly widened from humera to midlength, then regularly curved to the apices, which form an angle less than 90°; humeri prominent, covering the elytral sides in dorsal view; punctuation strong, close, irregular; surface between the punctures shiny, moderately convex; the surface on the apical slope has a few short not punctured stripes. Surface pubescent, each puncture with a silvery, moderately long, bent hair. Epipleura moderately widened proximally, gradually restricted to rear, evanesced before the elytral apex.

Abdomen. Pygidium with a distinct shiny distal area, the median sulcus evanescing at midlength of the pygidium (Fig. 7). Spermatheca (Fig. 23) with ductus relatively long and in a large part spiralled; spermathecal gland longer than the spermathecal body.

Male. Unknown.

Diagnosis. Dorsum with shorter, bent, light pubescence; elytra wide (length/width ratio: 1.3), feebly impressed on the basal third, the apical slope scatteredly punctured throughout, without raised areas; elytral sides bent throughout, clearly widened from base to midlength; protibiae bent throughout; spermatheca as in Fig. 23.

Odontiomorpha minuta JACOBY, 1900

Odontiomorpha minuta JACOBY, 1900: 239, pl. XX fig. 6;

Odontiomorpha minuta, CLAVAREAU, 1914: 65.

Holotype. “Type H.T. [white printed round label with red border]; Malvern, Natal 8.97, 8532 [handwritten white label]; Jacoby Coll. 1909-28a [printed white label]; *Odontiomorpha minuta* Jac. [blue handwritten label]” (NHML).

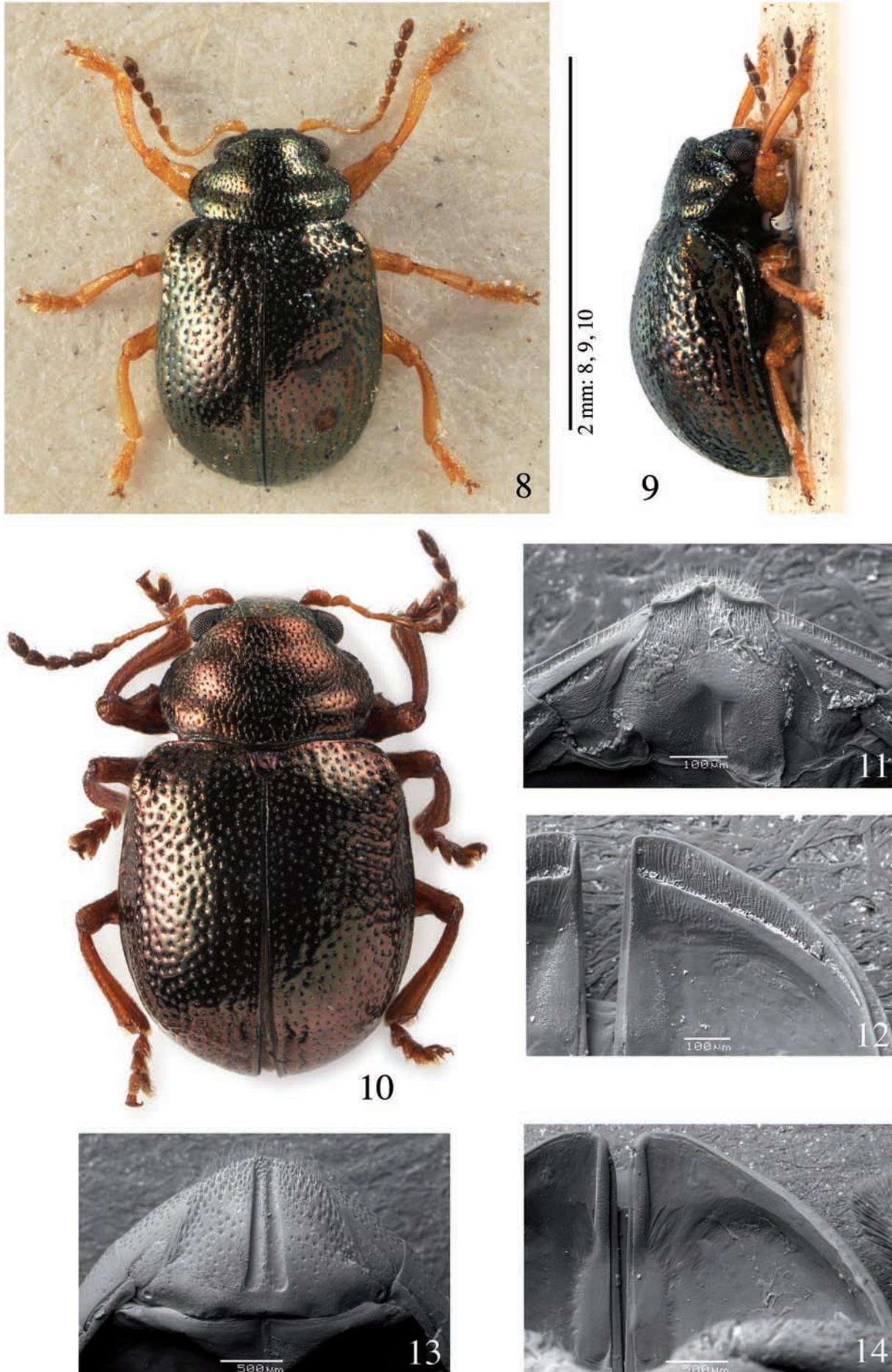
Other examined material. 1 ♂, Malvern, Natal, viii.1897, 8533 (same as in Holotype); *Odontiomorpha minuta* Jac. [handwritten blue label, same as in holotype]; Natal, Malvern, viii.1897, Sir G. A. K. MARSHALL (NHML; this is a type specimen from Jacoby’s collection); 1 ex., Malvern Natal 15.8.92[?], Jacoby 2nd Coll.; *minuta* JAC.; Type 9732 (images on: http://insects.oeb.harvard.edu/MCZ/FMPPro?-DB=Image.fm&-Lay=web&Format=images.htm&Species_ID=9889&-Find) (MCZH); 1 ex., Malvern, N[atal], 8-1900 (NHML); Malvern Natal (MDcoll); 10 ex., South Africa, Natal, Weza, Ngele Forest, m 1200–1550, 30° 31' S, 29° 48' E, indig. forest, 7/8.XII.1995, A. DE BIASE leg. (7 ex. SZcoll; 3 ex. MSNM); 8 ex., idem, M. BIONDI leg. (SZcoll); 2 ex., idem, P. AUDISIO leg. (SZcoll); 1 ex., South Africa, Natal, Weza, Lorna Doone Forest, m 1100, 30° 33' S, 29° 43' E indig. forest, 6.XII. 1995 A. DE BIASE leg. (SZcoll); 1 ex., idem, P. AUDISIO leg. (SZcoll).

