

**Studies on African Aradidae I.**  
**A new species of the apterous genus Usumbaraia,**  
**KORMILEV, 1956**  
(Heteroptera, Aradidae)

by

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**Studien an afrikanischen Aradiden I.**  
**Eine neue Art der apteren Gattung Usumbaraia, KORMILEV, 1956**  
(Heteroptera, Aradidae)

**Zusammenfassung:** Die äthiopische Gattung *Usumbaraia*, KORMILEV, 1956, umfaßte bisher drei Arten, welche nach jeweils einem apteren Weibchen beschrieben wurden. Ihre Verbreitung war nur von Tansania und Kenia bekannt. Nun wird *U. muehlei* sp. n. aus Rwanda, Ostafrika, beschrieben, von der beide Geschlechter vorliegen.

**Abstract:** Of the three species known to date, belonging to the apterous genus *Usumbaraia*, KORMILEV, 1956, only single females are recorded. They were found in Tanzania and Kenya. Recent collections in Rwanda, East Africa, have revealed a new species, which is described as *U. muehlei* sp. n. Parameres are figured for the first time.

**Key words:** Heteroptera, Aradidae, *Usumbaraia*, apterous, Ethiopian region.

The Ethiopian genus *Usumbaraia*, KORMILEV, 1956, of the subfamily Mezirinae, comprises to date three species:

*U. ampliata*, KORMILEV, 1956 (Usumbara hills, Tanzania)

*U. elongata*, KORMILEV, 1956 (from same locality)

*U. arnaudi*, KORMILEV, 1979 (Taita hills, Kenya).

All have been described on a single apterous female specimen and the respective males are still unknown. At a collecting trip to Rwanda a new species, represented by both sexes, was discovered and is described as follows:

***Usumbaraia muehlei* sp. n.**

Figs. 1 - 4

**Male (Holotype).** Apterous, dark brown to black; body, legs and antennae covered with long, yellowish, erect pubescens, which is shorter on the abdomen.

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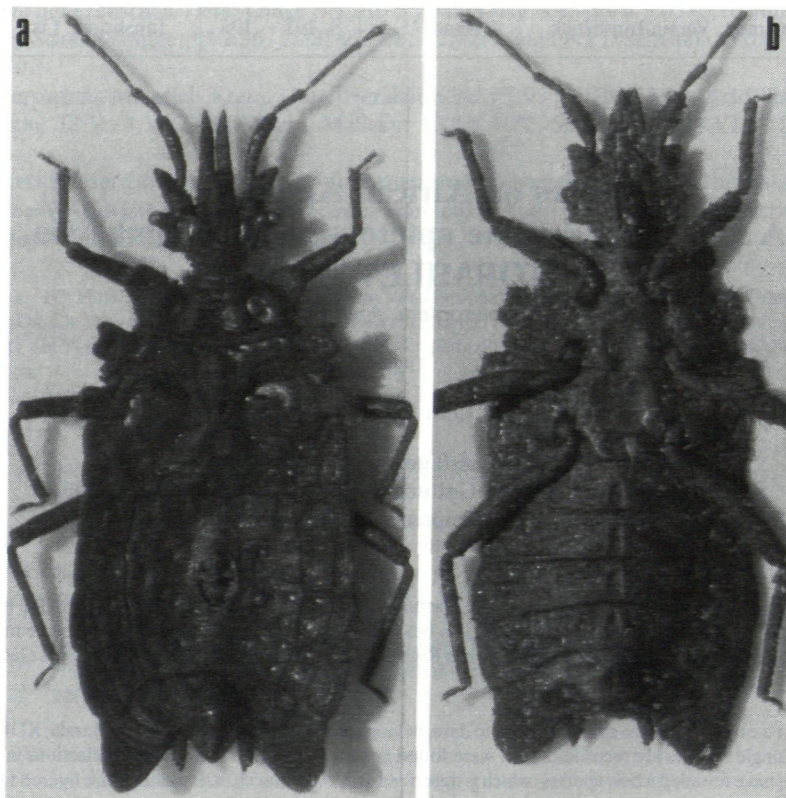


Fig. 1: *Usumbaraia muehlei* sp. n.; a – holotype ♂ dorsal view; b – paratype male, ventral view, pygophore removed.

