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REVISION OF THE EURYBRACHIDAE (VI). THE AUSTRALIAN GENUS *NIRUS* JACOBI, 1928 (HEMIPTERA: FULGOROMORPHA: EURYBRACHIDAE)

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Abstract.— The Australian genus of Eurybrachidae (Hemiptera: Fulgoromorpha) *Nirus* Jacobi, 1928 is redescribed and reviewed. Lectotype and paralectotype for *Nirus corticeus* Jacobi, 1928 are designated. The male genitalia is illustrated and photos of habitus and distribution map are provided.

Key words.— Australian region, Eurybrachidae, revision, *Nirus*, lectotype, paralectotype.

INTRODUCTION

This paper is the sixth one of a series intended to revise the family Eurybrachidae and the third one to deal with the Australian fauna (Constant 2005c, 2006); others dealing with Afrotropical fauna (Constant 2004, 2005a, b).

This study starts with the one-by-one revision and redefinition of the genera and will result in a proposal of a more natural classification in the family. This will also allow tentative understanding of the phylogeny and zoogeography of the family.

The main goal of this paper is to clarify the distinctive features of the monotypic genus *Nirus* in order to avoid misidentifications that have been observed in several collections, probably due to the use of an identification key to the Platybrachyini proposed by Fennah (1964) that can lead to confusion with some other genera showing superficial resemblance to *Nirus* (e.g., the colour and shape of the tegmina, the frons traversed by a furrow...) but that are very different in the shape of the male genitalia (e.g., phallic complex does not bear latero-ventral spinose processes in *Nirus*) and the concavity of the frons.

Despite considerable investigation in the collections from Australia and worldwide, no additional material has been found of this peculiar genus that does not show very close affinities with any other genus of Eurybrachidae. For this reasons, *Nirus* is here treated on its own.

Historical review. In 1928, Jacobi created the genus *Nirus* for one new species, *N. corticeus* collected in Northern Queensland by the Swedish Scientific Expedition of Dr. E. Mjöberg to Australia (1910–1913). No supra-generic placement was proposed by Jacobi.

The genus was placed in the Platybrachyinae, tribe Platybrachyini by Metcalf (1956).

This tribe was defined by Schmidt (1908) with the following distinctive features: (**1**) clavus closed with veins A_1 and A_2 fused before apex of clavus, (**2**) no infra-ocular spine.

Finally the genus was mentioned in Fennah's (1964) [incomplete] key to the genera of Platybrachyini with the following distinctive features: (**1**) tegmina with Cu_1 forked at, or very near, nodal line of cross-veinlets, (**2**) tegmina with M not forked [very] close to base, (**3**) no evident process on lower margin of eye, (**4**) antennae not surpassing eyes, or, if doing so, elongate and swollen, (**5**) frons traversed from side to side medially by a furrow, (**6**) tegmina relatively narrow, distally tapering or sinuate, (**7**) second segment of antennae not elongate and swollen, not surpassing eyes.

MATERIAL AND METHODS

The types of the single described species have been studied and the genitalia of both known males have been checked. The dissection of the genitalia is proceeded after boiling the abdomen in glacial acetic acid for a few minutes. The pygofer is then separated from the abdomen and boiled for about one hour in a 10% solution of potassium hydroxide (KOH) with some drops of aqueous solution of chlorazol black. The genitalia have been placed under the specimen in glycerin.

Hind wings have also been mounted: they have been glued on transparent plastic rectangles with water-soluble Hoyer's liquid.

Lectotypes have been designated. For the labels of the types, each single label is limited by square brackets.

The species is redescribed and the genitalia as well as other characters useful for identification are illustrated. A distribution map produced by the software *CFF* (Barbier and Rasmont 2000) and photos of habitus are also provided.

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 tegmen, 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 tegmen, LV – length of the vertex.

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

NHRS – Naturhistoriska Riksmuseet, Stockholm, Sweden (B. Viklund);

SMTD – Staatliches Museum für Tierkunde, Dresden, Germany (R. Emmrich).

TAXONOMY

Nirus Jacobi, 1928

Nirus Jacobi, 1928: 7.
Nirus Jacobi, 1928: Metcalf 1956: 67.
Nirus Jacobi, 1928: Fennah 1964: 159.

Type species. *Nirus corticeus* Jacobi, 1928, by monotypy.

Diagnostic characters. Medium sized, greyish brown coloured. Immediately recognized among Australian genera by the frons that is transversely concave.

Description. General coloration: mainly greyish brown. Length of male 12 mm.

