

REVISION OF THE EURYBRACHIDAE (XIV). THE NEW AUSTRALIAN GENUS *LOISOBRACHYS* (HEMIPTERA: FULGOROMORPHA)

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Abstract.— The new genus *Loisobrachys* is described for a new species from Eastern Australia, *Loisobrachys convexa* **sp. nov.** The female genitalia are illustrated and photos of habitus and a distribution map are provided with the description of the species. The suprageneric position is discussed and the new genus is provisionally placed in the tribe Patybrachyini Schmidt, 1908.



Key words.— Patybrachyini, *Acacia*, *Hackerobrachys*, Rockhampton, Queensland.

INTRODUCTION

This paper is the fourteenth of a series intended to revise the family Eurybrachidae. This study starts with the one-by-one revision and (re)definition 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.

In this paper, *Loisobrachys* is created for a new species known from a single female presenting a peculiar combination of characters and that is closest in relation to *Hackerobrachys* Constant, 2006.

MATERIALS AND METHODS

The genitalia are extracted after boiling the abdomen for about one hour in a 10% solution of potassium hydroxide (KOH) at about 100°C. Some drops of saturated alcoholic chlorazol black solution have been added to contrasting the organs. The pygofer is separated from the abdomen and both are then placed in glycerin.

The description of the female genitalia follows Bourgoin (1993) with some additions from the studies

of Soulier-Perkins (1997) and Soulier-Perkins and Bourgoin (1998) on the family Lophopidae. The nomenclature of the veins of the tegmina follows Soulier-Perkins (1997).

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

For the labels of the type, the wording on each single label is limited by 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.

Acronym used for the collection (name of the curator in parentheses).

RBINS – Royal Belgian Institute of Natural Sciences, Brussels, Belgium (P. Grootaert).

TAXONOMY

Loisobrachys gen. nov.

Type-species. *Loisobrachys convexa* sp. nov. by monotypy and original designation.

Etymology. The name is formed by the juxtaposition of Lois, in honour of “Mother Fulgoromorpha”, Dr. Lois B. O’Brien (USA), whom I wish to thank for her permanent and enthusiastic support, and *brachys* (Greek) = short, which is a common ending of the generic names among the Eurybrachidae. The gender is arbitrarily feminine following the use within the family.

Diagnosis. Small sized (8–9 mm), brown, convex insects (Figs 8, 9). The genus can be recognized by the following combination of characters: (1) frons strongly convex, two times broader than long (Figs 2, 8, 9), (2) tegmina convex (Figs 1, 8, 9), (3) first fork of vein M

before Sc-R separation (Fig. 1), (4) first fork of Cu beyond level of A1-A2 fusion (Fig. 1), (5) clavus closed (Fig. 1), (6) hind wings well developed, brown without white or red marking (Fig. 10), (7) abdomen and metasternum bright red (Figs 9, 11), (8) ventral face of first hind tarsomere without pad of microsetae (Fig. 4). Restricted to Australia.

The only other Australian genus showing a strongly convex frons and no pad of microsetae on the first hind tarsomere is *Hackerobrachys* Constant, 2006, but it has flat tegmina, a more transverse vertex, the abdomen not red and the first fork of vein M beyond the Sc-R separation (Constant, 2006b).

Description. General coloration: brown with white waxy markings.

Head: as broad as thorax (Fig. 8); vertex about three times broader than long, slightly convex and longitudinally wrinkled, with margins not or very slightly carinate (Fig. 8); frons slightly wrinkled, about twice as broad as long, strongly convex longitudinally and transversely, sparsely covered with erect pilosity; upper margin straight in normal view (Figs 2, 9); clypeus elongate, reaching anterior coxae (Fig. 2); labium short, reaching median trochanter, with last segment shorter and more narrow than penultimate (Fig. 3); ocelli absent; no infra-ocular spine on gena; antennae short, not surpassing eye and not visible in dorsal view, with scape very short and pedicel subglobular.

Thorax: about 1.25 times broader than length of pro- and mesonotum together; mesonotum three times as long as pronotum; pronotum with anterior carina parallel to anterior margin; pronotum without longitudinal carina; mesonotum with slight carina on each side of disc.

