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THREE NEW EAST AFRICAN HISTERIDAE (COLEOPTERA)

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With 12 text-figures

ABSTRACT

Description of three new Histeridae from East Africa: *Abraeus sulcatorugosus* nova species, *Chalcionellus krikkeni* nova species and *Atholus (Euatholus) kuijteni* nova species.

INTRODUCTION

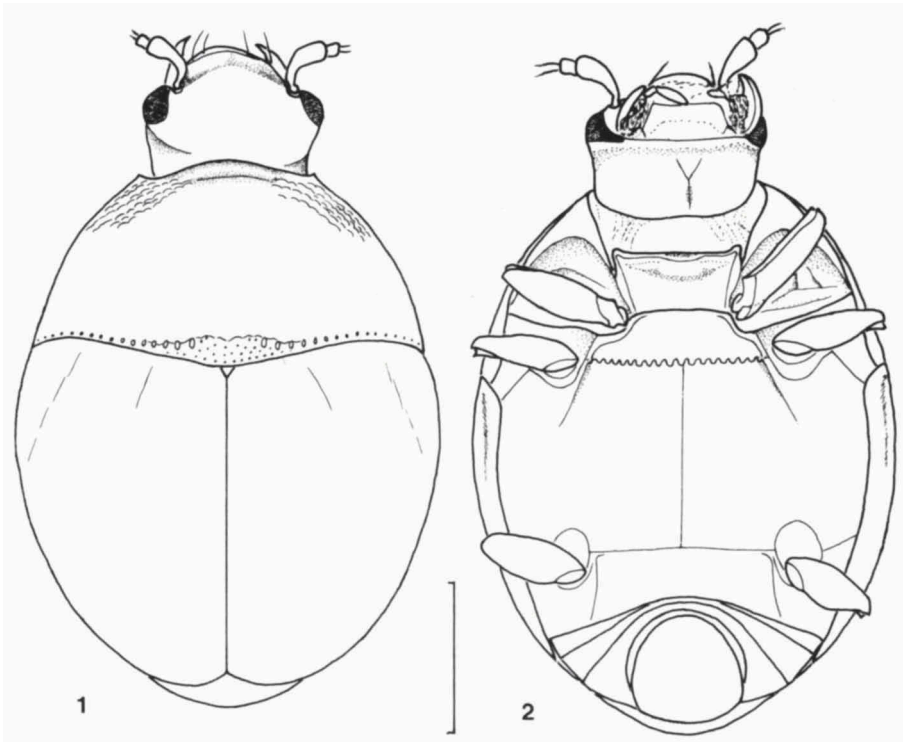
In the last decade the collection of the Rijksmuseum van Natuurlijke Historie in Leiden was enriched with many Histeridae from Kenya, by several sampling trips of staff members and associates. Mainly dung-inhabiting beetles were collected. In anticipation of a review of these acquisitions, the description of three of the new species among them will be given. A new *Acritus* species will be described by Y. Gomy (Paris). Lengths are given without the head, the propygidium and the pygidium, as is usual in this family. J. Krikken critically read the manuscript.

***Abraeus sulcatorugosus* nova species**

(figs. 1, 2)

Holotype of undetermined sex. — Length 1.7, width 1.4, height 1.1 mm. Body (fig. 1) broadly oval, strongly convex. Colour black, shiny, legs and antennae ferruginous, antennal club yellow-brown, tip darkened.

Head: Mandibulae curved, tip pointed. Labrum rounded anteriorly, punctulate, at either side long yellow seta in posterolateral corner, short seta at anterior margin. Clypeus convex. Frons with angulate elevation, continuous with slightly convex vertex. Lateral sides of mandibulae, clypeus, frons and vertex punctate, interspaces with fine microsculpture. Eyes large. Antennal segment 1 club-shaped, bent; segment 2 large, about as long as wide; segment 3 elongate, longer than segments 4, 5, 6 together. Segments 4-8 transverse. Club pubescent, sutures indistinct.



Figs. 1-2. *Abraeus sulcatorugosus*, holotype. 1, dorsal view; 2, ventral view. — Scale line = 0.5 mm.