Head about as broad as thorax; vertex 3.2–3.5 times broader than long, distinctly concave transversely, slightly concave longitudinally; fore and hind margins carinate and curved; frons 1.9–2.0 times broader than long, transversely concave with peridiscal carina clearly distinct on dorsal half and dorsal margin straight in normal view; disc longitudinally wrinkled; clypeus elongate, reaching median trochanters; labium long, surpassing hind coxae; last segment long, pointed and slender, more slender than penultimate; no infraocular spine; ocelli absent; antennae surpassing lateral angle of frons; angles of frons not visible in dorsal view; scape short, pedicel longer than broad, subcylindrical.

Thorax about 1.1–1.2 times broader than length of pro- and mesonotum together; pronotum with medioanterior strong impression and slighter impression on each side of disc; hump in middle of hind part of disc; hind margin sinuate; mesonotum with longitudinal carina on each side of disc and median, obsolete, smooth carina marked by darker line.

Tegmina nearly flat, about 3 times longer than broad; costal margin sinuate; apex wedge-shaped; clavus closed. Veins and cross-veins carinate on basal $^2/_3$. Vein C obsolete, barely visible on anterior part; veins Sc and R separated close to base; first fork of vein M beyond Sc+R separation; vein Cu diverging from claval suture, forked and strongly curved internally at level of apex of clavus; claval veins A_1 and A_2 fused before apex of clavus.

Hind wings well developed; apex roundly truncate; sutural margin sinuate; anal area well developed; brown with white markings; base red.

Legs: fore and median femur and tibia dorso-ventrally flattened, elongate, not foliaceous; tibia III with 3 lateral and 9 apical spines and oblique carina near base on outer face; first hind tarsomere elongate, ventral face without pad of microsetae, bearing group of 11 spines apically.

Male genitalia: pygofer rather short, higher than long in lateral view; anal tube dorso-ventrally flattened; gonostyli laterally flattened, bearing spiralate process on anterior part of dorsal margin and long, hook-shaped process on ventral face; phallic complex reduced, without spinose process.

Distribution. North-Eastern Australia.

Nirus corticeus Jacobi, 1928
(Figs 1A–E, 2–6)

Nirus corticeus Jacobi, 1928: 7, fig. 3.
Nirus corticeus Jacobi, 1928: Metcalf 1956: 67.

Etymology. *corticeus* (Latin), from *cortex, -icis* = bark. It is here assumed that the name refers to the bark-like aspect of the species.

Types examined. Lectotype ♂ of *Nirus corticeus* Jacobi, 1928 **present designation**: labeled [Typus];