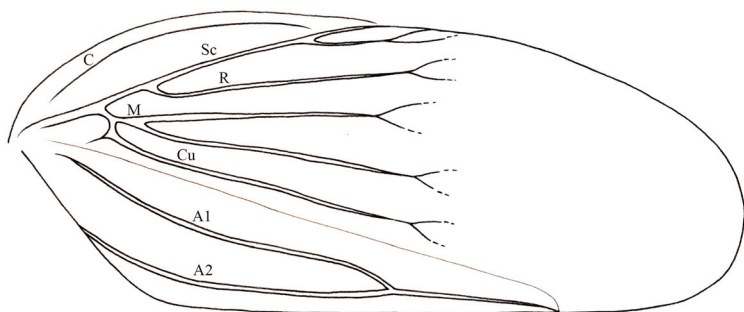
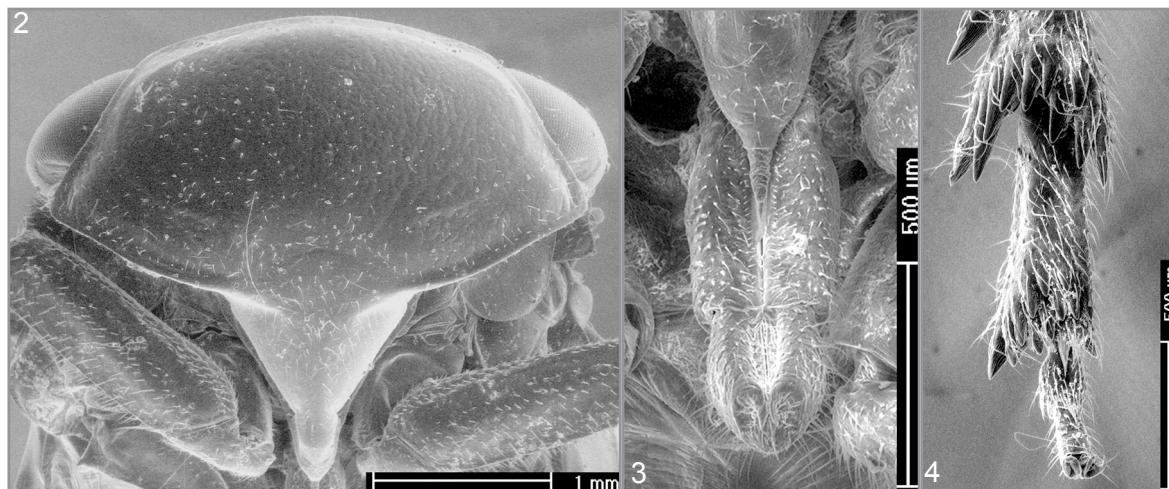


Figure 1. *Loisobrachys convexa*, main veins of right tegmen. A1: anal vein 1; A2: anal vein 2; C: costal vein; Cu: cubital vein; M: median vein; R: radial vein; Sc: subcostal vein.



