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Revision of the Eurybrachidae (XI)
The Afrotropical genus *Mesonitys* SCHMIDT, 1908 (Hemiptera: Fulgoromorpha: Eurybrachidae)

by Jérôme CONSTANT

Abstract

The Afrotropical genus of Eurybrachidae *Mesonitys* SCHMIDT, 1908 is redescribed and reviewed. One new species, *M. fletcheri*, is described. The following taxa: *Aspidonitys admirabilis* DISTANT, 1906, *Mesonitys taeniata* var. *katangana* LALLEMAND, 1950 and *Mesonitys choaspes* FENNAH, 1957 are proposed as synonyms of *Mesonitys taeniata* (SCHMIDT, 1906); *Mesonitys aedon* FENNAH, 1957 is proposed as a synonym of *Mesonitys fuelleborni* SCHMIDT, 1908. The genus contains 6 valid species: *M. ephialtes* FENNAH, 1957, *M. fletcheri* n. sp., *M. fuelleborni* SCHMIDT, 1908, *M. hecqi* SCHMIDT, 1913, *M. membranipicta* SCHMIDT, 1912 and *M. taeniata* (SCHMIDT, 1906). The male genitalia are illustrated and photos of habitus, distribution maps, biological data and identification key to the species are provided. Lectotypes are designated for *Aspidonitys admirabilis*, *A. taeniata*, *Mesonitys fuelleborni* and *M. taeniata* var. *katangana*. An unusual case of sexual dimorphism in which the last segment of the labium is strongly dilated in males is reported for the first time in the genus *Mesonitys* and in the closely related genus *Aspidonitys* KARSCH, 1895.

Résumé

Le genre afrotropical d'Eurybrachidae *Mesonitys* SCHMIDT, 1908 est redécrit et revu. Une espèce nouvelle, *M. fletcheri*, est décrite. Les taxa suivants: *Aspidonitys admirabilis* DISTANT, 1906, *Mesonitys taeniata* var. *katangana* LALLEMAND, 1950 et *Mesonitys choaspes* FENNAH, 1957 sont proposés comme synonymes de *Mesonitys taeniata* (SCHMIDT, 1906); *Mesonitys aedon* FENNAH, 1957 est proposé comme synonyme de *Mesonitys fuelleborni* SCHMIDT, 1908. Le genre contient donc 6 espèces valides: *M. ephialtes* FENNAH, 1957, *M. fletcheri* n. sp., *M. fuelleborni* SCHMIDT, 1908, *M. hecqi* SCHMIDT, 1913, *M. membranipicta* SCHMIDT, 1912 et *M. taeniata* (SCHMIDT, 1906). Les genitalia ♂ sont illustrés et des photos d'habitus, des cartes de répartition, des renseignements sur la biologie et une clé d'identification des espèces sont donnés. Des lectotypes sont désignés pour *Aspidonitys admirabilis*, *A. taeniata*, *Mesonitys fuelleborni* et *M. taeniata* var. *katangana*. Un cas inhabituel de dimorphisme sexuel dans lequel le dernier segment du labium est fortement dilaté chez les mâles est rapporté pour la première fois dans le genre *Mesonitys* et dans le genre proche *Aspidonitys* KARSCH, 1895.

Key words: Afrotropical region, Eurybrachidae, revision, *Mesonitys*, sexual dimorphism.

Introduction

This paper is the eleventh of a series intended to revise the family Eurybrachidae STÅL, 1862 and the fourth one dealing with the Afrotropical fauna (CONSTANT, 2004, 2005a, b), the other ones dealing with the Australian (CONSTANT, 2005c, 2006a, b, c) and the Oriental faunas (CONSTANT, 2006d, 2007a, b). The study is aimed to propose a more natural classification in the family and a tentative understanding of its phylogeny and zoogeography. It starts with the one-by-one revision and redefinition of the genera because many of them are poorly defined and preliminary study of the material has revealed several synonymies as well as heterogenous genera that will need to be split.

The present paper deals with one of the 8 Afrotropical genera (CONSTANT, 2005a). The genus *Mesonitys* SCHMIDT, 1908 is presently placed in the Platybrachyinae: Platybrachyini (SCHMIDT, 1908b; METCALF, 1956; FENNAH, 1957) and is closely related to the genus *Aspidonitys* KARSCH, 1895 from which it differs mainly by the presence of a pad of microsetae on the first segment of the hind tarsus and the mainly brownish red colouration in *Mesonitys*.

Historical review

SCHMIDT (1908a) created the genus *Mesonitys* for 3 species: *Aspidonitys taeniata* SCHMIDT, 1906, *Aspidonitys admirabilis* DISTANT, 1906 and *Mesonitys fülleborni* SCHMIDT, 1908. He placed the genus in the tribe Platybrachyini (SCHMIDT 1908b). In 1912, SCHMIDT added *M. membranipicta* to the genus and in 1913, *M. hecqi*.

JACOBI (1936) redescribed *M. taeniata* and proposed *M. fülleborni*, *M. admirabilis*, *M. membranipicta* and *M. hecqi* as potential synonyms of *M. taeniata*.

LALLEMAND (1950) described the variety *katangana*

of *M. taeniata* on the basis of colour variation.

In his catalogue of the Eurybrachidae, METCALF (1956) followed SCHMIDT (1908b) in placing *Mesonitys* in the subfamily Platybrachyinae, tribe Platybrachyini.

FENNAH (1957) described the species *M. aedon*, *M. choaspes* and *M. ephialtes* and illustrated the ♂ genitalia of these new species and of *taeniata*. This work by FENNAH is unclear, contains many contradictions and is based on a superficial study of the material, especially the types that had apparently not been examined (see note infra).

Several synonymies within the genus were hypothetized (JACOBI, 1936; LALLEMAND, 1950) or proposed (FENNAH, 1957) but have to be clarified.

FENNAH (1964) proposed a key to the genera of Platybrachyini and CONSTANT (2005), a key to the Afrotropical genera of Eurybrachidae that both include *Mesonitys*.

Note: FENNAH (1957) illustrated the male genitalia of 4 species: *M. aedon*, *M. choaspes*, *M. ephialtes* and *M. taeniata*. After checking all the material studied by Fennah for that work, the following precisions appear to be necessary: the pygofer, anal segment and genital style (= gonostyli) illustrated for *M. taeniata* match well what has been observed for this species while the aedeagus is curled postero-ventrally in a way that has regularly been observed after KOH boiling; the genital style illustrated for *M. choaspes* is more narrow than in reality and the aedeagus is nearly not deformed; the gonostyli and the dorsal half of the pygofer illustrated for *M. aedon* are too narrow. Furthermore, *Mesonitys fullebörni* (*sic*!) is synonymised with *M. taeniata* without referring to the type material and the three newly described species (*M. aedon*, *M. choaspes* and *M. ephialtes*) are said to be «generally (very) similar to *M. fülleborni*».

Materials and methods

The types of all described species have been studied and as much material as possible has been examined. The genitalia of all the males have been checked.

The dissection of the genitalia is done after boiling the abdomen in glacial acetic acid for a few minutes. The pygofer is then separated from the abdomen and placed for about one hour in a 10% solution of potassium hydroxyde (KOH) at about 100°C. When contrasting of the organs is necessary, some drops of saturated aquous Chlorazol black solution are added. It is then placed in glycerin.

For routine identification, only the acetic acid boiling has been done as the specific stuctures on the phallic complex are directly visible after setting aside the gonostyli. The genitalia have been placed under the specimen, dry (in a gelatin capsule or glued on a cardboard label) or in glycerin.

The description of the female genitalia follows BOURGOIN (1993) with additions from the studies of SOULIER-PERKINS (1997) and SOULIER-PERKINS & BOURGOIN (1998) on the family Lophopidae.

Lectotypes have been designated when necessary and for the valid species described only on females, one male specimen has been chosen as reference for the species. Although the term has no value under taxonomic rules, we follow MEDLER (1999) in labelling those reference specimens as «PLESIOTYPE» with blue labels. The useful aspect of those designations seems evident.

Each species is redescribed and the genitalia as well as any attributes useful for identification are figured. Distribution maps produced by the software *CFF* (BARBIER & RASMONT, 2000) and photos of habitus are also provided. The few indications about the biology of the species are provided, as well as identification keys.

If necessary, the current name of the locality is mentioned in parentheses after the one transcribed from the label. For the labels of the types, the wording on each single label is given within square brackets.

The following acronyms are used for the measurements (measurements are taken as in CONSTANT, 2004): BF, breadth of the frons – BT, breadth of the thorax – BTg, breadth of the tegmina – BV, breadth of the vertex – LF, length of the frons – LM, length of the mesonotum – LP, length of the pronotum – LT, total length – LTg, length of the tegmina – LV, length of the vertex.

Acronyms used for the collections (name of the curator in parentheses).

AMNH: American Museum of Natural History, New York, U.S.A. (R.T. Schuh)

BMNH: The Natural History Museum, London, United Kingdom (M. Webb)

CAS: California Academy of Sciences, San Francisco, California, U.S.A. (N. D. Penny)

CCZM: Department of Biology, Chancellor College, Zomba, Malawi (C. Dudley)

DEI: Deutsches Entomologisches Institut, Eberswalde Finow, Germany (E. Groll)

FSAG: Faculté des Sciences Agronomiques de Gembloux (coll. Lallemand), Gembloux, Belgium (S. Patiny)

IRSNB: Institut royal des Sciences naturelles de

Belgique, Brussels, Belgium (P. Grootaert)
MMBC: Moravske Museum (coll. Melichar), Brno, Czech Republic (I. Malenovsky)
MNHN: Museum National d'Histoire Naturelle, Paris, France (T. Bourgoin)
MRAC: Musée royal de l'Afrique centrale, Tervuren, Belgium (U. Dall'Asta)
NCSU: North Carolina State University, Raleigh, U.S.A. (B. Blinn)
NHRS: Naturhistoriska riksmuseet, Stockholm, Sweden (B. Viklund)
NMSA: Natal museum, Pietermaritzburg, Kwa-Zulu Natal, South Africa (C. Conway)
OUMNH: Oxford University Museum of Natural History, Oxford, United Kingdom (D. Mann and Z. Simons)
SAMC: South african Museum, Cape Town, South Africa (M. Cochrane)
SANC: South African National Collection of Insects, Pretoria, South Africa (M. Stiller)
SMTD: Staatliches Museum für Tierkunde, Dresden, Germany (R. Emmrich)
USNM: National Museum of Natural History, Washington D.C., U.S.A. (D. Furth & S. McKamey)
ZMHB: Museum für Naturkunde der Humboldt-Universität, Berlin, Germany (J. Deckert)
ZMPA: Polish Academy of Sciences, Museum of the Institute of Zoology, Warsaw, Poland (J. Szwedo & A. Stroinski)
ZMUC: Zoological Museum of the University of Copenhagen, Denmark (N. M. Andersen)
ZSMC: Zoologische staatssammlung, München, Germany (M. Baehr)

Taxonomic part

Description of the taxa

Genus *Mesonitys* SCHMIDT, 1908

Type-species: *Aspidonitys taeniata* SCHMIDT, 1906

Mesonitys SCHMIDT, 1908a: 513
Mesonitys SCHMIDT, 1908: SCHMIDT, 1908a: 510
Mesonitys SCHMIDT, 1908: SCHMIDT, 1912: 356
Mesonitys SCHMIDT, 1908: SCHMIDT, 1913: 187
Mesonitys SCHMIDT, 1908: METCALF, 1956: 49
Mesonitys SCHMIDT, 1908: FENNAH, 1957: 195
Mesonitys SCHMIDT, 1908: SYNAVE, 1961: 104
Mesonitys SCHMIDT, 1908: FENNAH, 1964: 159.
Mesonitys SCHMIDT, 1908: CONSTANT, 2005a: 38.

Note: FENNAH (1957) erroneously gave as type of the genus, *Mesonitys fullebörni* (*sic*!) SCHMIDT. SCHMIDT (1908a) clearly designates *Mesonitys taeniata* SCHMIDT as type-species for his genus.