Pronotum: About 2 times wider than long, bisinuate posteriorly, lateral sides curved, convergent, anterolateral angles sharp, deflexed, emargination for the head shallow, bisinuate in dorsal view. Marginal stria complete. Antescutellar stria curved anteriorly, laterally merging into row of elongate basal punctures. Antescutellar area with scarce small punctures. Anterolateral areas rugose, both areas connected by a transverse, irregular, shallow sulcus at some distance from marginal stria. Area between this sulcus and marginal stria smooth, convex, with scarce punctules, interspaces with faint microsculpture, almost smooth. Pronotal disc more densely punctulate, towards sides punctules obsolete, faint microsculpture in the interspaces. Scutellum small, triangular.

Elytra: Together 1.3 times wider than long, sides curved, each apex rounded, together forming distinct sutural angle. Marginal epipleural and apical elytral stria absent, marginal elytral stria visible in anterior 0.4, posteriorly lost in longitudinal strigillation. Two vague oblique basal impressions, representing obsolete dorsal striae. Disc near scutellum and along suture finely punctate, laterally punctures larger, towards posterolateral angles lost in longitudinal strigillation. Humeral callus punctulate. Before apex in medial 0.7 a rather sharply delimited area with large, crowded, shallow punctures, slightly rugose. This area

separated from apex by a narrow smooth zone with row of punctules. Entire elytral surface between punctures with very fine microsculpture, almost smooth.

Propygidium: Long, convex, rugosely punctate at base and sides, towards apex punctures smaller, non-rugose.

Pygidium: Inflexed, not visible in dorsal view, slightly convex, punctate, interspaces smooth.

Prosternum (fig. 2): Transverse, marginated anteriorly and laterally, lateral margins divergent anteriorly. Disc with shallow transverse sulcus in front of the middle, finely punctate.

Mesosternum (fig. 2): Short, slightly rounded anteriorly. Marginal stria broadly interrupted, disc punctate. Meso-metasternal suture crenulate.

Metasternum: Median suture distinct. Short oblique lateral stria, continuous with marginal mesosternal stria. Anteromedian part of disc sculptured as mesosternum, laterally and posteriorly punctures gradually becoming larger, before metacoxae a little rugose.

Visible abdominal sternites: Sculptured as metasternum, visible sternite 1 with longitudinal, slightly curved stria medially from metacoxa.

Legs: Profemora and protibiae with punctures on posterior surface. Protibiae widening to 0.4 from base, thence slightly rounded at upper edge with remotely set fine spinules and emargination at distal end. Protarsal groove touching protibial emargination. Meso- and metafemora less wide than profemur, finely punctulate. Meso- and metatibiae slender, widening distally, punctulate. Tarsi rather long, segments 1 and 5 longer than segments 2, 3 and 4.

Identification: In Bickhardt's key (1921) the new species runs to *Abraeus rugicollis* Marseul, 1856. It differs from this species by the smaller size, the narrower and more strongly convex body form, the sculpture of the pronotum (in *rugicollis* the rugosity extends along the anterior border, leaving no smooth area confined by a shallow sulcus), and the more transverse prosternum.

Variation: Length 1.4-1.85 mm. The length and depth of the transverse sulcus and the extent of the rugose areas on the pronotum are slightly variable. In some specimens the large punctures in front of the elytral apex are less rugulose. No distinct sexual dimorphism.

Material examined: 111 specimens.

Holotype with labels reading "Museum Leiden / KENYA: Samburu GR / E section, ca 100 m / 16.xii.1974 / J. Krikken & A. L. van / Berge Henegouwen, no. 182 / 0°37'N-37°38'E", "deciduous orthophyll / savanna / from elephant dung". Paratypes all from Kenya, from elephant dung, as follows: Same data as holotype (59); Samburu, Samburu Game Lodge, 20.v.1976, J. Krikken, no. 207 (13); Tsavo National Park East, Voi Safari Lodge, 26.xi.1974, J. Krikken & A. L. van Berge Henegouwen, no. 132 (12); Tsavo NP (E), Lion Hill nr. Voi, 26.xi.1974, J. Krikken & A. L. van Berge Henegouwen, no. 133 (7); Tsavo NP (W), Shaitani Lava Flow, 7.xii.1974, J. Krikken & A. L. van Berge Henegouwen, no. 163 (5); Tsavo NP (E), Mangu Plains, 28.xi.1974, J. Krikken & A. L. van Berge Henegouwen, no. 139 (1); Tsavo NP (E), Ndara Plains, 10.v.1976, J. Krikken, no. 200 (7); the same, no. 201 (1); Tsavo NP (E), Voi Mzinga, 21.xii.1972, J. Krikken, no. 49 (1); Tsavo NP (E), Voi, 30.iii.1971, C. Smeenk (2); Tsavo NP (E), 8.vi.1972, C. Smeenk (1); Tsavo NP (E), Aruba, 17.vii.1971, C. Smeenk (1).