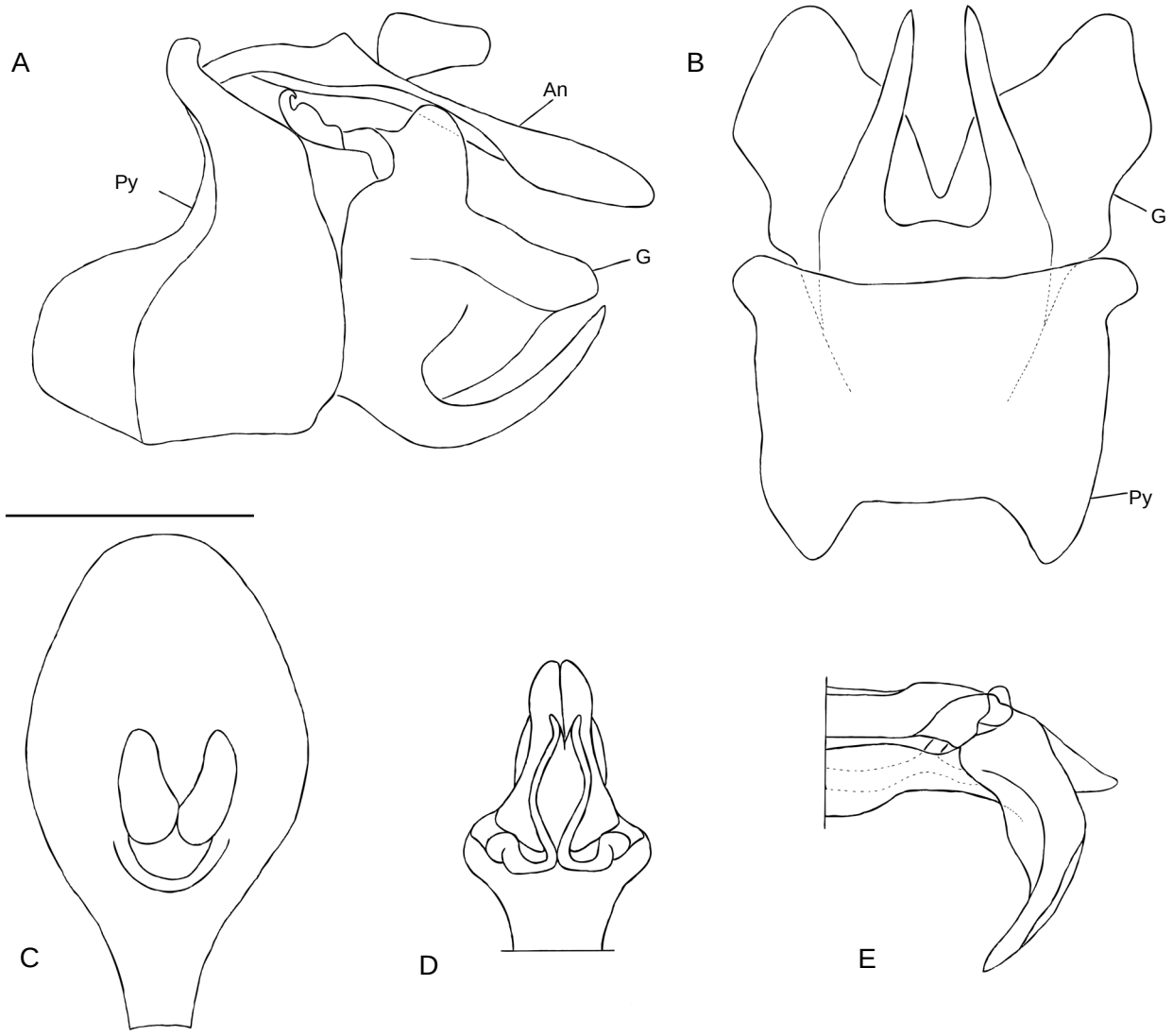


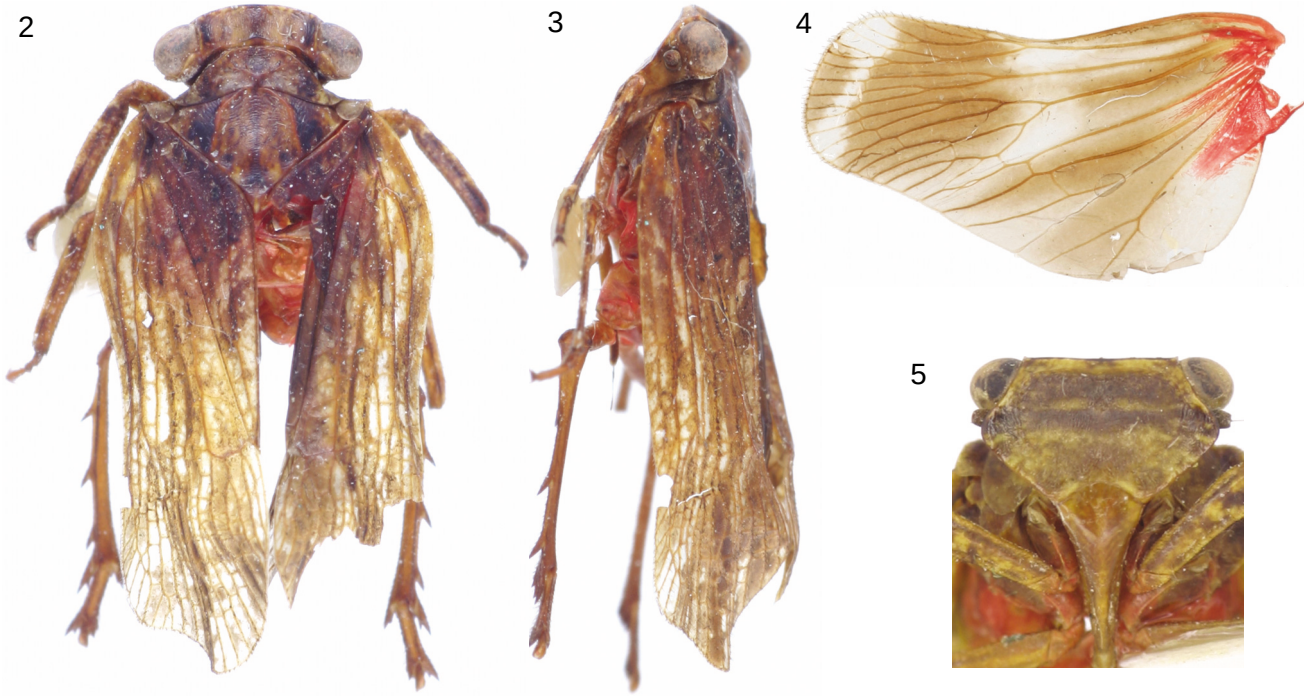
Figure 1. A–E. *Nirus corticeus*, male genitalia. (A) Pygofer, anal tube and gonostyli, left lateral view (An – anal tube, G – gonostyli, Py – pygofer); (B) pygofer and gonostyli, ventral view; (C) anal tube, dorsal view; (D) phallic complex, dorsal view; (E) phallic complex, left lateral view. Scale: 1 mm.