ETYMOLOGY: *mesos* (Greek) = in the middle of; *itys* (Greek) = border. The name *Mesonitys* is assumed to refer to the projection at the middle of the lateral margin of the frons.

DIAGNOSTIC CHARACTERS: The genus is recognizable by the following combination of characters: (**1**) medium sized; (**2**) colour mainly reddish brown; (**3**) no infra ocular spine; (**4**) first segment of hind tarsi with pad of microsetae; (**5**) apex of tegmina and hindwings rounded; (**6**) clavus closed; (**7**) hindwings dark brown to black; (**8**) apical segment of labium strongly dilated in males; (**9**) distribution restricted to the Afrotropical region.

DESCRIPTION: *Colour*: mainly reddish brown with hind wings mainly dark brown to black. Tegmina brownish red with black markings and often with white transverse band at basal third; subapical row of black spots parallel to apical margin.
Head: eyes included, wider than pronotum in dorsal view; vertex very short, about 6-8 times wider than long, concave, with anterior and posterior margins carinate and curved (posterior more strongly curved than anterior); ocelli present; frons convex, about 1.8 times wider than long, wrinkled (Plate 1 C); no infra ocular spine; clypeus reaching coxae II; sides of clypeus carinate; labium short, barely reaching coxae III; last segment of labium strongly dilated, about 2 times broader than penultimate in males (Plate 1 A), not dilated, as broad as penultimate in females (Plate 1 B); antennae with scape very short and pedicel subglobular.
Thorax: pro- and mesonotum combined about as long as broad, wrinkled; pronotum with anterior margin carinate and sometimes with short median carina on anterior half; 3 obsolete longitudinal carinae on mesonotum.
Tegmina: flat; costal and sutural margins subparallel; apex rounded; claval joint reaching sutural margin.
Venation: vein C distinct on basal 2/3; transverse veinlets visible on costal area; veins Sc + R, M and Cu separated close to base; veins A1 and A2 fused at about 3/4 of clavus length; longitudinal veins parallel and numerous on apical half, with numerous cross-veinlets.

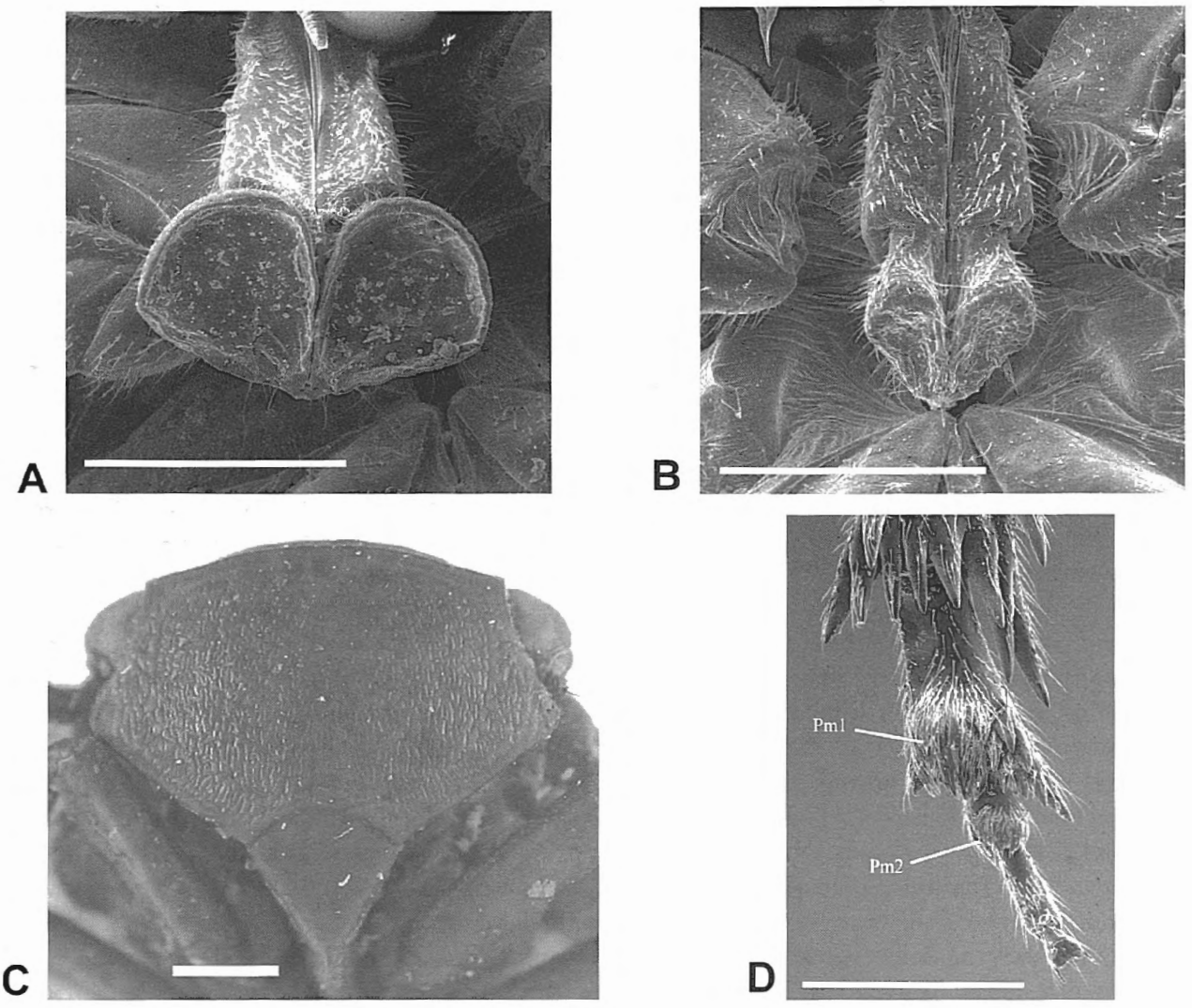


Plate 1 — A-D. *Mesonitys taeniata*: **A.** labium of male, ventral view. **B.** labium of female, ventral view. **C.** frons, normal view. **D.** hind tarsus, ventral view (Pm1 - pad of microsetae of first segment; Pm2 - pad of microsetae of second segment). Scale 1mm.

Hind wings: anal area well developed; apex rounded; longitudinal veins parallel and numerous on apical half, with numerous cross-veinlets.

Legs: fore and median legs with femur and tibia dorso-ventrally flattened; fore and median tibia slender, more narrow than femur; hind tibia with 4 lateral and 9 apical spines; first segment of hind tarsus bearing pad of microsetae and group of 8 small spines on ventral face; second segment of hind tarsus bearing pad of microsetae (Plate 1 D).

Genitalia ♂: pygofer higher than long in lateral view, broader ventrad; anal tube angulately curved ventrad beyond anus; gonostyli large, laterally flattened, convex, with process on dorsal margin; at rest, process placed in ventral concavity of anal tube; periandrium with one long style on each side of aedeagus; aedeagus formed by 2 long styles bearing lateral process and joined by a median membranous part.

Genitalia ♀: anal tube strongly laminate ventrally, elongate, with anus at first 1/3, curved ventrad and v-shaped in cross section beyond anus; gonoplacs unilobous, not surpassing anal tube; gonapophysis IX elongate and narrowly rounded apically; gonocoxae VIII small, transverse; gonapophysis VIII very large, depressed and laminate; anterior vagina positioned ventrally, weakly sclerified, very small compared to posterior vagina, bearing small, postero-ventral process; spermatheca attached apically; posterior vagina very large and strongly sclerified, elongate, concave ventrally, reflexed ventrad apically, bearing dorsally peculiar longitudinal prominence grooved on apical half; internal membrane of posterior vagina ornamented with numerous small spines; bursa copulatrix smaller than posterior vagina, spiralate basally, with internal ornamentation forming weak reticulum.

Sexual dimorphism: ♀ about 10 % bigger than ♂, with black parts usually more developed. Last segment of labium strongly dilated, about 2 times broader than

penultimate in males, as broad as penultimate in females.
Size: ♂: 12.0 to 15.5 mm; ♀: 13.0 to 16.9 mm.

DISTRIBUTION: Afrotropical region.

Notes: (1) gonapophysis IX can be referred to as the *Aspidonitys* type as defined by SOULIER-PERKINS (1997); (2) the only sure character to segregate the species is the shape of the male genitalia. The three-dimensional shape of the phallic complex can be modified by the KOH treatment and this must be kept in mind while studying those organs. In the following descriptions, the stable, easy-to-recognize specific features on the aedeagus will be indicated. In the females, some colouration characters seem stable enough to be reliably used for identification.

1. Mesonitys ephialtes FENNAH, 1957

Figs 1, 5, Plate 2 A.

Mesonitys ephialtes FENNAH, 1957: 197.

ETYMOLOGY: *ephialtes* = Greek word meaning nightmare (literally «jumping» or «oppressing»).

TYPES EXAMINED: - Holotype of *Mesonitys ephialtes* FENNAH, 1957 (♂): [Musée du Congo, Dilolo, IX-X-1933, H. De Saeger] [2 (6)] [holotypus] [*Mesonitys ephialtes* Fennah, det RG Fennah, Type] *dissected, genitalia in glycerine* (MRAC).

Only specimen known for the species.

DIAGNOSTIC CHARACTERS: The species can only be reliably identified by the shape of the male genitalia with pygofer strongly narrowing on dorsal half in lateral view and median processes of phallic complex with lateral projection close to apex. Females are not yet known.

DESCRIPTION: LT: ♂ (n = 1): 12 mm (according to FENNAH (1957): the type has the apex of the tegmina damaged and is no more precisely measurable).
Male.
Head: brownish red; antennae brown; ratio BV/LV = 7.5; BF/LF = 1.7.
Thorax: entirely brownish red; LP+LM/BT = 0.9.
Tegmina: brownish red with apical third pale brownish; slightly marked paler transverse band at first third; 2 preapical rows of blackish points; ratio LTg/BTg = 2.4.
Hind wings: yellowish brown.
Legs: brownish red.
Genitalia ♂: pygofer strongly narrowed on dorsal half in lateral view; gonostyli about twice as high as broad in lateral view, roundly pointed apically; anal tube about as long as broad in dorsal view (as fig. 4 B); styles of aedeagus bearing hook directed mesad close to apex; phallic complex: see figs 1 B-C.

Notes: (1) the pale transverse band of tegmina is probably covered with white waxy secretion in living specimens; (2) females probably show more contrasted and blackish colouration.

BIOLOGY: nothing is known of the biology of this species that has only been found in southern Congo, close to the Angola border.

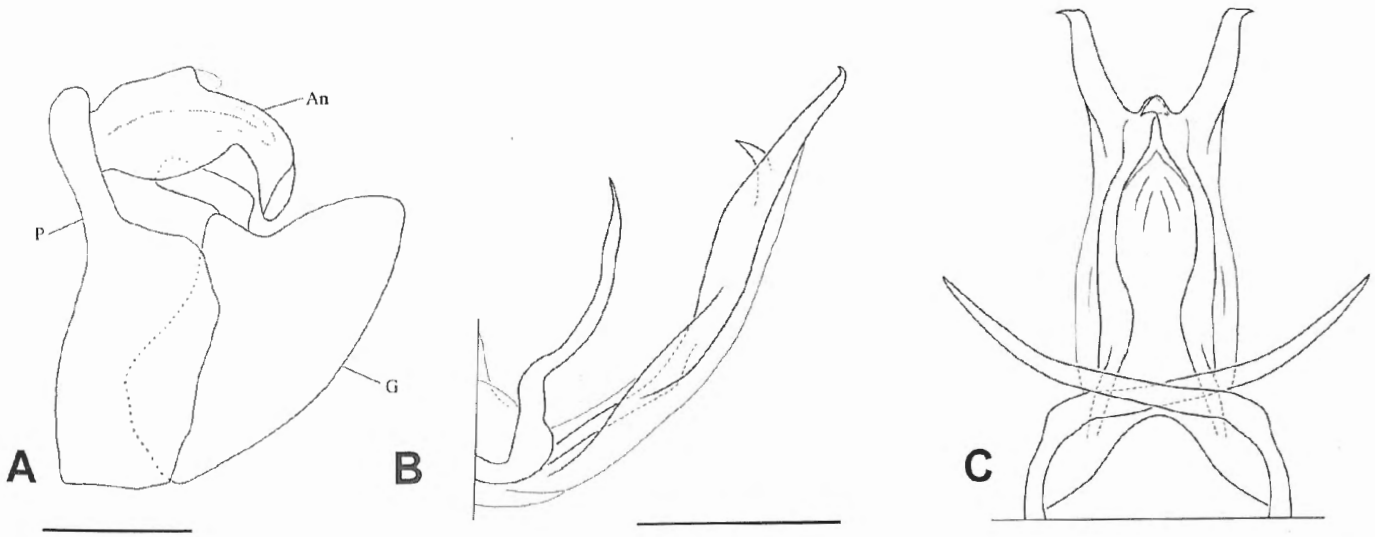


Fig. 1 — A-C. *Mesonitys ephialtes*, genitalia ♂. **A.** pygofer, anal tube and gonostyli, left lateral view (An – anal tube; G – gonostyli; P – pygofer). **B.** phallic complex, left lateral view. **C.** phallic complex, dorsal view. Scale 1 mm.