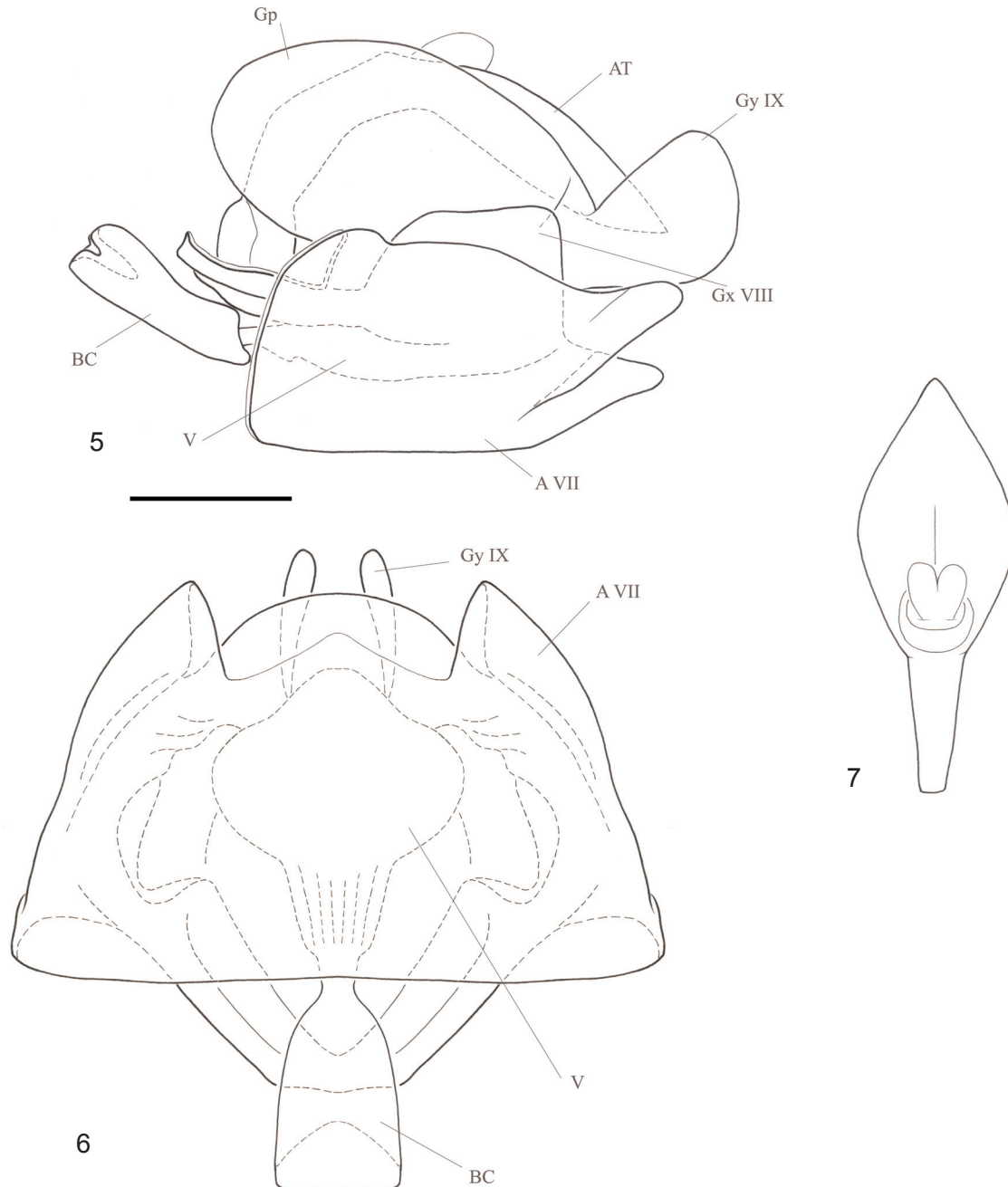
Figures 2–4. *Loisobrachys convexa*. (2) frons, normal view; (3) labium, ventral view; (4) hind tarsus, ventral view.

Tegmina: strongly convex, about 2.3 times longer than broad; clavus closed, elongate, reaching $\frac{3}{4}$ of tegmen length; apex rounded (Figs 1, 8, 9).

Venation (Fig. 1): vein C slightly visible on anterior half; veins Sc and R separated close to base; first fork of vein M before Sc-R separation; first fork of vein Cu slightly beyond level of A1-A2 fusion; veins A1 and A2 fused at $\frac{2}{3}$ of clavus length.

Hind wings: well developed, broader than tegmina; about 1.7 times longer than broad, not reaching apex of tegmina at rest; anal area well developed; apex rounded; maximal breadth at half length; uniformly brown (Fig. 10).

Legs: I and II with femur and tibia dorso-ventrally flattened, elongate and slender (Fig. 8); hind tibia with 3 lateral (Fig. 8) and nine-ten apical spines (Fig. 4);



Figures 5–7. *Loisobrachys convexa*, genitalia ♀. (5) left lateral view; (6), ventral view (external); (7) anal tube, dorsal view. *A VII*: abdominal segment VII; *AT*: anal tube; *BC*: bursa copulatrix; *Gp*: gonoplac; *Gx VIII*: gonocoxa VIII; *Gy IX*: gonapophysis IX; *Sp*: spermatheca; *V*: vagina. Scale 1 mm.

first hind tarsomere elongate, without pad of microsetae and bearing group of nine-ten spines ventrally near apex (Fig. 4).

