

## Synopsis of the genus *Nyctibora* Burmeister, with description of two new species from Rio de Janeiro, Brazil (Ectobiidae, Nyctiborinae)

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**Abstract:** Two new species of *Nyctibora* are described and considered similar to *Nyctibora sericea*. Coloration, morphology and genital pieces of males were analyzed. All the studied material shall be deposited in the Museu Nacional.

**Keywords:** Blattodea, New species, *Nyctibora*, Taxonomy.

LOPES, S.M., ASSUMPÇÃO, M. Sinopse do gênero *Nyctibora* Burmeister, com descrição de duas novas espécies do Rio de Janeiro, Brasil (Ectobiidae, Nyctiborinae). *Biota Neotropica*. 16(1): e0118. <http://dx.doi.org/10.1590/1676-0611-BN-2015-0118>

**Resumo:** Duas espécies novas de *Nyctibora* são descritas, similares à *Nyctibora sericea*. Dados sobre coloração, morfologia e peças genitais dos machos foram analisados. Todo o material estudado se encontra depositado no Museu Nacional.

**Palavras-chave:** Blattodea, Espécies novas, *Nyctibora*, Taxonomia.

### Introduction

The genus *Nyctibora* was described by Burmeister in 1838, based on morphological characters of the head, antennae and pronotum; the tegmen often reaching beyond the apex of the abdomen; legs with very spiny femora; pulvilli developed, occupying almost completely the second quarter of tarsal articles; arolia present; supra-anal plate differentiated, with cerci widened, short and tomentose, as a basic characteristic. Rehn (1951), after delimiting tribes within the subfamily Nyctiborinae, placed *Nyctibora* in the tribe Nyctiborini, based on *Nyctibora noctivaga* Rehn, 1903, and characterized it based on the costal and subcostal veins of the tegmen.

Nyctiborinae includes 10 genera and 70 species, of which 32, distributed from Mexico to Argentina, are classified in *Nyctibora*. According to Vélez-Bravo & Franz (2011 in: Salazar & Maláver, 2012) Nyctiborinae can be considered paraphyletic, but more characters are necessary to confirm the position of *Muzoa* Hebard, 1921 outside the subfamily, they divided Nyctiborinae into two groups. Group 1 includes *Muzoa* Hebard, 1921, *Megaloblatta* Dohrn, 1887, *Eushelfordia* Hebard, 1924 and *Paratropes* Serville, 1839 and Group 2 includes *Pseudoischmoptera* Saussure, 1869, *Eumyctibora* Shelford, 1908 and *Nyctibora* Burmeister, 1838. They did not include *Eushelfordiella* Lopes & Oliveira, 2007, *Nyctantonina* Vélez, 2013 and *Paramuzoa* Roth, 1973 in their revision. Salazar & Maláver (2012) supported the results and called them the “true phylogeny of the subfamily”. The results were based on a cladistic analysis of 53 genital characters scored from 24 species.

About half the members of the genus are diurnal, which is rare among Blattodea (Bell et al., 2007). Examples are *Paratropes*, *Eumyctibora* and *Eushelfordia*, which can be collected from vegetation during the day. Most nyctiborines are detritivores, consuming decomposing plant matter. Some species of *Nyctibora* prefer dead animals, whereas species of *Paratropes* feed on pollen and nectar (Perry 1978). According to Salazar & Maláver (2012), the taxonomy of *Nyctibora* is still poorly understood.

Two new species from the state of Rio de Janeiro, *Ny. bromelicola* and *Ny. isoldae*, are described here.