2. Mesonitys fletcheri Constant, 2007 n. sp.
Fig. 5, Plate 2 B.

Etymology: *fletcheri*: dedicated to the Australian Hemipterist Dr Murray J. Fletcher (Orange, Australia) who kindly allowed the holotype of this species to be deposited in the collections of the IRSNB.

Material examined: - **Holotype** ♀: [Coll. I.R.Sc.N.B., Belg. Congo 1951] [ex J.W. Evans Collection Donated 1986] [MJF collection MJF 003242] [Holotype ♀ *Mesonitys fletcheri* n. sp. Jérôme Constant det. 2007] *tegmina and wings damaged; right tegmen reduced to clavus; right hind leg missing; abdomen glued on cardboard label* (IRSNB).

Note: the J.W. Evans collection was donated to the Australian Museum after he died in 1991. However, in 1986 he had passed his reprint collection and what he termed his «duplicate collection» to M.J. Fletcher. This material was kept in store boxes and not as part of the JWE collection which was in cabinets (M.J. Fletcher, *pers. comm.* 2007).

Other material examined (1 ♀?) – **Congo (Democratic Republic)**: 1 ♀? (no abdomen and head): Elisabethville (=Lubumbashi), II.1912, Miss. Agric. [MRAC].

Note: this specimen is not designated as paratype due to its very poor condition.

Diagnosis: The species is immediately recognized by the black markings on the thorax and frons. Males are not yet known.

Description: LT (extrapolated): ♀ (n = 1): 17,5 mm.
Female.
Head: vertex brownish red; frons brownish red with sides and upper margin of disc marked by broad black line; antennae brownish; ratio BV/LV = 6; BF/LF = 1.8.
Thorax: pronotum black with fore and hind margins, middle line and spots on disc brownish red; slight median carina on first half of pronotum; mesonotum brownish red with 2 broad stripes not reaching anterior and posterior margins and spots at lateral angles, black; tegulae brownish red with blackish margins; pro-, meso- and metasternum brownish red; ratio LP+LM/BT = 1.05.
Tegmina: brownish red with apical third, transverse band at first third and apical half of clavus, whitish; basal 2/3 of cell between A1 and A2 black with whitish spots; 2 black zones with whitish spots along veins Sc and R on first third and at middle; irregular transverse stripe and line of black spots near apical margin; LTg/BTg = 2.74.
Hind wings: blackish brown with pale patch on basal half near costal margin.
Legs: all legs brownish red.
Abdomen: brownish red.

Notes: (**1**) the whitish transverse band of tegmina is probably covered with white waxy secretion in fresh specimens; (**2**) males probably show less contrasted colouration but black markings on frons and thorax should be present.

Biology: nothing is known of the biology of this species that has only been found in southern Congo, close to the Zambia border.

3. Mesonitys fuelleborni Schmidt, 1908
Figs 2, 6, Plate 2 D, F.

Mesonitys fülleborni Schmidt, 1908: 514.
Mesonitys fülleborni Schmidt, 1908: Schmidt, 1913: 187.
Mesonitys fülleborni Schmidt, 1908: Jacobi, 1936: 40 (erroneously synonymized with doubt with *M. taeniata* Schmidt, *M. admirabilis* Distant, *M. membranipicta* Schmidt and *M. hecqi*).
Mesonitys füllerborni [*sic*] Schmidt, 1908: Lallemand, 1950: 150 (erroneously considered as a variety of *M. taeniata* Schmidt).
Mesonitys fülleborni Schmidt, 1908: Metcalf, 1956: 50.
Mesonitys fülleborni Schmidt, 1908: Fennah, 1957: 195-198 (erroneously synonymized with *M. taeniata* Schmidt).
Mesonitys aedon Fennah, 1957: 198 **nov. syn.**

Note: the specimens listed under *Aspidonitys taeniata* as well as the illustration in Distant (1907) are all *Mesonitys fuelleborni.*

Etymology: *fülleborni*: dedicated to the collector, Dr. Fülleborn.

Types examined: - **Lectotype** of *Mesonitys fülleborni* Schmidt, 1908 (♂) **present designation**: [Nyassa-See, Langenburg, Pyramide, 23.II.-3.III.99, Fülleborn S.] [Type] [*Mesonitys fülleborni* Schmidt, ♂, Edm. Schmidt determ., 1907] [Mus. Zool. Polonicum, Warszawa, 12/

45] [Lectotype ♂, *Mesonitys fuelleborni* Schmidt, 1908, J. Constant des. 2007] - *dissected, genitalia in glycerine* (ZMPA).

- 2 **Paralectotypes** of *Mesonitys fülleborni* SCHMIDT, 1908 (♂ ?): [Nyassa-See, Langenburg, Pyramide, 23.II.-3.III.99, Fülleborn S.] [Type] [*Aspidonitys* n. sp., det. Kuhlgatz] [*Mesonitys fülleborni* Schmidt, ♂, Edm. Schmidt determ., 1907] [Zool. Mus. Berlin] [Paralectotype *Mesonitys fuelleborni* Schmidt, 1908, J. Constant des. 2007] - *very poor condition: the remains are: right tegmina, head and a fragment of thorax for one and for the other: head, fragments of legs, of thorax and of wings* (ZMHB).

- **Holotype** of *Mesonitys aedon* FENNAH, 1957 (♂): [holotypus] [Musée du Congo, Elisabethville, IX.1911] [Miss. Agric.] [*Mesonitys aedon* Fennah det, Type, RG Fennah] [*Mesonitys fuelleborni* Schmidt, 1908, ♀, Jérôme Constant det. 2007] - *dissected, genitalia in glycerine; both left wings missing* (MRAC).

OTHER MATERIAL EXAMINED (24 ♂, 87 ♀) – **Angola**: 1 ♀: Alto Cubal, Chimbassi (=Chimbasse), X.1953, Schmiedebach [ZSMC]; 1 ♂: Dundo [FSAG]; 1 ♂: Kuvungu, III.1933, Miss. sc. suisse [SMTD]; 1 ♀: Lunda, IX.1932 or 1933, Miss. sc. suisse [SMTD]; 1 ♂: 15 mls N of Sa da Bandeira (=Lubango), alt: ca 2000m, 03.III.1972, Southern African Exp. [BMNH]; 1 ♀: Vila Luso (=Luena), 25.IX.1949, Borys Malkin [CAS] – **Congo (Democratic Republic)** – 1 ♀: [FSAG]; 1 ♀: 250-320 Km W. of Kambove, alt: 1000-1400m, 31.X.1907, S.A. Neave [BMNH]; 1 ♀: 27 mi. N of Kapona, alt: 1720m, 13.I.1958, E.S. Ross & R.E. Leech [CAS]; 1 ♀: 27 mi. SE of Kienge, alt: 1150m, 22.I.1958, E.S. Ross & R.E. Leech [CAS]; 2 ♀: 8 mi. W of Luanza, alt: 1330m, 15.I.1958, E.S. Ross & R.E. Leech [CAS]; 2 ♀: Dilolo, IX-X.1933, H. De Saeger [MRAC]; 1 ♀? (no abdomen): Elisabethville (=Lubumbashi), II.1912, Miss. Agric. [MRAC]; 1 ♂? (no abdomen), 1 ♀: idem, X.1911 [MRAC]; 1 ♀: idem, 28.II.1924, Ch. Seydel [MRAC]; 1 ♀: idem, 20.V.1911, Dr Stappers [MRAC]; 1 ♂: idem, I.1913, Ternest [MRAC]; 1 ♀: idem, G. Swalue [MRAC]; 1 ♀: Jadotville (Likasi): Numbi, V.1957, R.P. Th. de Caters [MRAC]; 1 ♀? (no abdomen): Kafakumba, XII.1932, F.G. Overlaet [MRAC]; 1 ♂: Kafakumba, III.1932, F.G. Overlaet [MRAC]; 1 ♀: Kambove, Katanga, alt: 1200-1500m, 25.III.1907, S.A. Neave [BMNH]; 1 ♀: Kapiri, IX.1912, Miss. Agric. [MRAC]; 1 ♀: Katanga: Kipopo, 24.XI.1961, R. Maréchal [MRAC]; 1 ♂: Katanga: Kipushya (=Kipushia) (Sakania), II.1948, Dr R. Mouchamps [MRAC]; 1 ♂: Katanga: La Kafubu (=Kafubu), 1937, R.P. v. Arlbroeck [MRAC]; 1 ♀: Katanga: Luashi, III.1936, Freyne [MRAC]; 1 ♀: Katanga: Luiswishi, 02.I.1924, Ch. Seydel [MRAC]; 1 ♂: Katanga, Kiambi, III.1931, G.F. de Witte [MRAC]; 2 ♀: Kuilu (=Kwilu), [NHRS]; 1 ♀: Kwango: Panzi, 1932, R.P. Vanderyst [MRAC]; 1 ♀: Lualaba R., alt. 2500-4000ft, 15.V.1907, S.A. Neave [BMNH]; 1 ♀: Lubumbashi, 28.I.1971, A. Stam [MRAC]; 1 ♀: Luena, XII.1907, Dr Sheffield Neave [MRAC]; 1 ♀: Lulua: Kabomba, XI.1937, Vanderstichelen [MRAC]; 1 ♀: Moba, alt: 780m, VIII-X.1953, H. Bomans [MRAC]; 2 ♀: Shaba: Kisanga, 31.XII.1978, *Julbernardia, Brachystegia et Pericopsis angolensis*, F. Malaisse [MRAC]; 5 ♀: Tanganyika, Mpala, Oberthür 99-96 [MNHN]; 1 ♀: idem [FSAG]; 1 ♀: Vallée Lukuga, XI.1911, Dr Schwetz [MRAC]; 1 ♀: Katanga, Kasenga, 12.IV.1965 [FSAG] – **Malawi** – 1 ♀: Mkuwazi (=Nkwadzi) Hill Forest, alt: 500m, 22.II.1958, E.S. Ross & R.E. Leech [CAS]; 1 ♀: Mlanje (=Mulanje), 01.VII.1913, S.A. Neave [BMNH]; 1 ♀: idem, 04.XII.1912 [BMNH]; 1 ♀: idem, 23.IV.1913 [BMNH]; 1 ♀: idem, 13.VI.1913 [BMNH]; 1 ♂: idem, 24.II.1913 [BMNH]; 1 ♀: idem, 22.II.1913 [BMNH]; 1 ♂, 1 ♀: idem, 20.II.1913 [BMNH]; 1 ♂: idem, 05.II.1914 [BMNH]; 1 ♂: idem, 20.III.1913 [BMNH]; 1 ♀: idem, 25.II.1913 [BMNH]; 1 ♀: idem, 02.VI.1913 [BMNH]; 1 ♀: idem, 16.II.1914 [BMNH]; 1 ♂:probably Mulanje (not mentioned on the label), 17.III.1913, S.A. Neave [BMNH]; 1 ♀: Nkhorongo, Mzuzu, alt: ca 1375m, 14.IV.2000, R.J. Murphy [IRSNB]; 1 ♀: idem, 08.I.2000 [IRSNB]; 1 ♀: idem, 06.IV.1999 [IRSNB]; 1 ♀: idem, 14.IV.2002 [IRSNB]; 1 ♀: idem, 25.VI.1999 [CCZM]; 1 ♀: Vinthukutu For. Res. (Karonga dist.), alt: ca 600m, 07.XI.2001, R.J. Murphy [IRSNB]; 1 ♀: Zomba, Cameron [BMNH] – **Mozambique** – 1 ♀: Val. Revoué, env. Andrada, 1905, G. Vasse [MNHN] – **Tanzania** – 1 ♀: 1918 [SMTD]; 1 ♂: Ndala (mission), XII.1916-I.1917, Dr G.D.H. Carpenter [BMNH]; 1 ♀: Songea, Peramiho, alt: 1000m, 15.XI.1958, C. Lindemann [ZSMC]; 1 ♀: idem, 26.VIII.1952, Lindemann & Pavlitzki [ZSMC]; 1 ♂: Tabora, R.T. Brandt [BMNH] – **Zambia** – 2 ♂, 3 ♀: Abercorn (=Mbala), 23.XI.1948, H.J. Bredo [IRSNB]; 1 ♂: idem, 28.XI.1948 [IRSNB]; 1 ♂: idem, 02.III.1948 [IRSNB]; 1 ♀: Chisamba nr. Lusaka, 05-23.XII.1989, swept from Miomboveld herb layer, P.E. Reavell [NMSA]; 1 ♂: Kinia - Bangwelo (=Bangweulu, lac), 14.III.1938 [IRSNB]; 1 ♂: Machiya (=Makiya), 10.IV.1958, P. Johnsen [IRSNB]; 1 ♀: Ndola, 18.IV.1958, P. Johnsen [ZMUC]; 1 ♂: Nyaka, F. Lawrence [SAMC]; 1 ♀: Chinsali and neighbourhood, alt.:4300 ft, 10.V.1908, S.A. Neave [OUMNH]; 2 ♀: L. Chambezi Valley, Mpika distr, 18.V.1908, S.A. Neave [OUMNH]; 1 ♀: Mid Chambezi Valley, Chinsali distr.,

