**INTRODUCTION**

At present, the genus *Singilis* Rambur, 1837 contains 76 recognized species [Anichtchenko, 2011; 2012a, 2012b], which are distributed in Africa and the Middle East; a few are known to occur in the South Mediterranean, Central Asia, India, and Sri Lanka. Most probably, the genus is of African origin, where it has developed its highest species diversity. In view of their phylogenetic status the most plesiotypic species of the genus apparently occur in southern Africa.

This is my third publication devoted to the description of African species of the genus *Singilis* [Anichtchenko, 2012a, 2012b]. The work was split into several parts, because the number of described and newly described species was too large for a single publication. Since it is difficult to give a final supra-specific arrangement I tried to recognize groups of related species that confidently form monophyletic groups. In the future at least some of these groups may be ranked as subgenera or, on the contrary, disappear.

The present paper deals with taxonomy of the African group of species of the genus *Singilis*, characterized by comparatively small body size (4-5 mm) and smooth or very sparsely punctured head and pronotum. This is an artificial group for the easy recognition of species. The species of this group are known from Central and South Africa, and they belong to at least two different phyletic groups. These species are very similar in their external morphology (size, shape, colour pattern), but the morphology of their aedeagi is quite different and characteristic for each species.

Seven new species from Africa are described: *Singilis* (s.str.) *bedimo* sp.n. (Cameroon), *Singilis* (s.str.) *mbolom* sp.n. (Cameroon), *Singilis* (s.str.) *lucidus* sp.n. (RSA), *Singilis* (s.str.) *shalapkoi* sp.n. (RSA), *Singilis* (s.str.) *ordinarius* sp.n. (RSA, Zimbabwe), *Singilis* (s.str.) *schuelei* sp.n. (Zimbabwe), *Singilis* (s.str.) *debilis* sp.n. (RSA). *Singilis* (s.str.) *dorsalis* (Peringuey, 1896) is redescribed and two new synonyms are proposed: *Phloeozetus dorsalis* Peringuey, 1896 = *Phloeozetus plausibilis* Peringuey, 1896 syn. nov. = *Phloeozetus simplex* Peringuey, 1896 syn. nov. Illustrations of habitus and aedeagus for all species are provided. Identification key to small-size African species, with the disc of pronotum smooth or weakly and sparsely punctate, is given.

Key words: Coleoptera, Carabidae, *Singilis*, new species, new synonyms, Africa, taxonomy.

Alexander Anichtchenko. Institute of Systematic Biology, Daugavpils University, Vienibas iela 13-229, Daugavpils LV-5400, Latvia; e-mail: beetl2000@mail.ru
Most species of *Singilis* are available in small numbers or even as single specimens only, a fact which is most probably caused by inadequate sampling methods. However, using fogging of trees or light sampling, many *Singilis* species can be collected in large numbers.

**MATERIALS AND METHODS**

Measurements: body length, from anterior margin of clypeus to apex of elytra along suture; length of pronotum, along midline; width of pronotum, at widest point; length of elytra, from its base to apex along suture; and width of elytra, at widest point.

The material from the following institutional and private collections has been examined: DUBC – Daugavpils University beetles collection (Latvia); MRAC – Musee royal de l’Afrique Centrale (Belgium); SAM – South African Museum in Cape Town (South Africa); TMSA – National Museum of Natural History, previously Transvaal Museum (South Africa); cPS – Collection of Peter Schüle (Germany); ZSM – Zoologische Staatssammlung München (Germany).

Identification key to small-size African species, with the disc of pronotum smooth or weakly and sparce punctate.

1. Abdominal sterna with long pubescence. Tip of aedeagus strongly or slightly curved to right. Endophallus with several sclerotized denticles. Species from W Africa ........................................... 2

   – Abdominal sterna smooth or with sparse short setae. Tip of aedeagus straight, not curved to right. Endophallus usually without sclerotized denticles. Species from S and E Africa............. 3

2. Head and pronotum smooth or very sparsely minutely punctate. Tip of aedeagus strongly curved to right. Internal sac with two groups of long spines (Fig. 12) .............................. *mbolom* sp.n.

