Studies in the African Agrilini II. (Coleoptera: Buprestidae)

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The definition of Agrilini is given in a tribal key and the Afrotropical genera are briefly discussed and distinguished in a generic key. *Malauvelia obscurvistridis*, gen. et spec. nov. are described from Malawi and related to *Parakamosia. Agrilicanthus* is reduced to junior synonymy under *Xenagrilus*, with *A. lloydii* transferred to that genus. *Callichitones* is reduced to junior synonymy under *Agrilus*.

Etudes des Agrilinae africains, Agrilini II (Coleoptera : Buprestidae). La définition des Agrilini est donnée dans une clé des tribus et les genres afrotropicaux sont brièvement discuté et distingué dans une clé des genres. *Malauvelia obscurvistridis*, gen. et spec. nov. sont décrits du Malawi et relié à *Parakamosia. Agrilicanthus* est une synonyme récent de *Xenagrilus*, et *A. lloydii* est transféré dans ce genre. *Callichitones* est un synonyme récent de *Agrilus*.

Key words: Africa, n.sp., n. gen.

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INTRODUCTION

The Agrilini is the smaller in number of genera of the two tribes of Agrilinae, but far and away the largest single tribal taxon of the family Buprestidae in number of species, due to the presence of the nominate genus *Agrilus* Curtis. Even prior to Bedel's (1921) erection of the second agriline tribe, Coroebini, genera from these two groups were separated (e.g. Kerremans 1893) by proportional differences in the metatarsomeres. However, I have found that this character is far from absolute and even differs substantially within species groups of *Agrilus*.

Recently, some attempts have been made to provide an absolute set of distinguishing character states between these two tribes for various regional faunas (e.g. Velten & Bellamy, 1987; Bellamy 1988). These attempts have not been completely successful due to some overlap in the choice of characters used (e.g. lateral pronotal carinae configuration in the *Agrilus pulchellus* Bland species-group). Further study is needed to establish true tribal level character states and, indeed, the case for retaining the Coroebini as presently defined.

This work attempts to provide a framework definition to distinguish the subsaharan African genera of Agrilini from those of Coroebini, which have recently been defined and keyed (Bellamy 1988).

The following abbreviations are used in the text:

BMNH: British Museum (Natural History), London, England.

ICCM : Carnegie Museum of Natural History, Pittsburgh, Penn., U.S.A.

MRAC: Musée royal de l'Afrique centrale, Tervuren, Belgium.

NMNH: National Museum of Natural
DISCUSSION

I recently (Bellamy, 1988) discussed the definition of Afrotropical Coroebini in detail and summarize the differences between these two tribes within the following couplet.

Key to the tribes of Agrilinae (Afrotropical species)

1. Pronotum with two lateral carinae (e.g. figs 2, 4), the more ventral carina only extending part of the length; wing without radial cell (e.g. figs 11, 12); ovipositor without paired ventral 'brushes'; first metatarsomere generally as long as 2+3+4 ............................................ Agrilini

1'. Pronotum with either one or no lateral carinae; wing always with radial cell although this may be reduced or open distally; ovipositor often (46 of 51 genera) with paired ventral 'brushes'; first metatarsomere generally shorter, no longer than 2+3 ............................................ Coroebini

The Afrotropical Agrilini

Comments regarding the size and heterogenous nature of Agrilus by Obenberger (1957), Carlson & Knight (1969) and Hespenheide (pers. comm.) suggest that it will require an enormous effort of time and cooperation to fully understand this taxon. The age and success of Agrilus is confirmed by the distributional spread of its species. While strongly represented in all the major faunal regions, Agrilus also has species on some of the most distant Pacific islands, e.g. Tahiti, Samoa and Hawaii. Fisher (1928) stated that no known association occurs between species of Agrilus and any coniferous tree, which explains why Agrilus is almost totally excluded from the Boreal portions of the Holarctic zone. Agrilus is also absent from the New Zealand fauna and only three species are found in Chile (Moore 1987).

The Afrotropical species of Agrilus exhibit the widest range of size and morphology within the genus of any faunal region. The widely distributed A. grandis Gory & Laporte is found from Ethiopia to Natal and is perhaps the largest species in the genus (+20.0 mm). This is contrasted with species I have collected in the Transvaal which are less than 2.0 mm in length. I have found that the species possess distinct genitalia types for both males and females which may eventually provide the necessary clues for subgeneric groupings.

The remaining Afrotropical genera of Agrilini fall into two groups, those which are distinctly different in overall morphology from Agrilus and those which are perhaps only subjectively separated from it. The first group is composed of Mychommatus Murray, Maublancia Théry, Parakamosia Obenberger and Malawiea, gen. nov. Mychommatus and Maublancia are apparently the Afrotropical descendants of a Gondwanic lineage which yielded the Neotropical genera Dismorpha Gistel, Trypantius Waterhouse, Geralius Harold and Omochyseus Waterhouse. Parakamosia was recently reviewed (Bellamy, 1986) and is an apparent early branching from the Afrotropical agriline lineage. Further comments are presented following the description of Malawiea.