Head Longer than width across eyes (56/44); anterior process of genae long, parallel, apices acute, reaching tip of antennal segment I. Clypeus raised, reaching basal half of vertex, Antenniferous tubercles large, divaricating, the inner face upturned with the insertion of antennae at middle of the basal rim. Antennae long and slender, 1.65 times as long as width of head across eyes; erect hairs as long (I) or longer (II to IV) than the diameter of the antennal segments; segment I stout, slightly bent, II and III straight, cylindrical with dilated apex, IV fusiform, its tip with dense pilosity; relative length of I/II/III/IV – 25/12.5/24/11. Eyes small, semiglobose, slightly stylate. Postocular region of head first convex, forming a rounded lateral lobe which reaches inner margin of eye, then abruptly constricted to collar region, which is granular laterally. Vertex with 2(1+1) smooth depressions beneath the eyes, medially elevated and roughly rugose. Rostrum preapical, arising from a slit-like atrium, not exceeding rostral groove which has carinate lateral borders and is closed posteriorly.

Pronotum distinctly separated from mesonotum by a deep sulcus, 2.8 times as wide as long at middle; collar ring-like, recessed. Lateral margins anterolaterally expanded into trapezoidal lobes, which are cut out before the collar and delimited posteriorly by the transverse sulcus following the posterior margin of pronotum. Disk elevated medially with 2(1+1) smooth, ovate areas, laterally with 2(1+1) curved elevated ridges which are separated from the median elevation by smooth ovate depressions.

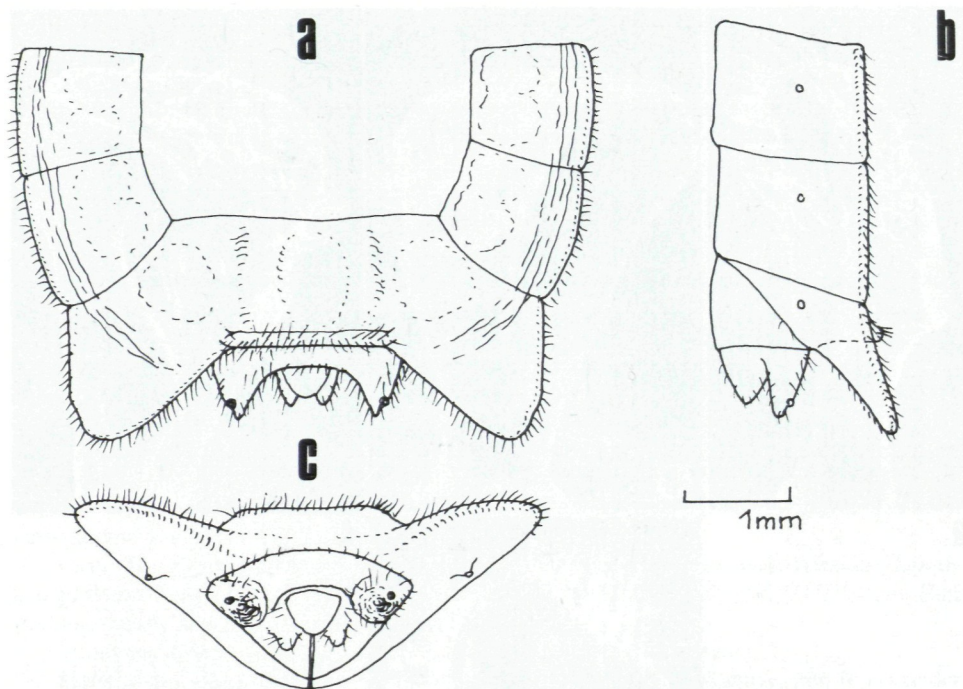


Fig. 2: *Usumbaraia muehleii* sp. n.; a – female terminal segments, dorsal view;  
b – ibid. lateral view; c – ibid. caudal view.