   – Head distinctly punctate in frontal depressions and between eyes. Disc of pronotum irregularly punctate on the sides. Tip of aedeagus slightly curved to right. Internal sac with one group of short spines (Fig. 11) ................................................................................................................ *bedimo* sp.n.

3. Endophallus without sclerotized denticles ........................................................................ 4

   – Endophallus with several sclerotized denticles (Fig. 13). Head and pronotum smooth, not punctate. ........................................................................................................... *shalapkoit* sp.n.

4. Propleura smooth or very slightly wavy rugose towards coxae. Pronotum little transverse or subquadrate. Pronotal sides sinuate in front of base. Disc of pronotum smooth or weakly rugose on the sides ................................................................................................................................. 5

   – Propleura with wavy rugae. Pronotum distinctly transverse, pronotal sides not sinuate in front of base. Disc of pronotum coarsely rugose. Head dense punctate and rugose, except frons. Aedeagus (Fig. 14) ........................................................................................................... *ordinarius* sp.n.

5. Head distinctly punctate in frontal depressions and between eyes .................................. 7
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Head and pronotum smooth .............................................................................................................. 6

6 Head and pronotum completely smooth, shiny. Microsculpture scarcely visible. Aedeagal apex broad and short (Fig. 15) ............................................. 6. lucidus sp.n.

- Head evidently microsculptured throughout and punctate in frontal depressions. Aedeagus (Fig. 16) ................................................................. 6. dorsalis (Peringuey, 1896)

7 Pronotal lateral margins broadly reflexed on anterior half ........................................................ 8

- Pronotal lateral margins narrowly explanate from anterior angle to lateral setae, then widened basally (Fig. 18). Species from Tanzania ......................................... 6. hanangiensis Basilewsky, 1962

8 Aedeagal apex narrow and longer (Fig. 17) .......................................................................... 6. schuelei sp.n.

- Aedeagal apex broad and short (Fig. 19). Species from South Africa .......................... 6. debilis sp.n.

Singilis (s.str.) bedimo sp.n.


Description. Length 4.5 mm. Yellowish red-brown, elytra with black pattern behind the middle that varies from continuous band reaching lateral margins to sutural spot on 1-5 intervals (Fig. 3).

Head with the frons and back of the head smooth, without punctures, sparsely feebly punctate between eyes, with punctures separated by 4 to 6 diameters. Punctures near eyes sometimes almost confluent. Clypeus smooth. Head and clypeus with strong, almost isodiametric microsculpture throughout. Eyes moderately large and bulging. Temples short, smooth, without microsculpture. Scape with a very long subapical seta and several small setae; pedicel and antennomere III with one apical band of setae. Antennae pubescent from the basal third of antennomere IV.

Pronotum 1.26 times as wide as head, 1.42-1.5 times as wide as long, widest just before the middle or in the middle. Anterior margin straight, anterior angles effaced, sides narrowly and regularly rounded, almost straight at base, posterior angles rectangular or obtuse. Disc shiny, punctuation irregular and very sparse. Lateral explanate margin rapidly widened from marginal setae, broad and flat at base. Basal grooves indistinct, flat. Pronotal base extended in a rounded median lobe. Microsculpture faint, slightly transversely polygonal.

Elytra subparallel, 1.47-1.49 times as long as wide, with polygonal microsculpture. Striae deep and very finely punctate. Intervals slightly convex.


Aedeagus (Fig. 11). Tip of aedeagus slightly curved to right. Internal sac with one group of short spines.

Name derivation. Bedimo - spirits of the Cameroon people ancestors, who own all the wild animals.

Distribution. Cameroon.
Singilis (s.str.) mbolom sp.n.