Redescription. Body length of the holotypus 1.8 mm (length range of the examined specimens: 1.8–2.7 mm, see note below). Habitus as in Figs 8, 9 (holotypus) and 10.

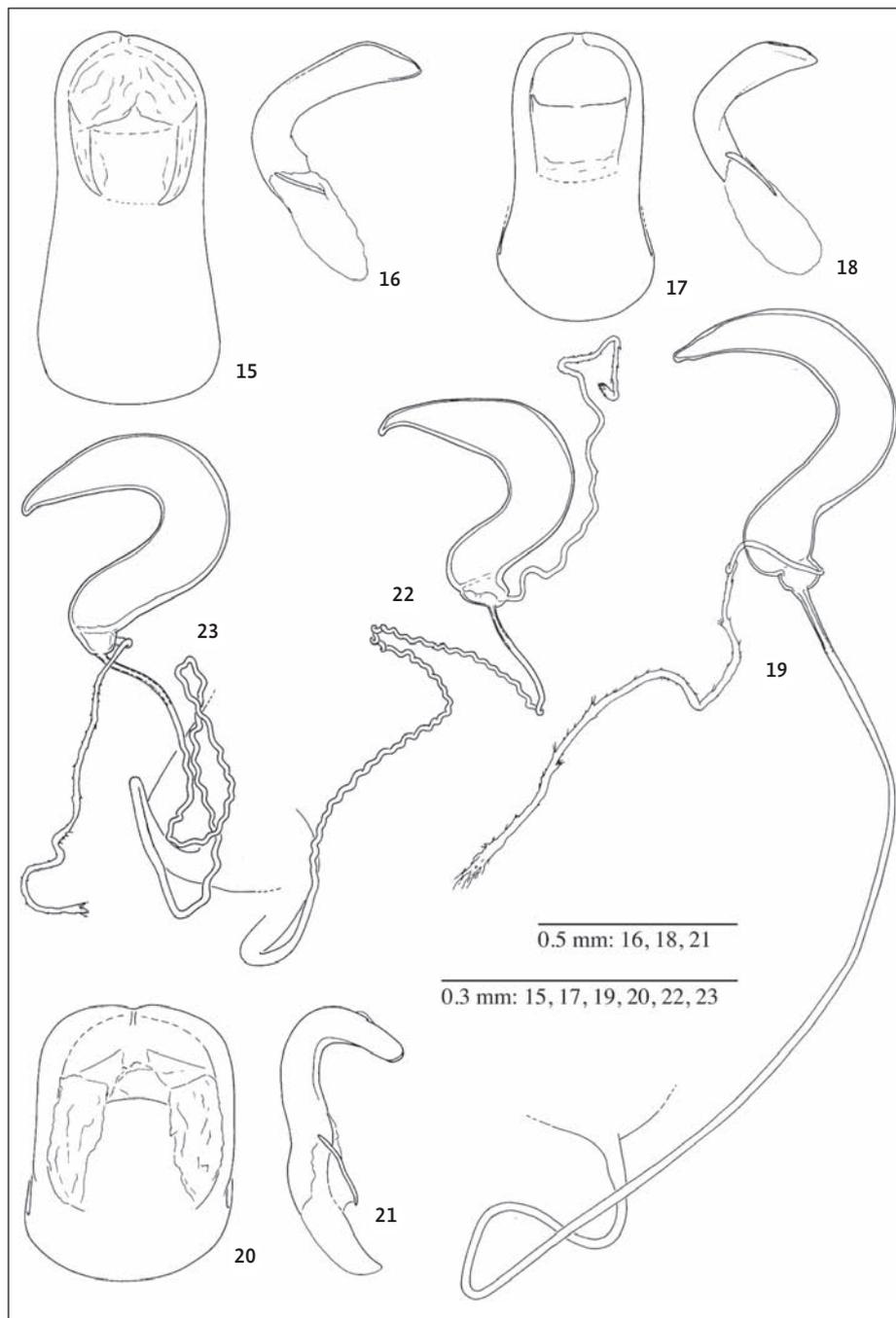
Coloration. Body pitch-black, without metallic reflections; head, pronotum and elytra metallic, dark greenish to dark cupreous, usually with greenish to bluish reflections; mouth parts and legs yellow or reddish; first to fifth antennomere yellowish to reddish, sixth at least partially darkened, seventh to eleventh more or less darkened.

Head. Frons moderately convex, with a thin longitudinal median sulcus, sometimes evanescing; surface with fine punctation and microreticulation; clypeus with fine punctation, sometimes almost smooth; pubescence white, fine, bent. First antennomere twice longer than wide, feebly bent, second 1.5 times longer than wide, third longer and thinner than the second, subequal to fourth and fifth, sixth shorter than the fifth, seventh to tenth wider, 1.3 times longer than wide, eleventh 1.7 times longer than wide.

Thorax. Pronotum 1.6/1.8 times wider than long, highly convex along the distal border, less so at base, hence the lateral borders regularly inclined downwards from the base to the distal corners; lateral borders entire, finely serrate; surface with a transverse arcuate impression in



Figs 8–12. *Odontiomorpha minuta* JACOBY, 1900. 8. Holotypus, dorsal view. 9. Holotypus, lateral view. 10. Specimen from Weza, Ngele Forest, dorsal view. 11. Pygidium (Weza, Ngele Forest). 12. Elytral apex, inner view (Weza, Ngele Forest). – **Figs 13, 14.** *Platycorynus dejeani* BERTOLONI, 1849 (Kenya, Malindi). 13. Pygidium. 14. Elytral apex, inner view.