The second group is composed of Agrilomorpha Théry, Sjoestedtius Théry, Xenagrilus Obenberger and Callichitones Obenberger. Callichitones has no good generic differences and is very similar to several unidentified species of Agrilus I have examined from Zaïre. I prefer to reduce Callichitones to junior synonymy of Agrilus (new synonymy).

Xenagrilus is separated based on the serrate inner femoral margins and while this character exists in a number of
coroebine genera, it is of dubious importance for generic separation, especially in such a heterogeneous tribe. However, considering the following synonymy with *Agrilicanthus* Théry (see below) and that it has twice been recognized independently and differently by Obenberger and Théry, I provisionally leave it as a valid genus.

*Sjoestedtius* is a good genus and perhaps shows some degree of ancient relationship to the Neotropical *Agriloides* Kerremans. Cobos (1967) suggested that both of these genera along with several others were perhaps no more than subgenera of *Agrilus* and Old and New World equivalents for one another.

*Agrilomorpha*, as it stands (Cobos 1962), is represented by one species, *A. rothschildi* Théry, which is divided into several subspecies, most of which are Afrotropical, with one being found in the Middle East. There are two previously unpublished levels of synonymy between species of *Agrilomorpha* and *Agrilus* (Bellamy, in prep.) which will require a complete shift of nomenclature within the genus. I have found that the male and female genitalia of *Agrilomorpha* are very similar to several species of *Agrilus* I have collected and dissected from South Africa and Zimbabwe (unpublished). This may eventually require these species of *Agrilus* being transferred to *Agrilomorpha*. Alternately, *Agrilomorpha* may be found to be better placed as a subgenus of *Agrilus*, most similar to the position of the subgenus *Diplolophotus* Abielle.

*Diplolophotus* was originally described as a genus and is currently recognized as a subgenus of *Agrilus* (*e.g.* Obenberger, 1931). Separation at the subgeneric level seems to be the best decision for *Diplolophotus* for now, based on my examination of the male and female genitalia as well as its possession of one longitudinal subocular carina beneath each eye. The only other Afrotropical subgenus currently recognized is *Robertius* Théry (1947).

### Xenagrilus Obenberger


**Type-species**: *Xenagrilus binderi* Obenberger (original designation).

*Agrilicanthus* Théry, 1940:160; Cobos 1967:407; Bellamy 1985:427. **new synonymy**

**Type-species**: *Agrilicanthus lloydii* Théry (original designation).

I have examined the holotypes of both type-species (NMPC and BMNH respectively) and find them to be congeneric. Théry (1925) offered no opinion about Obenberger's genus and had probably never seen a specimen when he described his taxa (1940). The following combination is necessary.

### Xenagrilus lloydii (Théry), comb. nov.

*Agrilicanthus lloydii* Théry, 1940:162.

While very close to *binderi*, *lloydii* is retained herein mainly due to the distance between the type localities. Further material and study may show these two to be conspecific.

#### KEY TO THE AFROTROPICAL GENERA OF AGRIHNI

1. - Head and pronotum uneven and tuberculate .......... *Sjoestedtius* Théry

   - Head and pronotum, more or less even, not tuberculate .................. 2

2. - Pronotum strongly gibbous, finely transversely carinate .................... 3

   - Pronotum flattened, surface at most rugose ................................... 4

3. - Pronotum with strongly elevated arcuate transverse carina just posterior
to anterior margin; ovipositor without sclerotized distal process (fig. 10) ....

- Pronotum without anterior transverse carina; ovipositor with sclerotized distal process (fig. 9) ......... *Parakamosia* Obenberger

- Femora serrate on internal edge ... 5

- Femora entire on internal edge .... 7

- Elytra with pubescent transverse fascia on apical 1/3 .......... *Xenagritus* Obenberger

- Elytra glabrous ................. 6

- Antennae serrate from segment 4 .... *Mychommatus* Murray

- Antennae serrate from segment 5 .............. *Maublancia* Théry

- Scutellum with complete transverse carina, one arcuate carina on each side .......... *Agrilomorpha* Théry

- Scutellum with transverse carina entire ............... *Agritus* Curtis

### GENUS MALAWIELLA, GEN. NOV.

Type-species: *Malawiella obscuriviridis*, spec. nov.

*Agrilini*; elongate, nearly cylindrical; pronotum, underside transversely convex; elytra flattened; iridescent; rugose; sparsely setose.

**Head**: produced between eyes; eyes small, widely separated, inner margins diverging dorsally; circumocular groove along inner margin from slightly past dorsal apex to ventral apex; one small transverse groove above each antennal cavity; antennal cavities large, separated by almost 2x width of each, frontoclypeus constricted between; labrum exerted, setose distally; mandibles retracted; antennae serrat from antennomere 4.