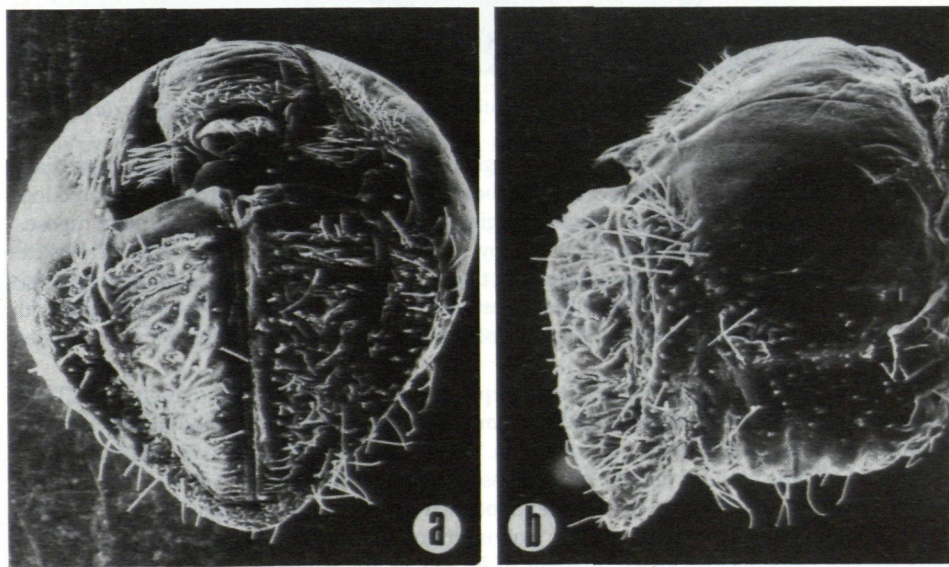


Fig. 3: *Usumbaraia muehleii* sp. n.; a – Pygophore dorsal; b – lateral.



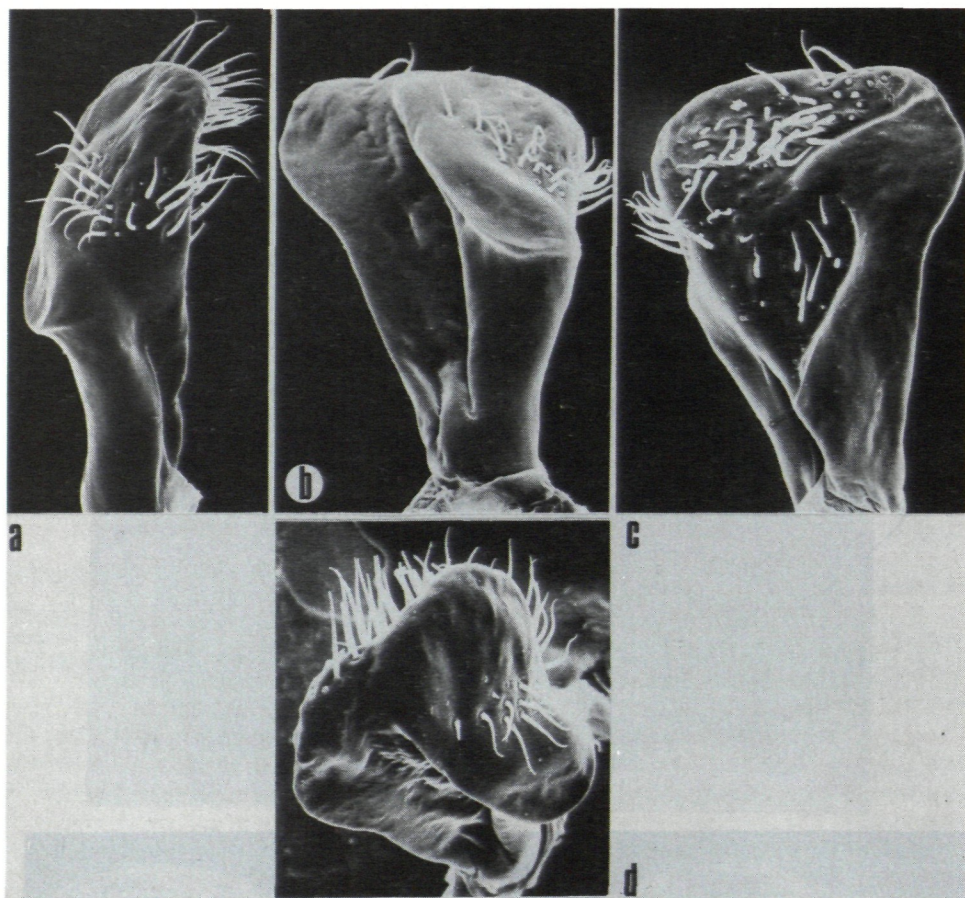


Fig. 4: *Usumbaraia muehlei* sp. n.; a-c — paramere in different positions; d — same paramere seen from above.