[Typus]; [Laura]; [Queensl. *Mjöberg*]; [*Nirus corticeus* Jac., A. Jacobi determ.]; [Lectotype ♂ *Nirus corticeus* Jacobi, 1928, J. Constant des., 2006] – dissected, genitalia in glycerine; left hind wing mounted; both tegmina with apex damaged, right hind leg missing, left hind wing damaged [NHRS].

Paralectotype ♂ of *Nirus corticeus* Jacobi, 1928 **present designation**: [co-Typus]; [Alice river]; [Queensl. *Mjöberg*]; [sept.]; [1927 5]; [*Nirus corticeus* Jac., A. Jacobi determ. 1903]; [Paralectotype ♂ *Nirus corticeus* Jacobi, 1928, J. Constant des., 2006] – dissected, genitalia in glycerine; left hind wing mounted; left tegmen damaged [SMTD].

Diagnosis. Only species of the genus.

Description. LT: ♂ (n = 1): 12.0 mm. Head variegated greyish brown with one median and 2 lateral dark stripes on vertex; 2 transverse, dark bands on dorsal half of frons; ratio BV/LV = 3.2–3.5; BF/LF = 1.9–2.0. Thorax variegated greyish brown with dark median stripe on pro- and mesonotum; mesonotum darker on each side, beyond carinae; scutellum with median, paler stripe; metasternum red; ratio LP+LM/BT = 0.84–0.89. Tegmina variegated greyish brown with clavus and base of discal veins darker; irregular, translucid patches distributed all over; ratio LTg/BTg = 3.12. Hind wings brown with base sanguineous; apex of anal area and 2 elongate patches on middle of disc, translucid; ante-apical, transverse band, white. Legs variegated greyish brown with coxae and trochanters partly red; legs III more unifomly coloured than I and II. Abdomen bright red. Male genitalia: pygofer higher than long in lateral view; gonostyli with hooked, spiralate process directed cephalad at antero-dorsal angle, broad, fused ventrally and bearing



Figures 2–5. *Nirus corticeus*. (2) Habitus, dorsal view; (3) habitus, left lateral view; (4) left hind wing, dorsal view; (5) frons, normal view.

ventrally strong, elongate process curved postero-dorsal; anal tube dorso-ventrally flattened, oval shaped and pedonculate basally; phallic complex: see Figs 1. D–E.

Biology. The species seems to be restricted to the Northern Queensland, South of the Cape York Peninsula.

DISCUSSION

The genus *Nirus* is easily recognizable among the Australian Eurybrachidae. Metcalf (1956) and Fennah (1964) placed the genus in the Platybrachyini and this is provisionally followed here although it is clear that the suprageneric classification of Eurybrachidae will have to be reconsidered.

The study of females of *N. corticeus* and the identification of the host-plant(s) could also provide pertinent informations for the placement of the genus.

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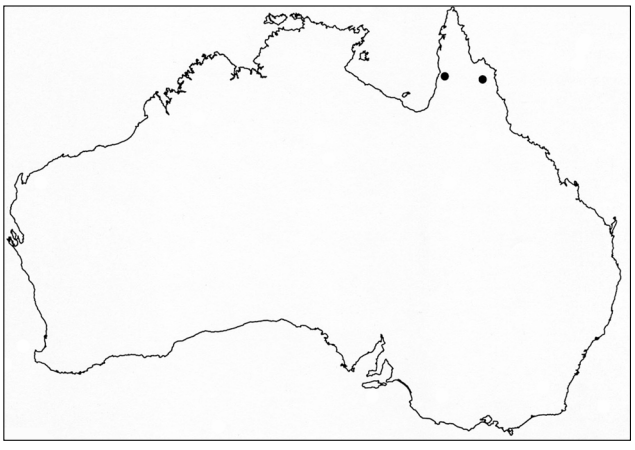

Figure 6. Distribution of *Nirus corticeus*.

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