25.IV.1908, S.A. Neave [OUMNH]; 3 ♀: Mouth of Chambezi to Mansya R. & Lake Young (Manya = Mansha & Lake Young = Ishiba Ngandu Lake), 25-26.X.1908, S.A. Neave [OUMNH]; 1 ♀: Petauke, East Loangwa distr. , 2400 ft, 23.III.1905, S.A. Neave [OUMNH] – **Zimbabwe** – 1 ♀: Matabeland, Umvuli River, J.S. Jameson [BMNH]; 1 ♀: Salisbury (=Harare) [SAMC]; 1 ♀: idem, XII.1969 [MMBC]; 1 ♀: idem, VII.1913 [SAMC]; 1 ♀: idem, Marshall [BMNH]; 1 ♀: idem, 07.I.1921, J.A. O'Neil [USNM]; 1 ♂, 1 ♀: idem, XII.1969, Zd. Cakl [MMBC]; 1 ♀: idem, 18.II.1958, J.L. Minshull [SANC]; 2 ♀: Sebakwe [SAMC]; 1 ex. (no abdomen): Welgelegen, mission agricole, I.1912 [MRAC]; 1 ♀: Umpli Riv., Mashamulade, Guy Marshall [BMNH].

Note: the female specimen from Tanzania (Deutsch Ostafrika) in the collections of the SMTD was erroneously mentioned as a male of a potential new species by Jacobi (1936).

Diagnostic characters: females can be recognized by the following combination of characters: (**1**) frons, pro- and mesonotum unicolorous, (**2**) tegmina without black line along veins Sc and R and on clavus along mesonotum, (**3**) apical margin of tegmina concolorous. Males must be identified by genitalia.

Description: LT: ♂ (n = 24): 13.2 mm (12.2 to 14.8); ♀ (n = 62): 14.5 mm (13.2 to 16.9).
Head: brownish red with antennae and labium concolorous or darker; ratio BV/LV = 8; BF/LF = 1.7-1.8.
Thorax: brownish red including tegulae; carinae of pro- and mesonotum obsolete; ratio LP+LM/BT = 0.9.
Tegmina: brownish red with apical third paler, fading to yellowish brown; numerous minute spots of white waxy secretion; whitish transverse band at basal third covered with white waxy secretion; external margin of whitish band sometimes marked by a narrow, often incomplete, blackish brown line; subapical row of 4-7 black spots parallel to apical margin; smaller black spots on apical third, before subapical row; apical margin always concolorous; ratio LTg/BTg = 2.5-2.6.
Hind wings: dark brown usually with apical and sutural margins paler; pale patch on basal half near costal margin.
Legs: all legs brownish red.
Abdomen: brownish red.
Genitalia ♂: pygofer narrowing on dorsal half and broader in middle in lateral view; gonostyli about twice as high as broad in lateral view, roundly pointed apically; anal tube often broader than long in dorsal view; styles of aedeagus bearing dorsal process directed postero-caudad in middle; phallic complex: see figs 2 C-D.

Biology: the species has been collected at altitudes varying from 500 to 2000 meters, 3 specimens have been caught in Miombo woodland, a plant community composed of *Julbernardia* sp., *Brachystegia* sp. and *Pericopsis angolensis*, one of those specimens has been swept from the herb layer. The species is widely distributed in central Africa and seems to be present

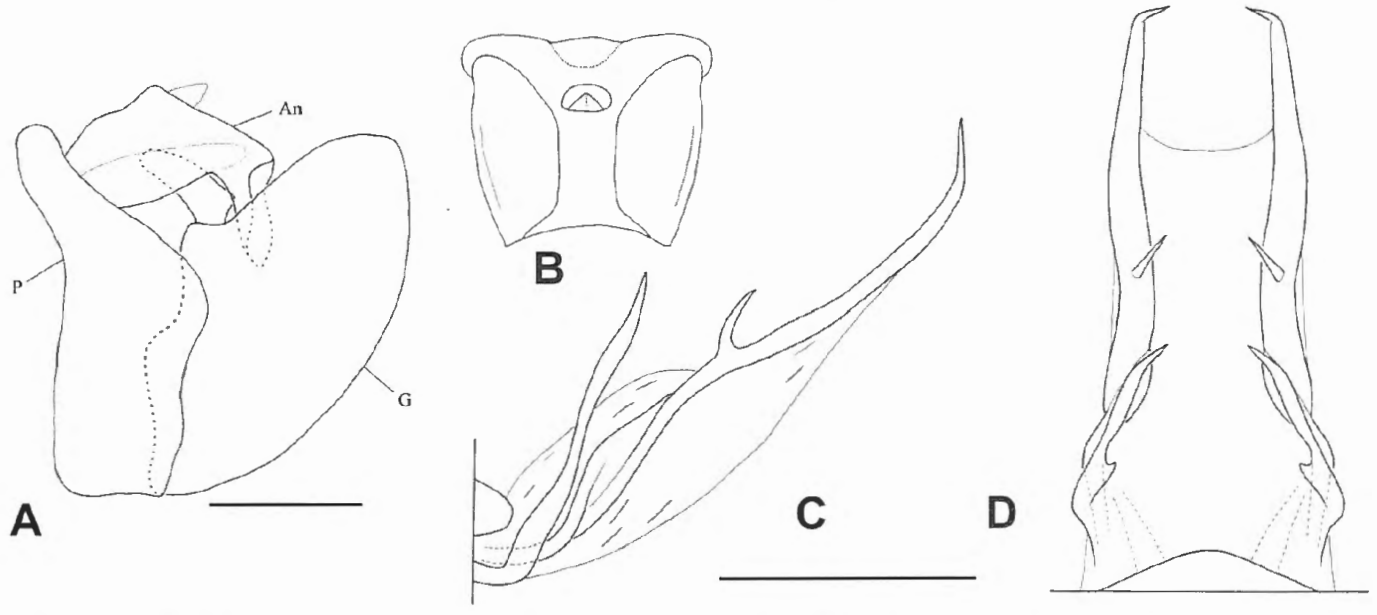


Fig . 2 — A-D. *Mesonitys fuelleborni*, genitalia ♂. **A.** pygofer, anal tube and gonostyli, left lateral view (An – anal tube; G – gonostyli; P – pygofer). **B.** anal tube, dorsal view. **C.** phallic complex, left lateral view. **D.** phallic complex, dorsal view. Scale 1 mm.

as adults throughout the year with the lowest numbers between April and August.

4. Mesonitys hecqi SCHMIDT, 1913

Figs 3, 5, Plate 2 C.

Mesonitys hecqi SCHMIDT, 1913: 188.
Mesonitys hecqui [*sic*] SCHMIDT, 1913: JACOBI, 1936: 40 (erroneously synonymized with doubt with *M. admirabilis* (DISTANT), *M. taeniata* SCHMIDT and *M. fülleborni* SCHMIDT).
Mesonitys hecqui [*sic*] SCHMIDT, 1913: LALLEMAND, 1950: 150 (erroneously considered as a variety of *M. taeniata* SCHMIDT).
Mesonitys hecqui [*sic*] SCHMIDT, 1913: METCALF, 1956: 50.

ETYMOLOGY: *hecqi*: dedicated to the collector, Mr Hecq.

TYPES EXAMINED: - **Holotype** by monotypy of *Mesonitys hecqi* SCHMIDT, 1913 (♀) **present recognition**: [Musée du congo belge, Tanganika, Hecq] [Type] [*Mesonitys hecqi* Schmidt, Edm. Schmidt, Type, determ. 1913.] [R. Dét., R, 664] [Holotype ♀ *Mesonitys hecqi*, Schmidt, 1913, J. Constant des. 2007] *abdomen missing* (MRAC).

Note: SCHMIDT (1913) was not sure that the specimen is a female as the abdomen is missing but this has been confirmed by examination of the apical segment of labium which is not dilated.

OTHER MATERIAL EXAMINED (1 ♂, 8 ♀) – **Angola**: 1 ♀: no data [ZSMC]; 1 ♀: 15 mls N of Sa da Bandeira (=Lubango), alt: ca 2000m, 03.III.1972, Southern African Exp. [BMNH]; 1 ♀: 8 mls NE Cacula, 25-26.III.1972, Southern African Exp. [BMNH]; 2 ♀: Cacanda, J.N. Ertl [ZSMC, IRSNB] – **Congo (Democratic Republic)** – 1 ♀: Lualaba: Kakanda (Mutaka), XII.1953, leg.R.P. Th. De Caters [MRAC]; 1 ♀: Kapiri, X.1912, Miss. Agric. [MRAC]; 1 ♂ (**plesiotype**): Tanganyika, Mpala, Oberthür 99-96 [MNHN] – **Zambia** – 1 ♀: Congo Border, Niankasa, 07.XII.1929, H. Silvester Evans [BMNH]

DIAGNOSTIC CHARACTERS: females can be recognized by the following combination of characters: (**1**) frons, pro- and mesonotum unicolorous; (**2**) brown to black line between veins Sc and R on basal half; (**3**) brown to black line on clavus along mesonotum; (**4**) apical third of tegmina not covered with numerous coalescent black spots. Males are more reliably recognized by the genitalia.