**Pronotum**: length subequal to width; anterior margin convex; posterior margin bisinuate; lateral margins carinate; sublateral margin feebly indicated along anterior 1/3; disc strongly gibbous basomedially; surface, especially disc, irregularly transversely finely carinate; scutellum: large, broadly subcordiform, posterior half compressed to acuminate apex.

**Elytra**: narrower than pronotum; humeri moderately elevated, almost longitudinal; single large basomedial depression on either side of scutellum; sides narrow past humeri then widen before narrowing to separately attenuately rounded apices; epipleura short; surface strongly transversely rugose.

**Underside**: prosternum with montierre bilobed, disc convex, process attenuate; lateral 1/2 of metepisternum, metacoxal plate, basolateral abdominal projection and sternites 1 - 3 visible from above; metacoxal plate with posterior margin broadly concave, dilated, posterolateral angle rounded, subacute; abdominal sternite sutures transverse medially, feebly arcuate laterally; premarginal groove on last visible sternite.

**Legs**: femora narrowly fusiform; tibiae slender, slightly longer than femora; tarsomeres 1 - 4 with ventral pulvilli; 5 with claws appendiculate.

**Wing**: radial cell absent; radial sector connected to radiomedial crossvenin; 1st A elongate; 2dA1 short, free.

This new genus is designated as feminine and is obviously named for the country of origin.

*Malawiella* comes closest to *Parakamosia* but differs by lacking the large arcuate submarginal anteromedial pronotal carina (figs. 3, 4) which defines that genus. The structure of the ovipositor (figs. 9, 10) and wing venation (figs. 11, 12) are also substantially different between these two genera.
Figs. 1 - 13. (1, 2, 5 - 9, 11) *Malawiella obscuritridis*, gen. et spec. nov.; (3, 4, 10, 12) *Parakamosia mueblei* Novak. - (1, 3) dorsal aspect; (2, 4) lateral aspects; (5) head, frontal aspect; (6) head, lateral aspect; (7) antenna, dorsal aspect; (8) metatibia, dorsal aspect; (9, 10) ovipositor, dorsal aspect; (11, 12) wing venation. (scale lines = 1.0 mm; the same for 1 - 4; 5, 6; 7 - 10; 11, 12).
With the species of *Parakamosia* recently studied (Bellamy, 1986; Novak, 1988) and the genus now well defined, it would appear that these two genera may have diverged from a common ancestor with the species of *Parakamosia* radiating widely through low dry savanna and thorn forest habitat, while the single species of *Malawiella* is an upland relict.

**Malawiella obscuriviridis, spec. nov.** (figs. 1, 2, 5-9, 11)

*Holotype female.* 11.6 X 3.0 mm; dark metallic green with faint blue reflection above, black with blue green reflections below; sparsely covered with short adpressed testaceous setae, hidden in dorsal sculpture, more evident on underside and appendages.

*Head:* frontovertex with medial round depression between eyes; pair of irregular callosities between depression and antennal cavities; frontoclypeal plate broad, robust, feebly emarginate; gena with rounded acute lobe beneath eye; antennomere 1 short, robust; 2 subequal; 3 more slender than 2; 4 triangular; 5, 6 with serrate angle rounded; 7 - 11 subquadrate.

*Pronotum:* width 1.2X length, widest just before anterior margin; anterior margin laterally convex, with very feeble medial convexity; posterior margin bisinuate on either side of transverse prescutellar lobe; basolateral angles subacute, rounded; lateral margins widen slightly from angle then straight to widest point before arcuate to anterior margin; slightly depressed laterally on either side at midpoint.

*Elytra:* widest opposite just past humeri; laterobasally strongly declivous from humeri to near midpoint; apicolateral margin very finely sparsely serrulate; pygidium partially visible from above past elytral apex, subtruncate.

*Genitalia:* ovipositor (fig. 9) with sclerotized inverted 'Y' shaped apical process; male unknown.

*Variation.* 4 female paratypes vary in size: 11.6-11.9 X 3.0 - 3.3 mm; in color: dark metallic green to darker blue green (perhaps an effect of the preservative).

*Material examined.* Holotype: female (ICCM): MALAWI: Chitipa District, Jembya Reserve, 18 km SSE Chisenga, S10°08' E33°27', 1,870 m, 1-10 Jan. 1989, J. Rawlins, S. Thompson; 4 female paratypes (ICCM, NMNH): same data as holotype.

This species is named for its dark green dorsal coloration. It may be distinguished from the species of *Parakamosia* by characters discussed under the generic description and in the generic key.

**ACKNOWLEDGMENTS**

I would like to thank the following colleagues for the loans of specimens in their care: S. Bilý (NMPC); J. Decelle (MRAC); M. D. Kerley (BMNH) and especially John Rawlins, S. Thompson and Bob Davidson (ICCM) for collecting and allowing me to study this new animal from Malawi.

**REFERENCES**


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(Manuscript received 27 December 1989, accepted 14 February 1990)