Holotype in the collection of the Rijksmuseum van Natuurlijke Historie, Leiden; paratypes in the collection of the museum and in my private collection.

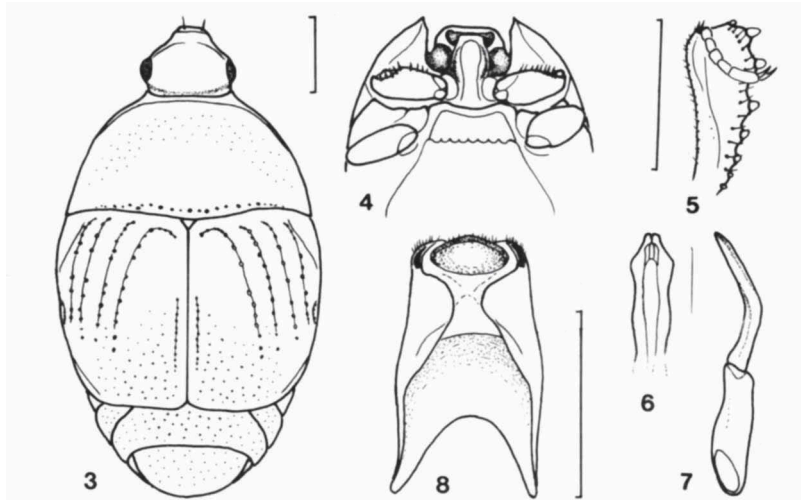
Note: The name of this species is based on the characteristic pronotal sculpture.

***Chalcionellus krikkeni* nova species**
(figs. 3-8)

Holotype, male. — Length 2.1, width 1.8, height 1.4 mm. Body form (fig. 3) oval, moderately convex. Colour black with strong greenish-brassy metallescence, an ill-defined dull red macule on elytron, legs and antennae reddish brown, antennal club yellowish brown.

Head: Mandibulae abruptly curved, tip pointed, lateral surface punctate. Labrum transverse, a seta on either side. Vertex slightly convex, punctulate. Frontal stria very fine, interrupted in the middle. Supraorbicular stria absent. Clypeus punctulate, not margined. Eyes not very prominent, finely faceted. Antennal segment 1 club-shaped, bent; segment 2 thicker than following segments, about as long as broad. Segments 3-7 transverse, segment 8 very short, almost hidden in club. Club rounded, with bluntly pointed apex, pubescent, sutures indistinct, two foveae on ventral side near tip.

Pronotum: 2 times wider than long, base bisinuate, sides evenly curved, convergent, anterolateral angles not conspicuous, rounded, dorso-ventral transition in this area gradual; emargination for the head shallow. Marginal stria distinct, complete, rather distant from lateral edge, running in an even arch to the anterior margin without following the anterolateral angle (fig. 3). Postocular



Figs. 3-8. *Chalcionellus krikkeni*, holotype. 3, dorsal view; 4, cranial end of body in ventral view (head omitted); 5, right fore tibia and tarsus; 6, tip of aedeagus, dorsal view; 7, aedeagus, lateral view; 8, eighth sternite, ventral view. — Scale lines = 0.5 mm; left: 3, 4; right: 5; below: 6, 7, 8.

fovea absent. An irregular row of coarse punctures along base, in the middle more prominent and at some distance from edge. Rather widely distributed small punctures on lateral and anterior parts, laterally not reaching marginal stria, other parts with fine punctulation. Scutellum triangular, small.