DESCRIPTION: LT: ♂ (n = 1): 14.1 mm; ♀ (n = 8): 14.6 mm.
Head: brownish red with labium brownish red to brown; antennae brown; ratio BV/LV = 8.2; BF/LF = 1.8.
Thorax: pro- and mesonotum, pro-, meso- and metasternum and tegulae brownish red; median carina on anterior half of pronotum and carinae on mesonotum, obsolete, ratio LP+LM/BT = 0.9.
Tegmina: brownish red with apical third paler,

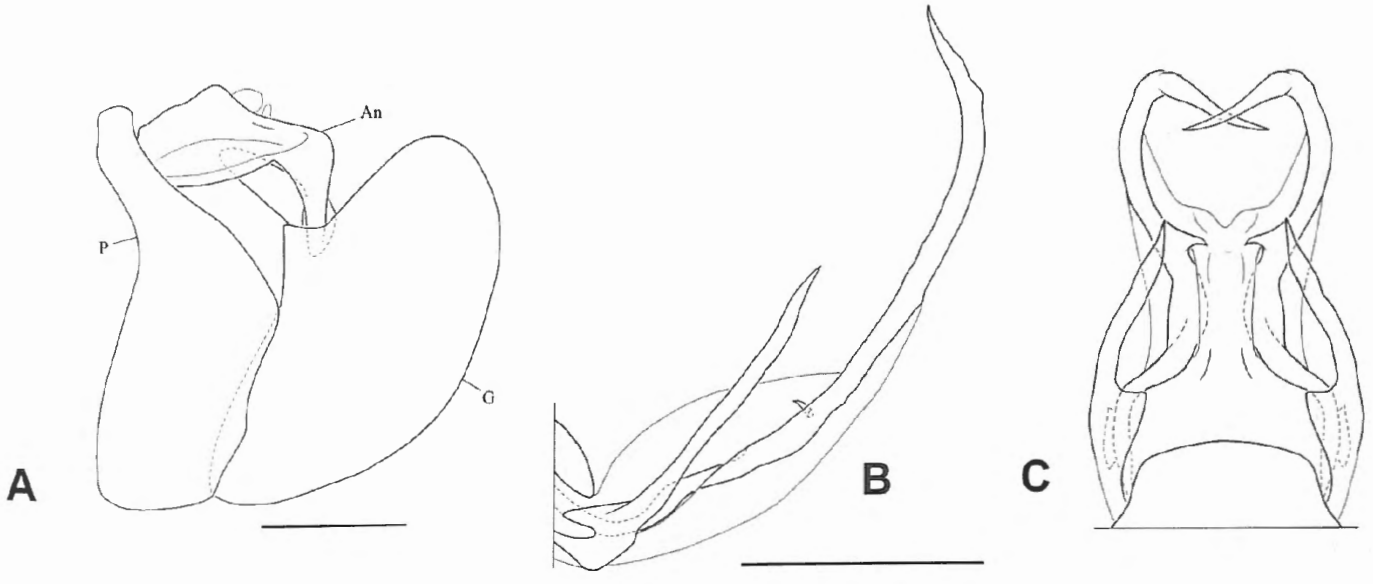


Fig. 3 — A-C. *Mesonitys hecqi*, genitalia ♂. **A.** pygofer, anal tube and gonostyli, left lateral view (An – anal tube; G – gonostyli; P – pygofer). **B.** phallic complex, left lateral view. **C.** phallic complex, dorsal view. Scale 1 mm.

yellowish brown; brown to black line on anterior half between veins Sc and R, another along sutural margin of clavus, along mesonotum; subapical row of 4-5 black spots, sometimes with suffused brown markings; apical margin sometimes marked by very narrow blackish line; sometimes suffused brownish markings on middle of disc; ratio LTg/BTg = 2.0.
Hind wings: blackish brown with pale patch on basal half near costal margin.
Legs: all legs brownish red.
Abdomen: brownish red to brown.
Genitalia ♂: pygofer narrowing on dorsal half in lateral view; gonostyli slightly less than twice as high as broad in lateral view, rounded apically; anal tube about as long as broad in dorsal view (as fig. 4 B); styles of aedeagus bearing hook directed meso-cephalad at first third; phallic complex: see figs 3 B-C.

Note: males have less contrasted colouration than females.

Biology: one specimen has been caught at an altitude of about 2000 meters and one at light. The species seems widely distributed in central Africa but more scarcely than *M. fuelleborni* and *M. taeniata*. It has been collected in the months March, September and December but the paucity of data does not allow any conclusion on life history.

5. Mesonitys membranipicta Schmidt, 1912
Fig. 5, Plate 2 K.

Mesonitys membranipicta Schmidt, 1912: 356.
Mesonitys membranipicta Schmidt, 1912: Schmidt, 1913: 187.
Mesonitys membranipicta Schmidt, 1912: Jacobi, 1936: 40 (erroneously synonymized with doubt with *M. fülleborni* Schmidt, *M. admirabilis* (Distant), *M. taeniata* (Schmidt) and *M. hecqi* Schmidt).
Mesonitys membranipicta Schmidt, 1912: Lallemand, 1950 (erroneously considered as a variety of *M. taeniata* Schmidt).
Mesonitys membranipicta Schmidt, 1912: Metcalf, 1956: 50.

Etymology: *membrani-* (Latin) = membrane, *picta* (Latin) = painted: name assumed to refer to the spots on the membrane of the tegmina.

Types examined: - **Holotype** by monotypy of *Mesonitys membranipicta* Schmidt, 1912 (♀) **present recognition**: [Musée du Congo, Benguela (Dr Wellmann) Coll. Schouteden] [Type] [*Mesonitys membranipicta* Schmidt ♀ Edm. Schmidt determ. 1911] [Holotype ♀ *Mesonitys membranipicta* Schmidt, 1912, J. Constant des. 2007] (MRAC).

Only specimen known for the species.

Diagnostic characters: females can be recognized by the following combination of characters: (**1**) frons, pro- and mesonotum unicolorous; (**2**) brown to black line between veins Sc and R discontinuous; (**3**) brown to black line on clavus along mesonotum; (**4**) apical third of tegmina covered with numerous coalescent black spots. Males are not yet known.

Description: LT: ♀ (n = 1): 16.8 mm.
Head: entirely brownish red; antennae missing on examined specimen; ratio BV/LV = 7.6; BF/LF = 1.9.
Thorax: pro- and mesonotum, pro- and mesosternum and tegulae brownish red; metasternum brown; ratio LP+LM/BT = 1.0.
Tegmina: brownish red; apical third yellowish brown densely covered with coalescent black spots; short black line at base of veins Sc and R; black line on sutural margin of clavus, along mesonotum; transverse band of black markings extending from vein Sc to sutural margin at half length; ratio LTg/BTg = 1.9.
Hind wings: blackish brown with pale patch on basal half near costal margin.
Legs: all legs brownish red.
Abdomen: brownish red.

Note: there is a complete brownish red transverse band at first third, between black lines at base and band of black markings. In *M. fletcheri*, *M. fuelleborni* and *M. taeniata*, this band is whitish and covered with white, waxy secretion. It is possible that this brownish red band is covered with such secretion in fresh specimens of *M. membranipicta*.

Biology: nothing is known of the biology of this species that has only been found in western Angola, close to the Atlantic Ocean's coast.

6. Mesonitys taeniata (Schmidt, 1906)
Figs 4, 7, Plate 1, 2 E, G-J.

Aspidonitys taeniata Schmidt, 1906: 202.
Aspidonitys admirabilis Distant, 1906: 205 **nov. syn.**
Aspidonitys taeniata Schmidt, 1906: Distant, 1907:

188 (erroneous: data and illustration must be referred to *Mesonitys fuelleborni*).
Mesonitys taeniata (SCHMIDT, 1906): SCHMIDT, 1908: 513-514.
Mesonitys admirabilis (DISTANT, 1906): SCHMIDT, 1908: 514.
Mesonitys taeniata (SCHMIDT, 1906): SCHMIDT, 1912: 356.
Mesonitys taeniata (SCHMIDT, 1906): SCHMIDT, 1913: 187.
Mesonitys admirabilis (DISTANT, 1906): SCHMIDT, 1913: 187.
Mesonitys taeniata (SCHMIDT, 1906): JACOBI, 1936: 40 (erroneously synonymized with doubt with *M. fülleborni* SCHMIDT, *M. admirabilis* DISTANT, *M. membranipicta* SCHMIDT and *M. hecqi*).
Mesonitys admirabilis (DISTANT, 1906): JACOBI, 1936: 40 (erroneously synonymized with doubt with *M. taeniata* SCHMIDT, *M.fülleborni* SCHMIDT, *M. membranipicta* SCHMIDT and *M. hecqi*).
Mesonitys taeniata (SCHMIDT, 1906): LALLEMAND, 1950: 150.
Mesonitys taeniata var. *katangana* LALLEMAND, 1950: 150 **nov. syn.**
Mesonitys admirabilis (DISTANT, 1906): LALLEMAND, 1950: 150 (considered as a variety of *M. taeniata* SCHMIDT).
Mesonitys admirabilis (DISTANT, 1906): METCALF, 1956: 50.
Mesonitys taeniata (SCHMIDT, 1906): METCALF, 1956: 50.
Mesonitys taeniata (SCHMIDT, 1906): FENNAH, 1957: 195-198 (erroneously synonymized with *M. fuelleborni* SCHMIDT).
Mesonitys taeniata var. *katangana* LALLEMAND, 1950: FENNAH, 1957: 195.
Mesonitys choaspes FENNAH, 1957: 196 **nov. syn.**
Mesonitys taeniata (SCHMIDT, 1906): SYNAVE, 1961: 104.
Mesonitys taeniata (SCHMIDT, 1906): SYNAVE, 1980: 23.

ETYMOLOGY: *taeniata* (Latin) = banded: name assumed to refer to the conspicuous transversal white band on the tegmina.
- *admirabilis* (Latin) = admirable, wonderful.
- *choaspes* = Choaspes, the name of a personage of the Greek mythology.

TYPES EXAMINED: - **Lectotype** of *Aspidonitys taeniata* SCHMIDT, 1906 (♀) **present designation**: [Musée du Congo, Congo belge, Katanga (Kasai) Coll. Schouteden] [Type] [*Aspidonitys taeniata* typ. Schmidt, Edm. Schmidt determ. 1906] [Lectotype ♀ *Aspidonitys taeniata* Schmidt, 1906, J. Constant des. 2007] [*Mesonitys taeniata* ♀ (Schmidt, 1906) Jérôme Constant det. 2007] (MRAC).
- **Paralectotype** of *Aspidonitys taeniata* SCHMIDT, 1906 (♀): [Congo Katanga] [Type] [*Mesonitys taeniata* Schmidt ♀ Edm. Schmidt determ. 1907] [Mus. Zool. Polonicum Warszawa 12/45] [Paralectotype ♀ *Aspidonitys taeniata* Schmidt, 1906, J. Constant des. 2007] [*Mesonitys taeniata* ♀ (Schmidt, 1906) Jérôme Constant det. 2007] (ZMPA).

Notes: (**1**) the lectoype and paralectotype of *A. taeniata* were erroneously described as males by SCHMIDT (1906), an error corrected in SCHMIDT (1908a); (**2**) SYNAVE (1980) erroneously stated that one «paratype» is present in the collections of the IRSNB.

- **Lectotype** of *Aspidonitys admirabilis* DISTANT, 1906 (♀) **present designation**: [Bange Ngolo 6.10.03] [Distant Coll. 1911-383] [Type] [*Aspidonitys admirabilis* type Dist.] [Lectotype ♀ *Aspidonitys admirabilis* Distant, 1906, J. Constant des. 2007] [*Mesonitys taeniata* ♀ (Schmidt, 1906) Jérôme Constant det. 2007] (BMNH).
- **Holotype** of *Mesonitys taeniata* var. *katangana* LALLEMAND, 1950 (♀): [riv. Kangoa Katanga, Congo B.] [Type.] [*Mesonitys taeniata* Schmidt var. *katangana* V. Lallemand det.:] [*Mesonitys taeniata* ♀ (Schmidt, 1906) Jérôme Constant det. 2007] (FSAG).
- **Paratype** of *Mesonitys taeniata* var. *katangana* LALLEMAND, 1950 (♀): [Museum Paris, Tanganyika (Mpala) Oberthür 99-96] [Paratype] [*Mesonitys taeniata* Sch. var. *katangana* V. Lallemand det.:] [*Mesonitys taeniata* (Schmidt, 1906) ♀ Jérôme Constant det. 2007] (MNHN).