Figs 15–23. Genital structures. – 15–19. *Odontiomorpha minuta* JACOBY, 1900. 15. Aedeagus, dorsal view (Weza, Ngele Forest). 16. Aedeagus, lateral view. 17. Aedeagus, dorsal view (Malvern, Natal). 18. Aedeagus, lateral view. 19. Spermatheca (Weza, Ngele Forest). – 20–22. *Odontiomorpha capensis* sp. nov. 20. Aedeagus, dorsal view (holotypus). 21. Aedeagus, lateral view. 22. Spermatheca (paratype from Stormriver, Tsitsikamma-Berge). – 23. *Odontiomorpha cuprina* sp. nov., spermatheca (holotypus).

the basal third, almost reaching the pronotal sides, evanescent or not in the middle; another more superficial transversal impression is present near the pronotal distal edge, sometimes interrupted in the middle but always evident at sides (Figs 8, 10). Surface finely and densely punctate, with fine microreticulation and white fine pubescence. Scutellum oblong, shining, glabrous or with few and very small hairs. Elytra oblong (length/width at humeral level = 1.3) with an impression

on the basal third at both sides of the discus; punctures inside these impressions are usually partially confluent; sides bent, more or less widened from the base to mid-length, then regularly curved to the apices which form a right angle; humeri prominent; punctation strong, close, irregular, with traces of arrangement in rows at elytral sides; surface between the punctures feebly convex on the discus, more convex at sides and on the apical slope; in females the interstri-

ae at side of each elytron form low longitudinal costae. Surface apparently glabrous, very small setae can be seen at great enlargement inside the punctures, at least on the apical slope of the elytra. Epipleura wide at base, gradually tapering from base to rear, evanescent near the elytral apices.

Abdomen. Sulcus of the pygidium very short, limited to the distal, more sclerotized, raised area of the pygidium, evanescent or totally absent proximally (Fig. 11). Aedeagus as in Figs 17, 18 (specimen of small size from the type locality), and 15, 16 (specimen of bigger size), strongly bent near the base. Spermatheca (Fig. 19) with ductus relatively long; spermathecal gland longer than the spermathecal body.

Note. In the examined material there is an evident gap in body size between smaller specimens (1.8–1.9 mm in length) and bigger ones (2.1–2.7 mm in length) with no intermediates. Type material includes both forms: the holotypus is the smallest specimen within the available material, the type in MCZH collection is of big size instead. Despite this difference, I found no other significant characters to divide the two forms; I consider them conspecific, although they are easy to divide at a first sight. Additionally, the smaller specimens are brighter, with the distal transversal impression on the pronotum which is evident only at sides, usually totally absent in the middle; no substantial differences are detected in the aedeagal morphology (compare Figs 15, 16 and 17, 18); spermatheca was not examined in the smaller specimens.

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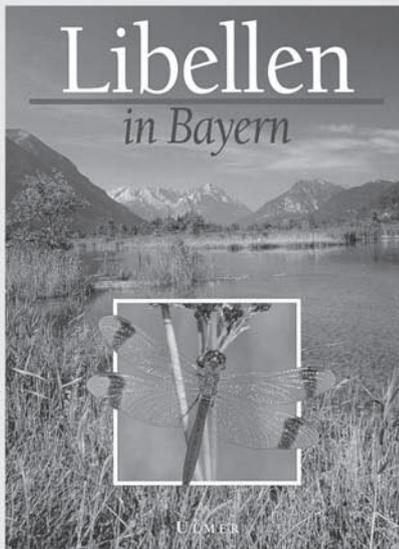
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● STEFANO ZOIA,
via Ponte Nuovo 109/4, I-20128 Milano MI;
E-Mail: stefano.zoia@unimi.it

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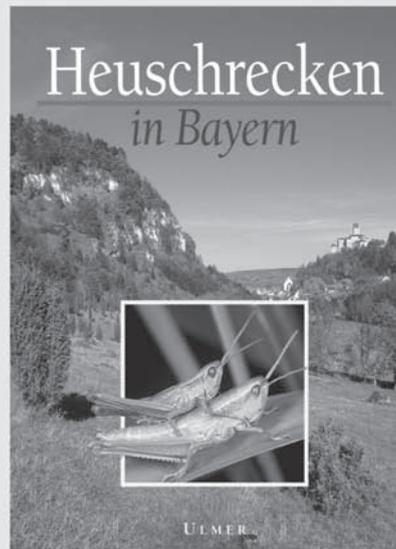


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