**Description.** Length 4.7-5.0 mm. Yellowish red-brown, elytra with black cruciform pattern behind the middle (Fig. 1).

Head smooth, impunctate or very sparsely minutely punctulate. Clypeus smooth. Head and clypeus with distinct, almost isodiametric microsculpture throughout. Eyes moderately large and bulging. Temples short, smooth, without microsculpture.

Pronotum 1.19-1.2 times as wide as head, 1.43-1.46 times as wide as long, widest just before the middle or in the middle. Anterior margin straight, anterior angles effaced, sides narrowly and regularly rounded, almost straight at base, posterior angles rectangular or obtuse. Disc shiny, impunctate or punctuation irregular and very sparse. Lateral explanate margin rapidly widened from marginal setae, broad and flat at base. Basal grooves indistinct, flat. Pronotal base extended in a rounded median lobe. Microsculpture faint, slightly transversely polygonal.

Elytra subparallel, 1.52-1.58 times as long as wide, with polygonal microsculpture. Striae deep and finely punctate. Intervals slightly convex.


Aedeagus (Fig. 12). Aedeagal median lobe elongate, straight. Tip of aedeagus strongly curved to right. Internal sac with two groups of long spines.

**Name derivation.** Mbolom - Cameroon mountain spirits.

**Distribution.** Cameroon.

Singilis (s.str.) lucidus sp.n.

**Material.** Holotype: B& - “7 Weeks Poort Berg / Ladismith, Cape. / 5500-7000 ft.”, “SAM-COL-A062928” (SAM).

**Description.** Length 4.2 mm. Yellowish red-brown, elytra with black sutural spot behind the middle on 1-5 intervals (Fig. 2).


Elytra suboval, 1.34 times as long as wide, with polygonal microsculpture. Striae deep and slightly crenulate. Intervals slightly convex.


Aedeagus (Fig. 15). Aedeagal median lobe moderately broad, eudorsal surface slightly arcuate, apex broad and slightly downturned. Internal sac without spines, only with two microtrichial patches composed of extremely small spicules.
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Figs. 1-4. Habitus of Singilis (s.str.): 1 – S. mbolom sp.n., paratype; 2 – S. lucidus sp.n., holotype; 3 – S. bedimo sp.n., holotype; 4 – S. schuelei sp.n., holotype

Name derivation. The scientific name epithet (lucidus) means ‘shining’.

Distribution. Known by single specimen from the Republic of South Africa (RSA).

Singilis (s.str.) schuelei sp.n.


Description. Length 4.5-4.8 mm. Yellowish red-brown, elytra with black sutural spot on 1-5 intervals behind the middle (Fig. 4).

Head deeply and densely punctate with punctures separated by 1-3 times their diameters, frons smooth. Head and clypeus with strong, almost isodiametric microsculpture throughout. Eyes
moderately large and bulging. Temples short, smooth, without microsculpture.

Pronotum 1.29-1.32 times as wide as head, 1.37-1.38 times as wide as long, widest behind marginal setae. Anterior margin straight, anterior angles effaced, sides regularly rounded, weakly sinuate at base, posterior angles rectangular or slightly obtuse. Disc impunctate, feebly rugose towards lateral margins. Pronotal lateral margins broadly reflexed in anterior half; flat, explanate and impunctate in basal half. Basal grooves indistinct, flat. Pronotal base extended in a rounded median lobe. Microsculpture strong, irregular, slightly transversely polygonal.

Elytra subparallel, 1.4-1.42 times as long as wide, with polygonal microsculpture. Striae deep and finely punctate. Intervals slightly convex.

Aedeagus (Fig. 17). Aedeagal median lobe moderately slender, ventral surface slightly arcuate, tip long and slightly downturned. Internal sac without spines.

**Name derivation.** Named after my friend and colleague, Dr. Peter Schüle (Germany).

**Distribution.** Zimbabwe.

**Singilis (s.str.) shalapkoi sp.n.**


**Description.** Length 4.2-4.5 mm. Yellowish red-brown, elytra with black sutural spot behind the middle, reaching lateral margins (Fig. 7).