**Mesonotum** wide and short, lateral margins expanded into bilobate projections, medially produced backward into a scutellum-like, rhomboidal plate, the latter with strongly elevated longitudinal median ridge and carinate lateral margins; surface lateral of rhomboidal plate rugose.

**Metanotum** separated from abdomen by a thin, but distinct sulcus. Lateral margins expanded on anterior 1/3 into bilobate projections, then converging backward. Posterior margin bisinuate; disk medially with a triangular elevation which is depressed at middle; lateral portion with 2(1+1) ovate elevations. Metathoracic scent gland canals extended to lateral margin, cleft rounded apices are visible from above.

**Abdomen.** Mediotergites I+II fused, depressed medially. Dorsal laterotergites (DLTG = connexivum) I+II also fused, separated from mediotergites I+II and metanotum by a sulcus, reaching anteriorly to lateral lobes of metanotum. Tergal disk, formed by fused mediotergites III to VI, exposed, slightly raised at middle, but depressed between dorsal scent gland openings, the depression delimited laterally by a thin carina; apodemal impressions only slightly marked; tergite VII raised medially for the reception of the globose pygophore. Lateral margins of DLTG III to V nearly straight, widening backward, margins of DLTG VI rounded and constricted posteriorly. DLTG VII produced backward into long, rounded lobes; apodemal impressions of DLTG sepa-

rated from lateral margin by longitudinal sulci. Paratergites VIII cylindrical with acute tip, reaching beyond pygophore.

**Venter.** Pro-, meso-, metasternum and sternites I+II fused but delimited by a thin sulcus. Anterior portion of prosternum with a median carina, bearing a prominent tubercle, its posterior 1/3, meso-, metasternum and sternites I+II forming an elevated plate between coxae, which is depressed medially. Sternites III to VII with a flat longitudinal depression at middle. Spiracles II to VII ventral, far from lateral margin; VIII subapical and lateral, visible from above. Metathoracic scent gland canals straight, gaping, produced beyond lateral margin.

**Legs** long and slender; femora and tibiae cylindrical, straight; trochanters distinct. Claws with setiform parempodia and thin, long pseudopulvilli arising from the base of ventral claw surface.

**Genital structures.** Visible part of pygophore triangular, its lateral margins strongly carinate; disc raised along longitudinal median suture, transversally rugose laterally. Parameres as figs. 4a-d, club-shaped, without a file-like structure on ventral face as present in many Mezirinae.

**Measurements of holotype.** Length 11.1 mm; head length/width across eyes = 2.8/2.2 mm; antennae total length 3.625 mm, length of I/II/III/IV = 1.25/0.625/1.2/0.55 mm; width of pronotum across anterior lobes/ length at middle 2.95/1.05 mm; width of mesonotum across lobes/ length at middle 3.95/1.25 mm; width of metanotum across lobes 4.5 mm; width of abdomen across tergite V 4.6 mm.

**Female.** General characters as male, larger. Mediotergite VII elevated with medial depression, posterior margin straight, carinate. Paratergites VIII lower than level of DLTG VII, triangular, reaching slightly beyond tricuspidate tergite IX.

**Variability of size:** Males 11.1 to 11.9 mm; females 13.4 to 13.6 mm.

**Material examined:** Holotype ♂, Rwanda, Prov. Cyangugu, Nyakabuye, rain forest under bark of fallen tree, 20. - 25.I.84 lg. et coll. Heiss; paratypes 5 ♂♂ collected with holotype; 1 ♂ 2 ♀♀ III.83; 1 ♂ 1 ♀ VI.83; 1 ♂ III.85 collected by H. Muehle at the same locality, in the collection of the author.

**Etymology:** This species is dedicated to my friend Hans MUEHLE (Munich), who collected many Aradidae during his stay in Rwanda and sent me the first specimens of the new species.

**Discussion:** The new species from Rwanda extends the known area of distribution considerably south. It can be at once separated from the other three species by its large size and its conspicuous lateral lobes of pro-, meso- and metanotum which are lacking in the other three.

**Acknowledgments.** My grateful thanks to H. Muehle (Munich) for his valuable assistance during my visit in Rwanda and S. Tatzreiter (Botan. Institute, University of Innsbruck) for preparing the REM-photos of a paramere.

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Artikel/Article: [Studies on African Aradidae I. A new species of the apterous genus Usumbaraia, Kormilev, 1956 \(Heteroptera, Aradidae\). 191-195](#)