Elytra: Together 1.3 times wider than long, sides evenly curved, apex transversely truncate. Marginal epipleural stria distinct in anterior 0.5, posteriorly obsolete. Marginal elytral stria distinct, punctate, with short inward curved branch at humerus. Apical elytral stria absent. Short vestige of outer subhumeral stria at base. Inner subhumeral stria short, coarsely punctate, downward bent posteriorly. Oblique humeral stria fine. Dorsal striae coarsely punctured, 1 reaching from base to 0.4 from apex, 2-4 of about equal length, continued with a short row of punctures, 2-3 with short medially directed arch at base, 4 arched towards suture. Sutural stria short, punctate, abbreviated anteriorly at 0.4 from base, ending posteriorly into row of punctures at about 0.8 from base. Punctuation in apical 0.3 medially of stria 3, leaving free a narrow zone at apex, punctures entering interstriae 3-4 for a short distance, especially along the suture. Elytral disc finely punctulate.

Propygidium: Transverse, finely punctate.

Pygidium: Convex, triangular with rounded angles, punctuation finer than on propygidium.

Prosternum (fig. 4): Preapical foveae large, deep, connected by a rather wide preapical sulcus. Carina almost flat, punctulate. Carinal striae distinct, divergent anteriorly and posteriorly, connected anteriorly by a rounded loop. Lateral prosternal striae sulciform, convergent anteriorly, ending just behind the preapical foveae.

Mesosternum: Short, anterior border slightly emarginate; surface with few punctules anteriorly, marginal stria complete, distinct, punctate. Mesometasternal suture crenulate.

Metasternum: Oblique lateral stria deeply impressed, punctate. Coarse punctures laterally from this stria and in narrow band a little in front of posterior margin, elsewhere punctulate. Median suture indistinct; posterior longitudinal impression shallow.

Visible abdominal sternites: Postmetacoxal stria on sternite 1 curved, punctate; disc punctulate. Lateral sides of sternites 1-5 punctate.

Legs: Profemora with spinules along inferior margin. Protibiae (fig. 5) moderately and evenly dilated distally, superior edge with 7 progressively larger denticles, the 2 proximal denticles very small and close together. Meso- and metatibiae spinulate at superior edge. Tarsi slender.

Aedeagus: figs. 6, 7; 8th sternite: fig. 8.

Allotype: Metasternum without longitudinal impression.

Identification: *Ch. krikkeni* belongs to the *amoenulus* group, in which the pronotal marginal stria runs distantly from the anterolateral angle. In *Ch. krikkeni* this character is much more expressed; postocular foveae are absent as in *Ch. palmi* Dahlgren, 1981, but this species has a different aedeagus and no red

macules on the elytra. The other species of the *amoenus* group have marked postocular pronotal foveae. In *Ch. krikkeni* the preapical sulcus connecting the preapical prosternal foveae is deeper and broader than in the other species in the *amoenus* group. The aedeagus resembles that of *Ch. leileri* Dahlgren, 1972, but the lozenge-shaped dilatation proximally from the tip in *Ch. krikkeni* is less elongate than in *Ch. leileri*.

Variation: length 1.8-2.2 mm (males), 1.9-2.4 mm (females). In some specimens obsolete postocular pronotal foveae are visible in a certain illumination. The frontal stria is in some specimens not interrupted, although very fine in the middle. In some specimens an additional small 8th proximal denticle is seen on the protibiae, in some cases on one tibia only. The punctuation near the elytral apex and at the pronotal base varies a little in extent and intensity.

Material examined: 13 specimens.

Holotype with labels reading: "Museum LEIDEN / KENYA: TSAVO E / ARUBA NR. VOI / 27-IV-1972 / C. SMEENK"; "deciduous orthophyll / savanna from elephant / dung".

Allotype with labels reading: "Museum Leiden / KENYA: Samburu GR / E section, ca. 100 m / 16.XII.1974 / J. Krikken & A. L. van / Berge Henegouwen, no. 182 / 0°37'N-37°38'E"; "deciduous orthophyll / savanna / from elephant dung".

Paratypes: Same data as allotype (2 ♀). All other specimens from Kenya, Tsavo NP (E), from elephant dung: Voi, 25.vii.1971, C. Smeenk (1 ♀); Voi, Mzinga, 3°21'S-38°37'E, 21.xii.1972, J. Krikken, no. 49, ca. 600 m (1 ♂); Manyani, 550-650 m, 26.xi.1974, J. Krikken & A. L. van Berge Henegouwen, no. 131, 3°05'S-38°30'E (1 ♂); Voi Safari Lodge, 26.xi.1974, ca. 600 m, J. Krikken & A. L. van Berge Henegouwen, no. 132, 3°20'S-38°34'E (1 ♂); same data, but for 500-600 m, and no. 133, 3°22'S-38°35'E (3 ♂); Ndara Plains, 10.v.1976, 500 m, J. Krikken, no. 200, 03°30'S-38°45'E (1 ♂, 1 ♀). From all specimens the genitalia were extracted and mounted on a separate card on the same pin. Holotype, allotype and 8 paratypes in the collection of the Rijksmuseum van Natuurlijke Historie, Leiden; 3 paratypes in my private collection.