Head impunctate, only with few punctures sometimes confluent in frontal depressions. Clypeus with strong polygonal microsculpture, head shinier than clypeus. Eyes large and bulging. Temples short, smooth, without microsculpture.

Pronotum 1.22-1.25 times as wide as head, 1.41-1.46 times as wide as long, widest near the middle. Anterior margin straight, anterior angles ef-faced, sides narrowly and regularly rounded, weakly sinuate at base, posterior angles rectangular. Disc impunctate. Lateral margin flat, explanate in basal half. Basal grooves indistinct, flat. Pronotal base extended in a rounded median lobe. Microsculpture effaced or subtle, slightly transversely polygonal.

Elytra suboval, 1.42 times as long as wide, with polygonal microsculpture. Striae deep and slightly crenulate. Intervals slightly convex.


Aedeagus (Fig. 13). Aedeagal median lobe moderately broad, median shaft straight on ventral surface, apical sixth of lobe subangulately downturned. Internal sac with one group of moderately large spines and with two small microtrichial patches composed of extremely small spicules.

**Name derivation.** Named after my friend, programme developer of the web project ‘Carabidae of the World’, Alexander Shalapko (Ukraine).

**Distribution.** RSA.

**Singilis (s.str.) ordinarius sp.n.**


**Description.** Length 4.8-5.2 mm. Yellowish red-brown, elytra with black pattern behind the middle that varies from continuous band reaching lateral margins to sutural spot on 1-6 intervals (Fig. 5).

Head densely punctate with punctures separated by 1-3 times their diameters, frons smooth. Head and clypeus with strong, almost isodiametric microsculpture throughout. Eyes large and bulging. Temples short, smooth, without microsculpture.

Pronotum 1.3-1.38 times as wide as head, 1.38-1.49 times as wide as long, widest near the middle. Anterior margin straight, anterior angles ef-faced, sides regularly rounded, very weakly sinuate at base, posterior angles rectangular. Disc

Elytra subparallel, 1.46-1.49 times as long as wide, with polygonal microsculpture. Striae deep and slightly punctate, shallower on disc and at apices. Intervals slightly convex.


Aedeagus (Fig. 14). Aedeagal median shaft slightly arcuate between basal bulb and apex. Internal sac without spines.

**Name derivation.** From the Latin ‘ordinarius = common’, referring to its generalised appearance.

**Distribution.** RSA and Zimbabwe.

**Singilis (s.str.) dorsalis (Peringuey, 1896)**

*Phloeozetus dorsalis* Peringuey, 1896: 247

*Phloeozetus plausibilis* Peringuey, 1896: 248 syn. nov.

*Phloeozetus simplex* Peringuey, 1896: 248 syn. nov.

**Material.** SOUTH AFRICA: Type: & - “Phloeozetus dorsalis Typ.”, “Type”, “Somerset W, [unreadable]” (SAM/ENT 000352); type: & - “Lebiominus plausibilis Typ.”, “Cape C.” (SAM/ENT 00358); type: & - “Phloeozetus simplex Typ.”, “Type” (SAM/ENT 000357); 1 @& - “S Afr, Cape prov, Cape Peninsula, Hout Bay Skoorsteenkop 13.XII.50 No. 82”, “Swedish South Africa expedition, 1950-1951, Brinck-Budebeck” (MRAC); 1 @& - “Goedvertrouw, 2.iii.1980, Scoble & Kroon” (TMSA); 1 @& - “Coll. Mus. Tervuren, Cape Prov.: Clanwilliam distr., Sederberg, VII.1958, J. Smith” (MRAC).

**Comments.** Examination of the single type of *Phloeozetus plausibilis* Peringuey, 1896 and sin-
gle type of *Phloeozetus simplex* Peringuey, 1896 (Fig. 10) revealed no characteristics outside the range of intraspecific variation while both of them are clearly conspecific with the type of *Phloeozetus dorsalis* Peringuey, 1896 (Fig. 9). Single male type of *P. plausibilis*: abdomen missing. All species were described by Peringuey in the same article; priority is given to the name that appears first in the article.