Note: the material identified by LALLEMAND as var. *katangana* is *M. taeniata* while the specimens identified by him as *M. taeniata* are *M. fuelleborni*. It is assumed that LALLEMAND based his identifications on the illustration of DISTANT (1907) which shows *M. fuelleborni* in place of *M. taeniata*.

- **Holotype** of *Mesonitys choaspes* FENNAH, 1957 (♂): [Holotypus] [Musée du Congo Kapiri IX.1912 Miss. Agric.] [3(10)] [*Mesonitys choaspes* Fennah det, Type RG Fennah] [*Mesonitys taeniata* ♀ (Schmidt), Jérôme Constant det. 2007] - *dissected, genitalia in glycerine* (MRAC).
- **Paratype** of *Mesonitys choaspes* FENNAH, 1957 (♀, according to FENNAH, 1957): [Paratypus] [Musée

du Congo, Kapiri X.1912 Miss. Agric.] [*Mesonitys choaspes* F. paratype Det: Fennah 1956] [2 (10)] [*Mesonitys taeniata* ♀ (Schmidt), Jérôme Constant det. 2007] - *no abdomen* (MRAC).

Note: if really a female (this cannot be verified as the abdomen and labium are missing), this paratype is *Mesonitys fuelleborni* Schmidt. If it is a male, it can only doubtfully be attributed to *M. taeniata* (Schmidt) because both *M. fuelleborni* and *M. taeniata* occur in Kapiri.

Other material examined (54 ♂, 114 ♀) – **Angola** – 1 ♀: 1918 [SMTD]; 1 ♀: Benguela, Dr. Wellman [MRAC]; 1 ♀: Benguela [SMTD]; 1 ♀: Benguella, Dr. Wellmann [DEI]; 2 ♀: Bimbi, X.1932, Miss. se. Suisse [SMTD]; 1 ♀: Caconda, Huila, 30.IX.1949, Rorys Malkin [CAS]; 3 ♀: Cucumbi, Lunda, IX.1950, Padre Eduardo [CAS]; 1 ♀: Quango Strom (=Cuango River), Major V. Mechow [MNHN]; 1 ♀: Sao Comba Dac, 30.V.1958, E.S. Ross & R.E. Leech [CAS]; 1 ♀: Distr. of Moxico: Huamba, 01.V.1927, M. Burr, 1927-377 [BMNH] – **Cameroun (?)** – 1 ♀: Mungo, Mukonje farm (=Mukonye), 1912 [SMTD] (*very doubtful data, probably mislabeling*) – **Congo (Democratic Republic)** – 1 ♀: 1921[IRSNB]; 3 ♂, 1 ♀: 150-200 miles W of Kambove, 12.X.1907, Neave coll., 1907-230 [BMNH]; 1 ♂, 1 ♀: 150-200 miles W of Kambove, 14.X.1907, Neave coll., 1907-230 [BMNH]; 1 ♀: 150-200 miles W of Kambove, 27-30.X.1907, Neave coll., 1907-230[BMNH]; 2 ♀: 5 mi. S of Fizi, 10.I.1958 [CAS]; 1 ♂ (**plesiotype**): 8 mi. SW of Pweto, 15.I.1958, E.S. Ross & R.E. Leech [CAS]; 1 ♂: 8 mi. W of Luanza, 15.I.1958, E.S. Ross & R.E. Leech [CAS]; 1 ♂: Bassin Lukuga, IV-VII.1934, De Saeger [MRAC]; 1 ♂: Elisabethville (=Lubumbashi) [IRSNB]; 2 ♂, 1 ♀: idem, Miss. Agric. [MRAC]; 1 ♀: idem, 1935, Dr. Richard [MRAC]; 1 ♂: idem, III.1926, Dr. H. Schouteden [MRAC]; 1 ♀: idem, X.1911, Miss. Agric. [MRAC]; 1 ♀: idem, XI.1956-I.1957, don A. Allard [MRAC]; 1 ♀: idem, X-XI.1934, Dr. Richard [MRAC]; 1 ♀: Kabalo, 02.III.1927, Ch. Seydel [MRAC]; 1 ♂, 2 ♀: Kapiri, IX.1912, Miss. Agric. [MRAC]; 1 ♂, 2 ♀: idem, X.1912, [MRAC]; 1 ♀: Katanga: Kalule N., 1934, Ch. Seydel [MRAC]; 1 ♀: Katanga: Kambove, 24.VI.1907, Neave coll., 1907-230 [BMNH]; 2 ♂, 2 ♀: Katanga: Kamina, II-III.1960, A. Froidebise [MRAC]; 1 ♀: Katanga: Kinda, 1926, Muller [MRAC]; 1 ♀: idem, 1950, M. Dierckx [MRAC]; 1 ♂: Katanga: Musonale, 28.VII.1924 ,Ch. Seydel [MRAC]; 1 ♂: Katanga: Mutaka, VI.1932, Dr. Ritshard [MRAC]; 2 ♀: Katanga: riv. Kangoa [FSAG]; 1 ♂: Kiwanda, 08.XII.1911, Dr. Bequaert [MRAC]; 1 ♂: Kwango, 1925, P. Vanderijst [MRAC]; 1 ♂, 1 ♀: Lomami: Kaniama, 1931, R. Massart [MRAC]; 1 ♀: Lualaba: Kakanda (Mutaka), III-VI.1954, R.P. Th. De Caters [MRAC]; 2 ♀: Lualaba: Kolwezi, 1961-1962, Dr. V. Allard [MRAC]; 1 ♂: Lualaba: Ruwe, I-II.1960, V. Allard [MRAC]; 1 ♀: Lualaba: Terr. Jadotville: Kakanda, I-III.1954, R.P. Th. De Caters [MRAC]; 1 ♀: idem, VII-VIII-1953, R.P. Th. De Caters [MRAC]; 2 ♀: Lukoshi-Luco (Luashi), XI.1937, F.Freyne [MRAC]; 1 ♀: Lukuga: Riv. Niemba, XI-1917/I-1918, Dr Pons [MRAC]; 1 ♂: Lulua: Kabomba, XI.1937, Vandersticheleen [MRAC]; 1 ♀: Lulua: Kanzenze, 1932, R.P. Lefebure [MRAC]; 1 ♀: Lulua: Kapanga, IX.1932, F.G. Overlaet [MRAC]; 1 ♀: idem, IX.1933, F.G. Overlaet [MRAC]; 2 ♀: idem, X.1932, F.G. Overlaet [MRAC]; 2 ♀: idem, X.1933, F.G. Overlaet [MRAC]; 2 ♂, 1 ♀ (?, no abdomen): idem, XI.1932, F.G. Overlaet [MRAC]; 1 ♂: idem, XII.1932, F.G. Overlaet [MRAC]; 1 ♂: Lulua: Luashi, 1936, F. Freyne [MRAC]; 2 ♂, 2 ♀: idem, III.1936, F. Freyne [MRAC]; 2 ♀: idem, XI.1938, F. Freyne [MRAC]; 1 ♀: Lulua: Riv. Kalani, 13.X.1933, F.G. Overlaet [MRAC]; 1 ♀: Lulua: Tshibamba, III.1933, F.G. Overlaet [MRAC]; 1 ♀: idem, XI.1933, F.G. Overlaet [MRAC]; 1 ♂: Moba, VIII-X.1953, H. Bomans [MRAC]; 1 ♂: Munowe, Park Upemba, 18.I.1958, E.S. Ross & R.E. Leech [CAS]; 1 ♂: P.N.U. Kankunda (r. dr Lupiala), 13-27.XI.1947, Miss. G.F. de Witte [MRAC]; 1 ♂: P.N.U. Kenbwile r.g. Kalule-Nord, 28.II.1949, Miss. G.F. de Witte [MRAC]; 1 ♀: P.N.U. Mukana, 12-20.I.1948, Miss. G.F. de Witte [MRAC]; 1 ♀: P.N.U. Reg. Riv. Luanana pistes Pelenge-Lufira, 13.XI.1947, Miss. G.F. de Witte [MRAC]; 1 ♂: P.N.U. riv. Lupiala, 21.IV.1947, Miss. G.F. de Witte [MRAC]; 1 ♂: Sandoa, 24.X.1920, F.G. Overlaet [MRAC]; 1 ♀: idem, I.1932, F.G. Overlaet [MRAC]; 1 ♀: idem, VI.1932, F.G. Overlaet [MRAC]; 1 ♀: SE Katanga, 13.XII.1907, Neave coll., 1907-230 [BMNH]; 4 ♂: Tanganyka [FSAG]; 4 ♀: Tshuapa: Mosanga, Massart [IRSNB]; 1 ♂: Upemba Lake, 19.I.1958, E.S. Ross & R.E. Leech [CAS]; 1 ♀: Moero: Niunzu, 1935, H. De Saeger [MRAC]; 1 ♂: Tanganyika, Mpala [FSAG]; 3 ♀: idem, Oberthür 99-96 [MNHN]; 1 ♀: idem, VI.1953, H. Bomans [MRAC]; 1 ♀: Tanganyika: Mutotolwa, XI.1953, H. Bomans [MRAC]; 1 ♀: Tanganyika, 1918, [SMTD] – **Zambia** – 3 ♂, 10 ♀: Abercorn (=Mbala), 02.II.1948, H.J. Bredo [IRSNB]; 1 ♀: idem, 04.IV.1944 [IRSNB]; 2 ♀: idem, 15.XII.1943 [IRSNB]; 4 ♂, 9 ♀: idem, 23.XI.1948 [IRSNB]; 1 ♀: idem, 28.XI.1948 [IRSNB]; 1 ♂: idem, IV.1951 [IRSNB]; 1 ♀: idem, XII.1942 [IRSNB]; 1 ♂: Kipushi, 18.XI.1927, H. Silvester Evans [BMNH]; 1 ♀: Mwinilunga, VI.1939 [AMNH]; 1 ♂: Nyoka, 15.XII.1957, P. Johnsen

[ZMUC]; 1 ♀: Alala Plateau, Mkushi distr., alt. 4000 ft, 06.XI.1905, S.A. Neave [OUMNH]; 1 ♀: Alala Plateau, Ndola distr., alt. 4000 ft, 03.X.1905, S.A. Neave [OUMNH]; 1 ♂, 2 ♀: Chisinga Plateau, Kalungwisi distr., alt. 4500 ft, 23.IX.1908, S.A. Neave [OUMNH]; 1 ♀: High Plateau, S. Lake Tanganyika, alt. 4500 ft, 18-22.VIII.1908, S.A. Neave [OUMNH]; 1 ♀: L. Chambezi V., Kasama distr., alt. 3900 ft, 15.V.1908, S.A. Neave [OUMNH]; 1 ♂: Luwingu to Mouth of Chambezi River, 21.X.1908, S.A. Neave [OUMNH]; 1 ♂: idem, 05-06.X.1908 [OUMNH]; 1 ♀: Luwingu, N. Lake Bangweolo (= Bangweulu), alt. 4200 ft, 17.VII.1908, S.A. Neave [OUMNH]; 1 ♀: idem, 13.VI.1908 [OUMNH]; 1 ♂: Mirongo, edge of Mchinga Escarpment, alt. 3500 ft, 02.IV.1908, S.A. Neave [OUMNH]; 1 ♀: N shore of Lake Bangweolo (= Bangweulu), alt. 3800 ft, 27.V.1908, S.A. Neave [OUMNH]; 1 ♀: NE Rhodesia, W of Medona, D. Mac Donald [BMNH].

Note: the male specimens in the collections of the SMTD mentioned in JACOBI (1936) are actually all females.

DIAGNOSTIC CHARACTERS: females can be recognized by the following combination of characters: (**1**) frons, pro- and mesonotum unicolorous; (**2**) apical margin of tegmina marked by a narrow black line; (**3**) no black line between veins Sc and R and on clavus along mesonotum. Males are more reliably recognized by the genitalia.