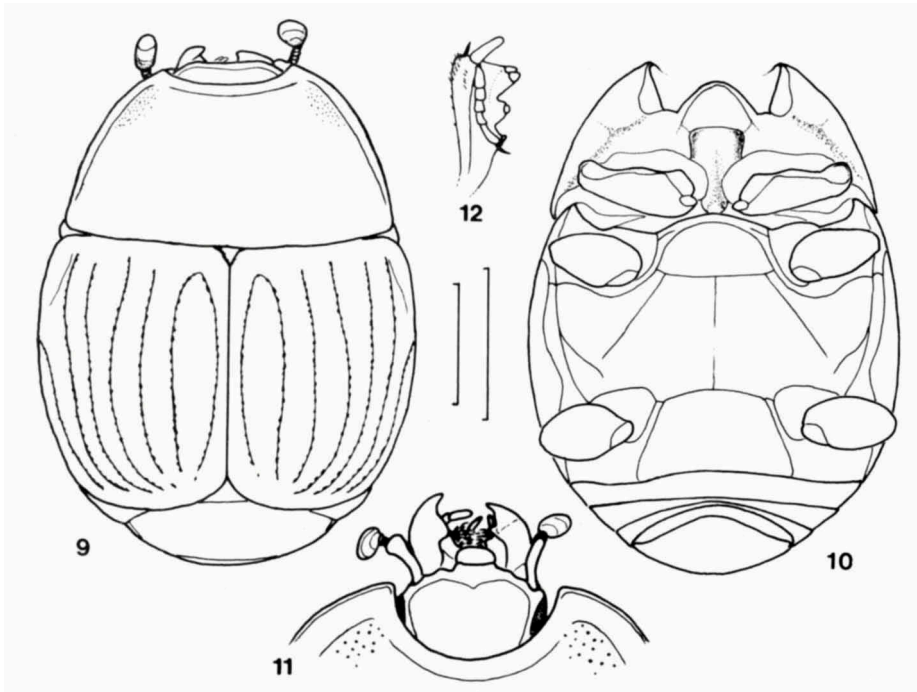
Note: The name is given in honour of my friend Jan Krikken, my inspiring guide into the field of scientific coleopterology.

***Atholus (Euatholus) kuijteni* nova species**
(figs. 9-12)

Holotype of undetermined sex. — Length 3.6, width 3.1, height 1.9 mm. Body form (fig. 9) broadly oval, moderately convex. Colour black, shiny; tibiae, tarsi and antennae rufous.

Head (fig. 11): Mandibulae evenly curved, tip pointed, superior surface punctulate, flat, not margined. Labrum transverse, rounded anteriorly. Vertex faintly convex, punctulate. Frontal stria distinct, complete, slightly retroangulate.

Pronotum: 2 times wider than long in the median line, base feebly curved, posterolateral angles rounded, sides curved, convergent, anteriorly strongly convergent. Anterolateral angles obtuse, bent downward. Epipleura not ciliate. Emargination for the head rather deep. Marginal stria from anterolateral angle to 0.7 from base, absent along the emargination for the head. Lateral stria distinct, finely punctate, from basal 0.2 to near anterolateral angle, after a short interruption extended behind the emargination for the head. Shallow fovea with



Figs. 9-12. *Atholus (Euatholus) kujitani*, holotype. 9, dorsal view; 10, ventral view (head omitted); 11, head, dorsal view; 12, right fore tibia and tarsus. — Scale lines = 1 mm; left: 9, 10; right: 11, 12.

some punctures along lateral stria at about 0.7 from base. A row of punctures along base, pronotal disc punctulate. Epipleura visible in dorsal view behind posterolateral pronotal angles. Scutellum rather large, triangular with slightly curved sides.