**Redescription.** Length 4.4-4.5 mm. Yellowish red-brown, elytra with black, more or less triangular sutural spot on 1-5 intervals behind the middle (Figs. 9-10).

Head weakly punctate in frontal depressions, with punctures separated by 1-3 times their diameters, occasional punctures spreading to zone between eyes. Head and clypeus with strong, almost isodiametric microsculpture throughout. Eyes large and bulging. Temples short, smooth, without microsculpture.

Pronotum 1.3 times as wide as head, 1.37-1.45 times as wide as long, widest behind marginal setae. Anterior margin straight, anterior angles effaced, sides regularly rounded, weakly sinuate before posterior angles, which are rectangular to weakly acutely prominent. Disc and sides weakly wavy rugose. Lateral margin flat, rapidly widened basal and lateral setae. Basal grooves indistinct, flat. Pronotal base extended in a rounded median lobe. Microsculpture strong, slightly transverse.

Elytra subovate, 1.5-1.56 times as long as wide, with polygonal microsculpture. Elytral apices trun-
cate, weakly obliquely sinuate, rounded at suture. Striae deep, narrow, and very slightly crenulate. Intervals flat.


Aedeagus (Fig. 16). Aedeagal median lobe moderately broad, ventral surface almost straight to apex. Apex of median lobe long. Internal sac without spines.

**Distribution.** All specimens are known from RSA.

*Singilis* (s.str.) *hanangiensis* (Basilewsky, 1962)

*Phloeozeteus hanangiensis* Basilewsky, 1962: 192

Description. Length 4.4-5.0 mm. Yellowish red-brown, elytra with black, diffuse sutural spot on 1-6 intervals behind the middle.

Head densely punctate in frontal depressions and feebly punctate between eyes. Pronotum impunctate, sometimes slightly rugose.

Elytral intervals flat (Fig. 6).

Aedeagus (Fig. 18). Aedeagal median lobe dors-oventrally moderately broad, ventral margin straight nearly to apex; narrow apex with tightly rounded tip that is not downturned. Internal sac without spines.

Distribution. Tanzania.

Singilis (s.str.) debilis sp.n.

**Description.** Length 4.4 mm. Uniformly yellow-brown, one specimen with greyish-brown sutural spot behind the middle of elytra on 1-3 intervals (Fig. 8).

Head punctate in frontal depressions, with punctures separated by 1-2 times their diameters, frons smooth. Head and clypeus with strong, almost isodiametric microsculpture throughout. Eyes moderately large and bulging. Temples short, smooth, without microsculpture.

Pronotum 1.28-1.32 times as wide as head, 1.38 times as wide as long, widest behind marginal setae. Anterior margin straight, anterior angles effaced, sides regularly rounded, weakly sinuate before acutely prominent posterior angles. Specimen from „Mpumalanga” has posterior angles rectangular. Disc impunctate, sometimes weakly wavy rugose. Lateral margin flat, explanate in basal half. Basal grooves indistinct, flat. Pronotal base extended in a rounded median lobe. Microsculpture slightly transverse.

Elytra subovate, 1.37-1.41 times as long as wide, widest in the apical third, with irregular, polygonal, slightly transverse microsculpture. Striae deep and punctate. Intervals almost flat.

Protarsomere V with 3 pairs of ventral setae. Claws with 4 teeth. Abdominal sterna shiny, with only 4-6 extremely tiny, barely visible setae. Propleuron, meso- and metepisterna smooth.

Aedeagus (Fig. 19). Aedeagal median lobe stout, eudorsal surface slightly curved, apex broad and downturned. Internal sac without spines.

**Name derivation.** The Latin name (debilis) refers to the weak and feeble appearance of the species.

**Distribution.** RSA.

**REFERENCES**


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