DESCRIPTION: LT: ♂ (n = 48): 13.5 mm (12.5 to 15.5); ♀ (n = 84): 14.9 mm (13.0 to 16.4) [1 very small female from Angola, Cacanda is only 11.4 mm]

Head: brownish red; antennae brown; labium dark brownish red to blackish; ratio BV/LV = 7.9-8.7; BF/LF = 1.8.

Thorax: pro- and mesonotum brownish red; pro-, meso- and metasternum varying from brownish red to blackish; tegulae brownish red; median carina on pronotum and carinae on mesonotum obsolete or absent; ratio LP+LM/BT = 0.9.

Tegmina: colouration very variable; apical margin always blackish in females, not always in males; main colouration forms: (**1**) blackish brown with small spots of white waxy secretion; pale transverse band at first third covered with white waxy secretion; costal cell brownish red before pale band; subapical, crescent shaped, transverse yellowish brown band with row of 4 black spots basally; (**2**) dark brownish red with 3 paler transverse band at first third, at second third and before apex; two first pale band covered with white waxy secretion; costal cell brownish red before first paler band or costal brownish red patch extending to second pale band and to vein Sc; row of 4 black spots along base of subapical pale band; (**3**) brownish red with pale transverse band at first third covered with white waxy secretion; apical half paler, yellowish brown before apex; subapical row of 4 black spots; sometimes suffused brown transverse band before row of black spots; (**4**) brownish red, paler on apical third; subapical row of 4-5 spots; ratio LTg/BTg = 2.3-2.5.

Hind wings: uniformly blackish brown to brown with sutural and apical margins paler; pale patch on basal half near costal margin.

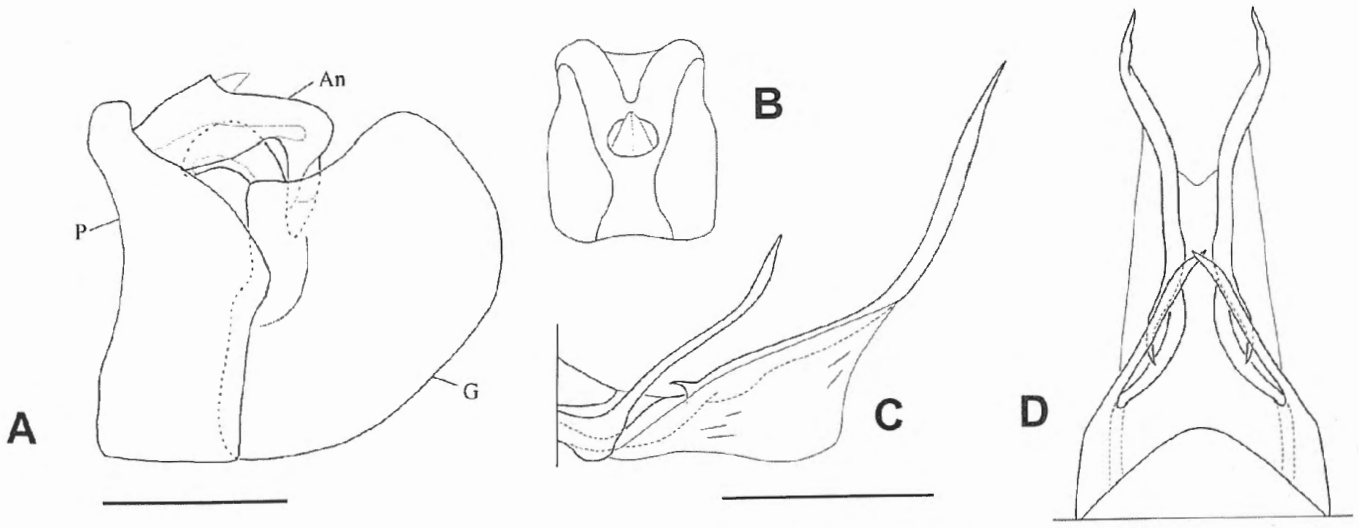


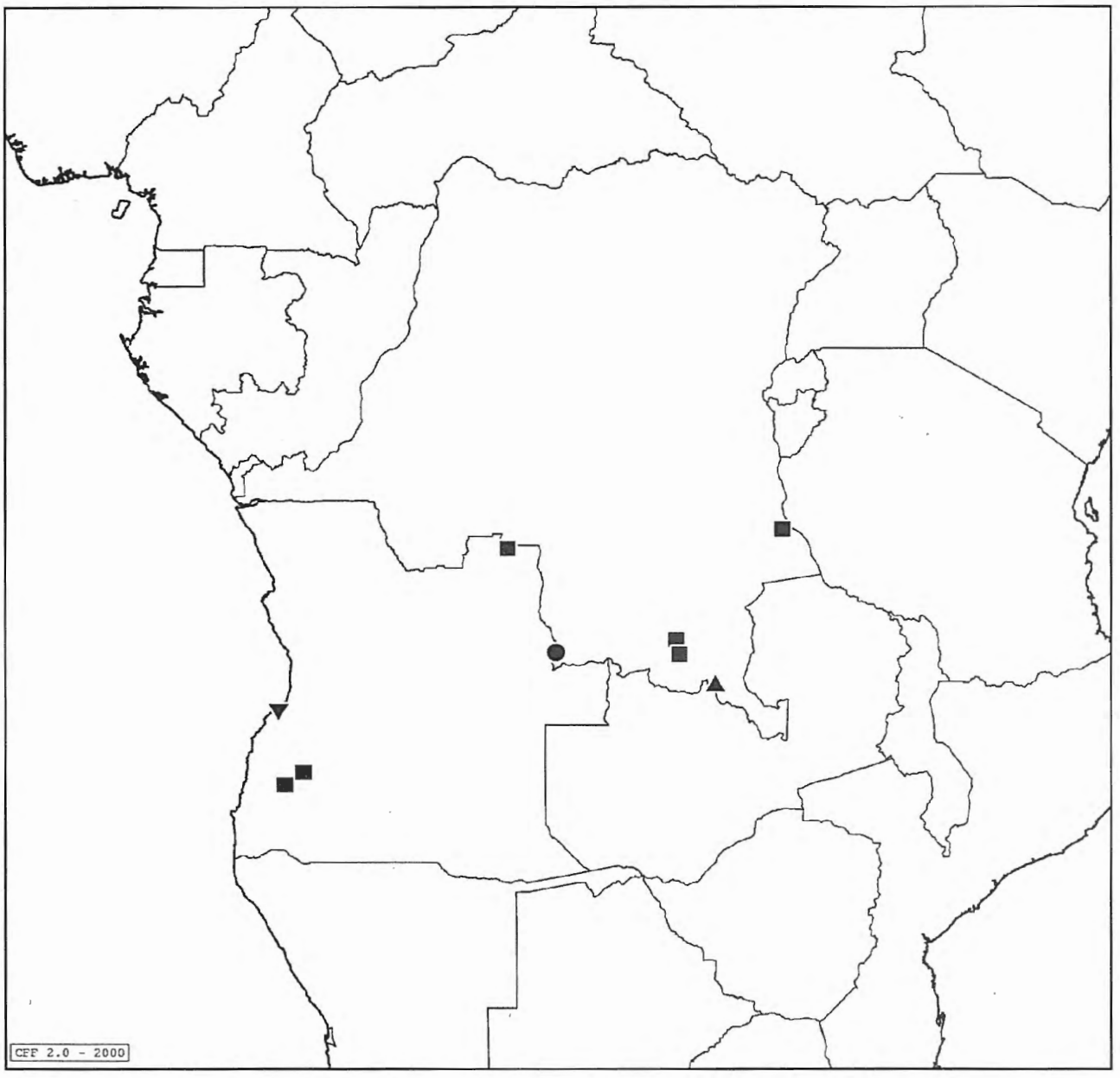
Fig. 4 — A-D. *Mesonitys taeniata*, genitalia ♂. **A.** pygofer, anal tube and gonostyli, left lateral view (An – anal tube; G – gonostyli; P – pygofer). **B.** anal tube, dorsal view. **C.** phallic complex, left lateral view. **D.** phallic complex, dorsal view. Scale 1 mm.

Legs: brownish red with apex of tibiae and tarsi I and II, apex of tibial lateral and apical spines and of tarsal segments of legs III, blackish.
Abdomen: dorsal face dark brownish red with intersegmental membranes rosy; ventral face rosy, sometimes with segments brownish; genitalia blackish.
Genitalia ♂: pygofer narrowing on dorsal half and broader in middle in lateral view; gonostyli about 1.5 times higher than broad in lateral view, rounded apically; anal tube about as long as broad in dorsal view; styles of aedeagus bearing lateral hook close to base directed cephalad; phallic complex: see figs 4 A-B.

BIOLOGY: the species has been collected at altitudes varying from 700 to 1810 meters. One specimen was caught at light trap. It is widely distributed in central Africa and seems to be present as adults throughout the year with the lowest numbers between May and August.

Discussion

The genus *Mesonitys* SCHMIDT, 1908 is one of the afrotropical genera of Platybrachyinae: Platybrachyini. It is closely related to the genus *Aspidonitys* KARSCH,

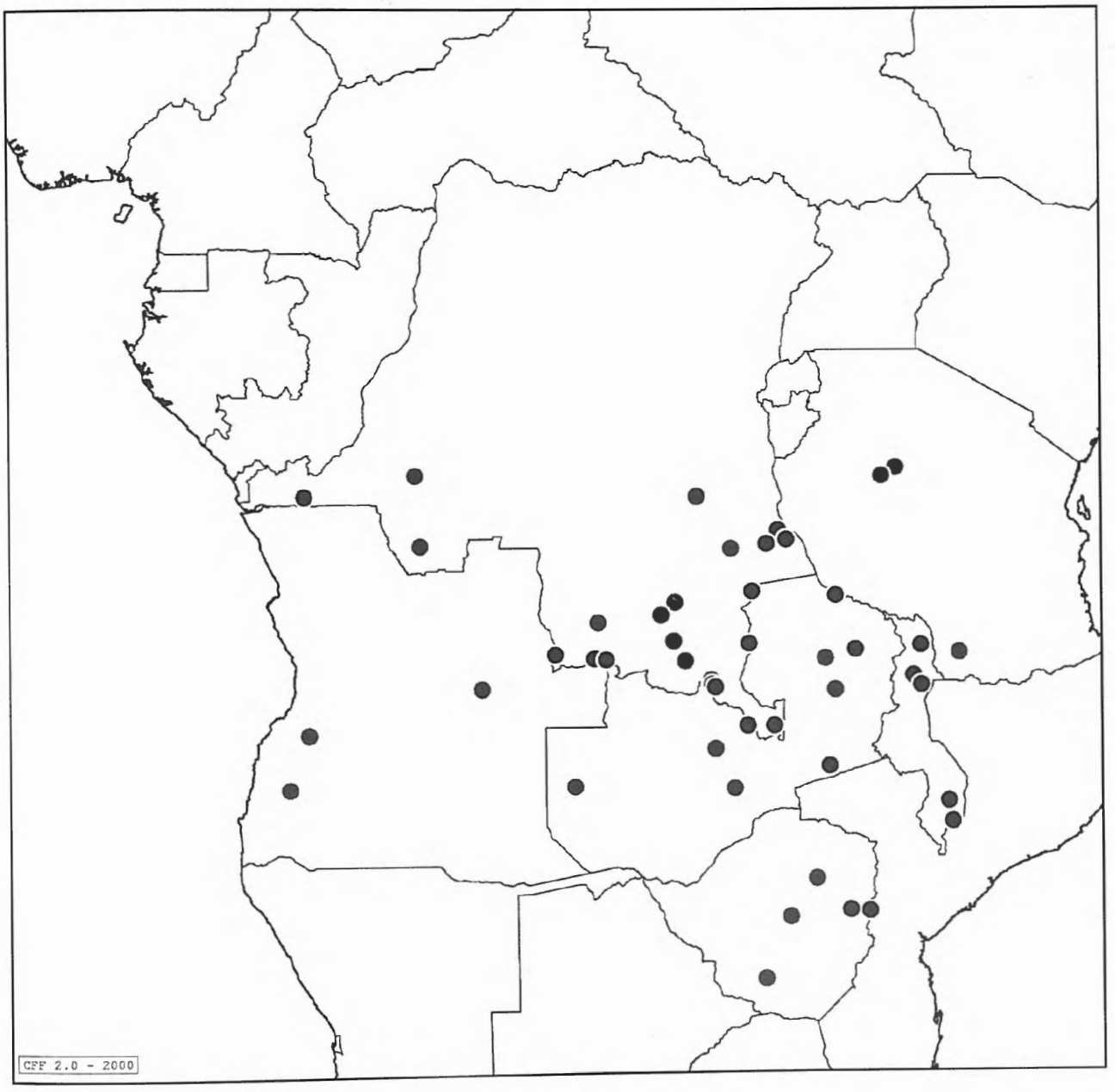


● ***Mesonitys ephialtes Fennah***
▲ ***Mesonitys fletcheri***
■ ***Mesonitys hecqi***
▼ ***Mesonitys membranipicta Schmidt***

Fig . 5 — Distribution of *Mesonitys ephialtes*, *M. fletcheri*, *M. hecqi* and *M. membranipicta*.