Elytra: Together 1.4 times broader than long, slightly broader than pronotum at base, evenly rounded at sides, broadest at 0.35 from base, apex transverse with rounded angles. Marginal epipleural stria distinct, complete, behind the angulate middle doubled by a closely situated second stria. Marginal elytral and apical striae absent. Oblique humeral stria very fine. Outer subhumeral stria represented by a few punctures in the apical half. Inner subhumeral stria well-impressed, a little crenulate, from basal 0.4 to near apex, anteriorly slightly curved outward, posteriorly slightly curved inward. Dorsal striae 1-5 and sutural stria complete, well-impressed, finely crenulate. Stria 5 connected anteriorly with sutural stria. Elytral striae ending just in front of apex, leaving free a narrow zone with fine microsculpture consisting of bundles of parallel lines running in various transverse and oblique directions. Striae 1-3 conspicuously curved inward near apex. Interstriae smooth, punctulate.

Propygidium: Transversely hexagonal, rather sparsely and irregularly punctate, interspaces with punctules and fingerprint-like microsculpture as on elytral apical margin.

Pygidium: Inflexed, rather convex, sparsely punctate at base and sides, with fine punctules in between, elsewhere punctulate; interspaces smooth.

Prosternum (fig. 10): Lobe rather long, moderately inflexed, margined. Carina narrow, carinal striae absent, lateral prosternal striae sulciform.

Mesosternum: Rounded anteriorly, marginal stria distinct, complete, continuous with a curved postmesocoxal stria on metasternum. Meso-metasternal suture distinct.

Metasternum: Oblique lateral metasternal stria medially from the curved postmesocoxal stria. Large punctures on lateral parts of meso- and metasternum, meso-metasternal disc finely punctulate. Median metasternal suture fine, obsolete in the middle.

Visible abdominal sternites: Punctate laterally (except sternite 5), punctulate medially.

Legs: Protibia (fig. 12) with three rather large teeth, apical tooth bifid. Meso- and metatibiae short, two rows of spinules on superior edge.

Identification: *A. kuijteni* differs from all other known African *Atholus*-species with inner subhumeral stria by the conspicuous apical inward curvature of the outer dorsal striae. This character is also found in the South East Asian *Atholus coelestis* Marseul, 1857, but in *A. coelestis* the curvature is more abrupt. In Bickhardt's key (1919) *A. kuijteni* runs to the couplet *geminus/rothkirchi*. From *A. geminus* Erichson, 1834, it differs among others by the interrupted pronotal lateral stria with punctate impression, from *A. rothkirchi* Bickhardt, 1919, by the united 5th and sutural striae, the interrupted pronotal lateral stria, and the more elongate and shallower pronotal impression.

Variation: Length 3.4-4.1 mm. In the specimen from Namibia the punctuation in the anterolateral pronotal angle is more extensive, the 3rd dorsal stria is still more prolonged medially, and almost meets the outwardly bent sutural stria, which is prolonged by punctures.

Material examined: Holotype with labels: "TANZANIA - Kundu- / chi, 20 mi N. of / Dar-es-Salaam / VII-1973, P. Kuijten"; "in-under / cow-dung", in the collection of the Rijksmuseum van Natuurlijke Historie, Leiden. Paratypes: 1 specimen, same data as holotype, in my private collection; 1 specimen labelled: "Sesfontein, 6 km SE / SE 1913 Ba / DAMARALAND / 13-15 June 1976 / S. Louw"; "H32818", in the collection of the State Museum, Windhoek, South West Africa. I have also seen another East African specimen in the collection of the Museo Civico di Storia Naturale, Trieste, identified by G. Müller as *Atholus laqueatus* Lewis, 1905.

Note: The name of this species is given in honour of my friend Piet Kuijten, to whom I am indebted for enriching my private collection with many species of Histeridae.

ACKNOWLEDGEMENTS

For the opportunity to study the Histeridae in the collections and for the loan of specimens thanks are due to: British Museum (Natural History), London (P. M. Hammond, M. E. Bacchus); Museo Civico di Storia Naturale, Trieste (R. Mezzena); State Museum, Windhoek (M. L. Penrith); Rijksmuseum van

Natuurlijke Historie, Leiden (J. Krikken); Musée Royal de l'Afrique centrale, Tervuren (J. Decelle). I thank Mr. P. Kuijten for the gift of specimens.

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