Genitalia ♀: anal tube elongate and narrow, curved postero-ventrad, slightly v-shaped in cross section beyond anus, lanceolate in dorsal view, laminate ventrally (Figs 5, 7); gonoplaes unilobous, projecting dorso-laterad, longer than high, not surpassing anal tube (Fig. 5); gonapophysis IX large, apically rounded and curved dorsad; gonocoxae VIII looking like large inflated pouch (Fig. 5); gonapophysis VIII large, dorso-ventrally flattened, fused together and with sternite VII, rounded at apex (Figs 5, 6); sternite VII produced caudad, strongly emarginate apically; gonapophysis VIII visible ventrally in sternite VII emargination (Figs 5, 6); anterior vagina small, membranous; posterior vagina strongly sclerified, broader basally, bearing strong longitudinal ridges on anterior half (Fig. 6); bursa copulatrix attached anteriorly, small, dorso-ventrally depressed, elongate, produced ventrally at base before vaginal connection, larger than posterior vagina (Figs 5, 6); walls bearing weak ornamentation.

Note. The median carina on the mesonotum may be present but has not been observed because the mesonotum is damaged by the insect pin.

Loisobrachys convexa sp. nov.
(Figs 1–12)

Etymology. *Convexa* (adj., Latin) = convex. The name refers to the general aspect of the species.

Material examined. Holotype ♀: Australia, Queensland, labelled: [Coll. I.R.Sc.N.B., Australie, Rockhampton] [R.I.Sc.N.B., I.G. 17.865] [Holotype ♀ *Loisobrachys* n. g. *convexa* n. sp. Jérôme Constant

det. 2008]. *dissected, genitalia in glycerine; right hind wing mounted* (RBINS). Coordinates of Rockhampton: 23°23'S 150°30'E.

Note. the code 17.865 is the registration number of a lot of Homoptera (mainly Membracidae) sold by Dr. Victor Lallemand to RBINS.

Diagnosis. Only species of the genus.

Description. LT: ♀ (n = 1): 8.6 mm.

Head: yellowish with clypeus, labium and antennae brown (Figs 8, 9); ratio BV/LV = 3.0; BF/LF = 2.0.

Thorax: pro- and mesonotum yellowish brown; brownish ventrally with metasternum red (Figs 8, 9); ratio LP+LM/BT = 0.79; LM/LP = 3.0.

Tegmina: pale brown, slightly paler apically, marked with spots of white waxy secretion; median transverse band of white waxy secretion (Figs 8, 9); ratio LTg/BTg = 2.3.

Hind wings: brown with anal area slightly paler (Fig. 10).

Legs: all legs yellowish brown (Figs 8, 9).

Abdomen: bright red with genitalia brownish (♀) (Fig. 11).

Biology. Nothing is known of the biology of this species which has only been found in Rockhampton (Fig. 12).

It is possible that it feeds on some species of *Acacia* (Mimosaceae), like the species of the closely related genera *Hackero-brachys* Constant, 2006, *Gelastopsis* Kirkaldy, 1906 and *Kirkaldybrachys* Constant, 2006 (Constant, 2005, 2006a and 2006b).

DISCUSSION

The genus *Loisobrachys* is a member of the same group and has the greatest affinities with *Hackero-brachys*.



Figures 8–11. *Loisobrachys convexa* ♀. (8) dorsal view; (9) right lateral view; (10) right hind wing; (11) abdomen, dorsal view. AT: anal tube; Gp: gonoplae.

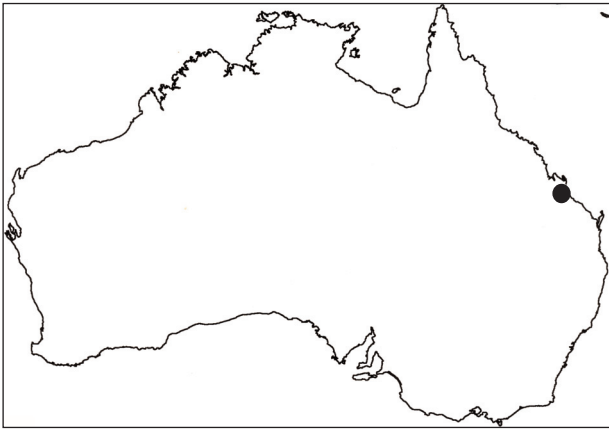


Figure 12. Distribution map. *Loisobrachys convexa* in Eastern Australia.

If the present classification (Schmidt, 1908; Metcalf, 1956) is followed, the genus should be placed in the Platybrachyini [the main features of the Platybrachyini as defined by Schmidt (1908) are: (1) clavus of the tegmina closed, and (2) no infra-ocular spine]. This classification is provisionally followed here although it is clear that the suprageneric classification of Eurybrachidae requires revision.

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