1895 which also shows the same peculiar case of sexual dimorphism in the shape of the last segment of labium which is strongly dilated in males. The significance of such dimorphism is unknown and we can only hypothesize that males and females may have different feeding habits, but this needs further field investigation. In the 304 specimens examined, 85 (28%) are males and 219 (72%) are females. Such a sex ratio can be natural but could as well be a collecting artefact due to different habits in the natural history of the males and females.

The study of this genus suffers from the lack of material for several species (e.g.: *M. ephialtes*, *M. fletcheri* and *M. membranipicta*) which are only known by single male or female specimens. Recent material is also very scarce in collections: only 12 out of more than 300 specimens examined have been collected after 1970, with 6 of those 12 specimens collected by Mr Raymond Murphy in Malawi between 1999 and 2002. Wars and political trouble in the region are probably among the main reasons for the lack of recent material. Further material, especially series with males and females, is necessary to clarify the relative position of *M. hecqi* and *M. membranipicta* (it is not impossible that *hecqi* is a pale form of *membranipicta*), and the male of *M. fletcheri* as well as the female of *M. ephialtes* are still to be discovered and described.



Mesonitys fuelleborni Schmidt

Fig . 6 — Distribution of *Mesonitys fuelleborni*.

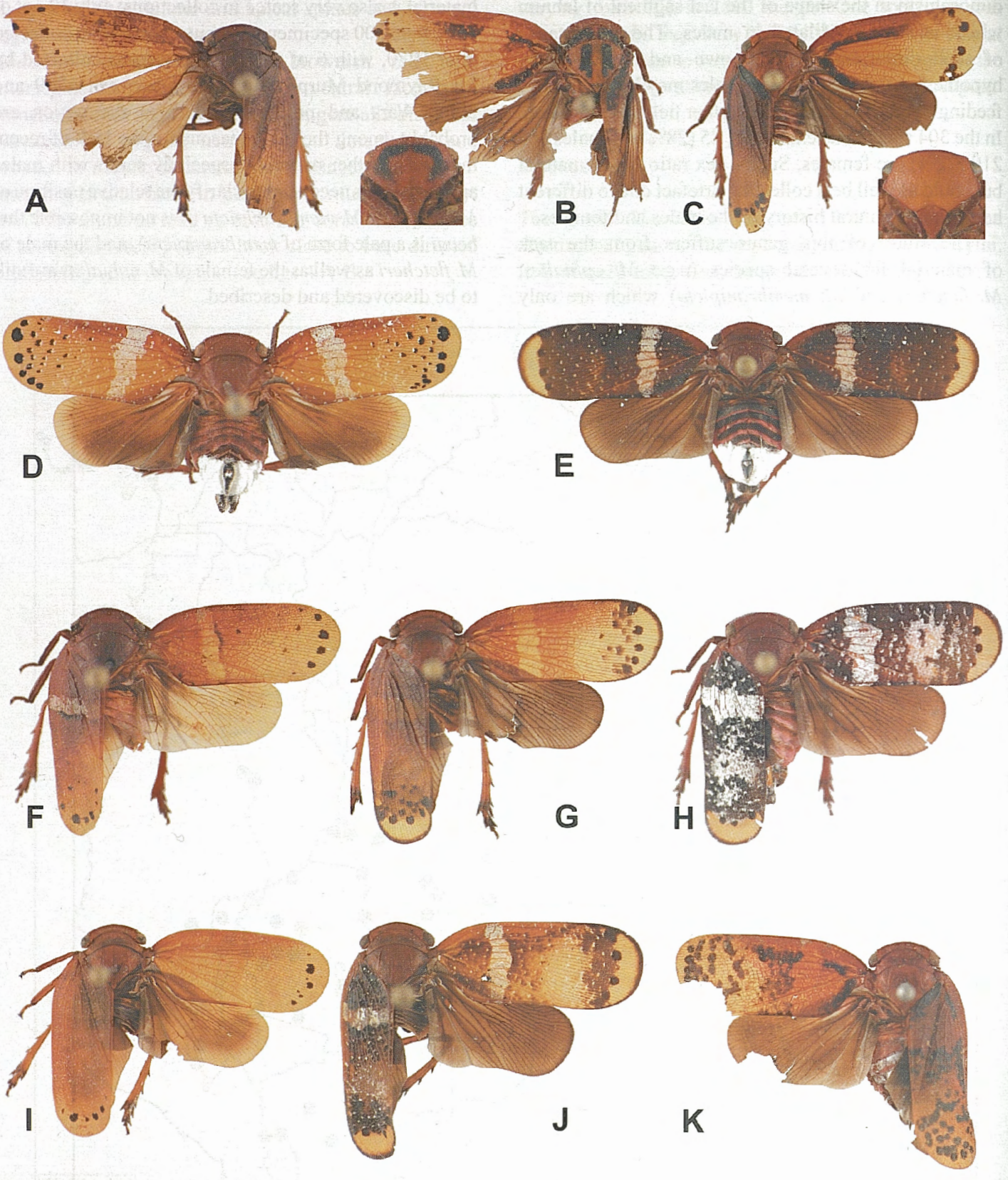
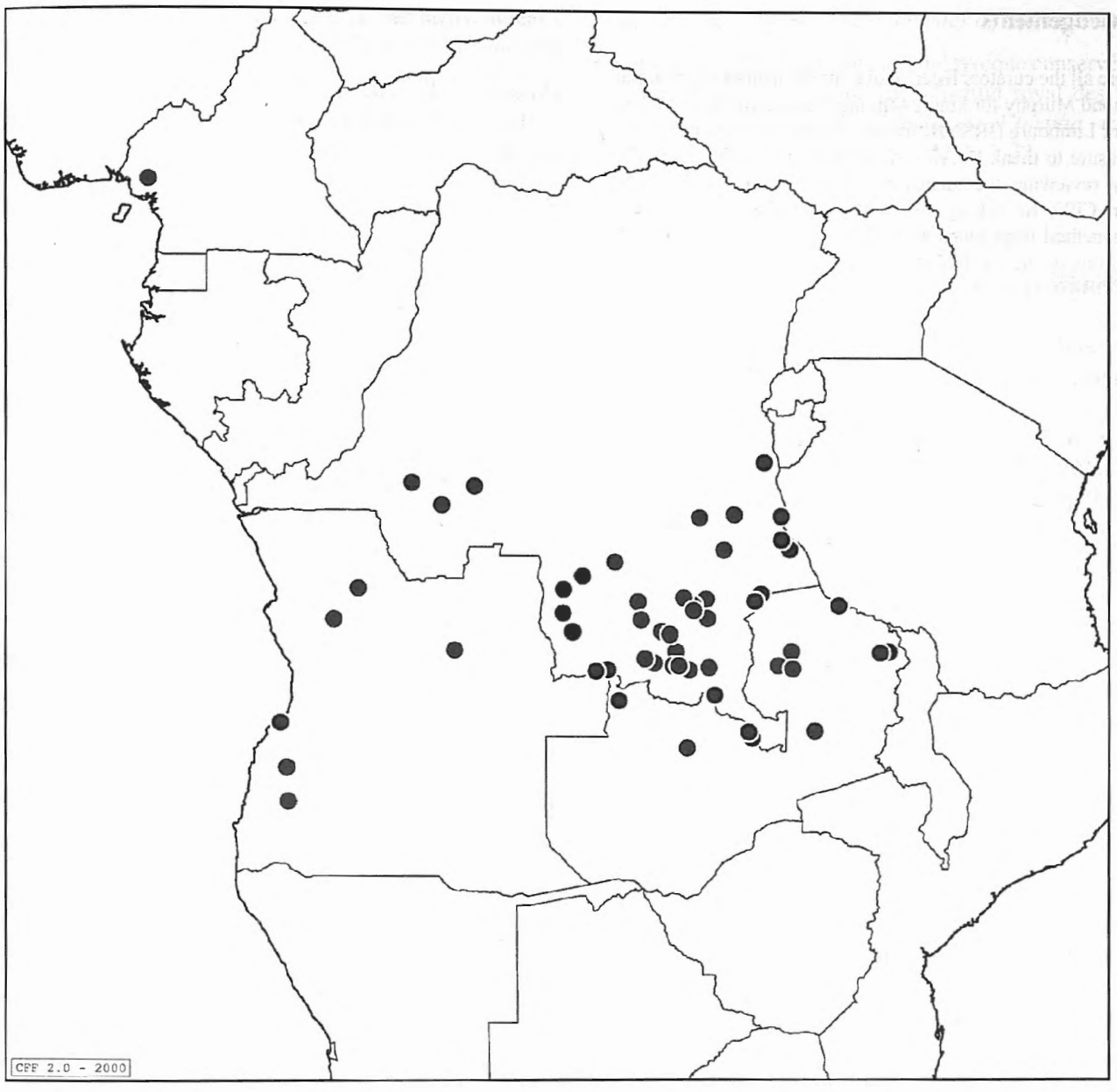


Plate 2 — A-K *Mesonitys*. **A.** *M. ephialtes* ♂ (LT extrapolated: 12 mm). **B.** *M. fletcheri* ♀ (LT extrapolated: 17.4 mm) + frons. **C.** *M. hecqi* ♀ (LT: 14.8 mm) + frons. **D.** *M. fuelleborni* ♀ (wingspan: 30.0 mm). **E.** *M. taeniata* ♀ (wingspan: 30.6 mm). **F.** *M. fuelleborni* ♀ (LT: 14.0 mm). **G.** *M. taeniata* ♀ (LT: 15.8 mm). **H.** *M. taeniata* ♀ (LT: 15.4 mm). **I.** *M. taeniata* ♂ (LT: 14.4 mm). **J.** *M. taeniata* ♂ (LT: 14.6 mm). **K.** *M. membranipicta* ♀ (LT: 16.8 mm).



Mesonitys taeniata (Schmidt)

Fig . 7 — Distribution of *Mesonitys taeniata*.

Identification key to the females

Notes: (**1**) *Mesonitys ephialtes* is not included in this key as it is known from a single male; (**2**) identification key to the males is not proposed as they must be identified by the genitalia.

1. Thorax and frons brownish red without black markings.....**2.**
- Thorax and frons brownish red with black markings.....*M. fletcheri*

2. Tegmina with apical margin concolorous, not marked by a black line.....**3.**
- Tegmina with apical margin marked by a black line; hind wings entirely blackish brown.....*M. taeniata*

3. Tegmina without black line on clavus along mesonotum, with subapical row of 4-6 large black spots, hind wings often paler apically.....*M. fuelleborni*
- Tegmina with black line on clavus along mesonotum .....**4.**

4. Apical third of tegmina covered with numerous black, coalescent spots; black line along veins Sc and R discontinuous.....
.....*M. membranipicta*
- Apical third of tegmina with subapical row of 4-6 black spots and sometimes brown markings; black line along veins Sc and R continuous.....*M. hecqi*

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