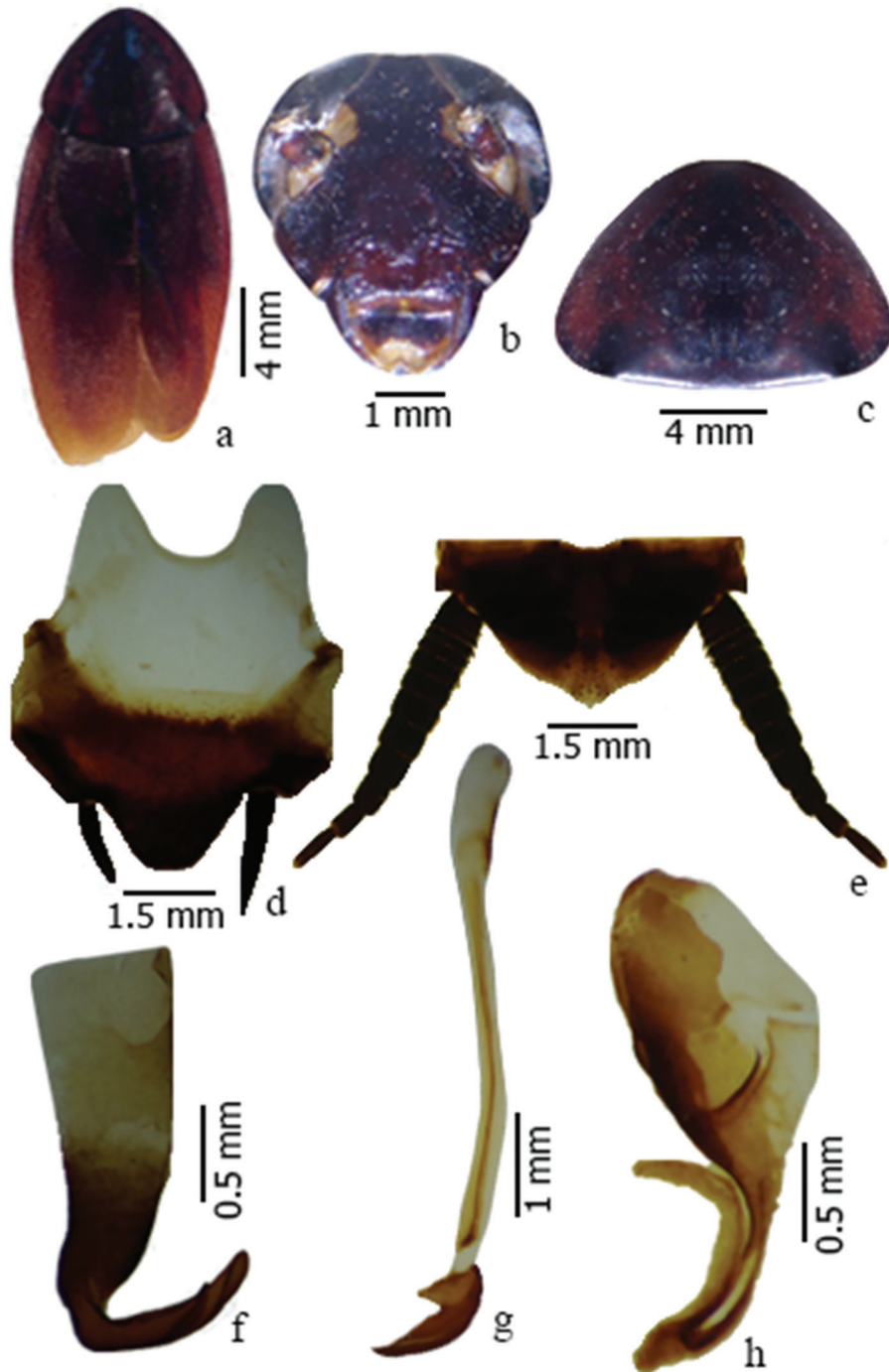
### Materials and Methods

The morphology of the specimens described here was analyzed according to Lopes & Oliveira (2000). The terminology used for the genital parts is based on Roth (2003). The systematic position of the genus follows Beccaloni (2015). After analysis, the plates and genital parts were kept in microvials containing glycerin and were stored next to their respective pinned specimen (Gurney et al. 1964). The material is deposited in the collection of the Museu Nacional, Rio de Janeiro (MNRJ).

### Results

#### 1. *Nyctibora bromelicola* sp. nov.

General coloration: dark brown (Figure 1a). Head with ocelli and apex of labrum yellowish brown; palps and antennae golden tomentose (Figure 1b); pulvilli yellowish. Pronotum paler medio-basally (Figure 1c).



**Figure 1.** *Nyctibora bromelicola* sp. nov. holotype male. a. Habitus; b. Head, ventral view; c. Pronotum, dorsal view; d. Subgenital plate, ventral view; e. supra anal plate, dorsal view; f. left phallomere, dorsal view; g. median sclerite, dorsal view; h. right phallomere, dorsal view.

Dimensions (mm) ♂: Total length: 32.0; Length of pronotum: 9.0; width of pronotum: 12.0; length of tegmen: 26.0; width of tegmen: 11.0.

Head “triangular”, vertex covered by pronotum in dorsal view; interocular space narrow, about one-fourth distance between antennal insertions; ocelli well defined; maxillary palp with last segment dilated, tomentose and larger than remaining segments.

Thorax with pronotum subtriangular, convex, transverse, sparsely tomentose. Fore femur with anteroventral surface bearing 10 robust spines, small and decreasing in size toward

apex, plus two pre-apical spines slightly larger than the anterior spines, and two large apical spines; posteroventral surface with five robust spaced spines, one apical. Mid- and hind femora with six to eight robust spaced spines, one apical, on ventral surfaces; one genicular spine present on hind femora. Pulvilli present on all tarsal articles; arolia present; claws asymmetrical and simple.

Tegmen tomentose and long, reaching beyond apex of cerci, marginal field short; scapular field narrow with oblique venular arrangement; discoidal field with longitudinal venular arrangement;

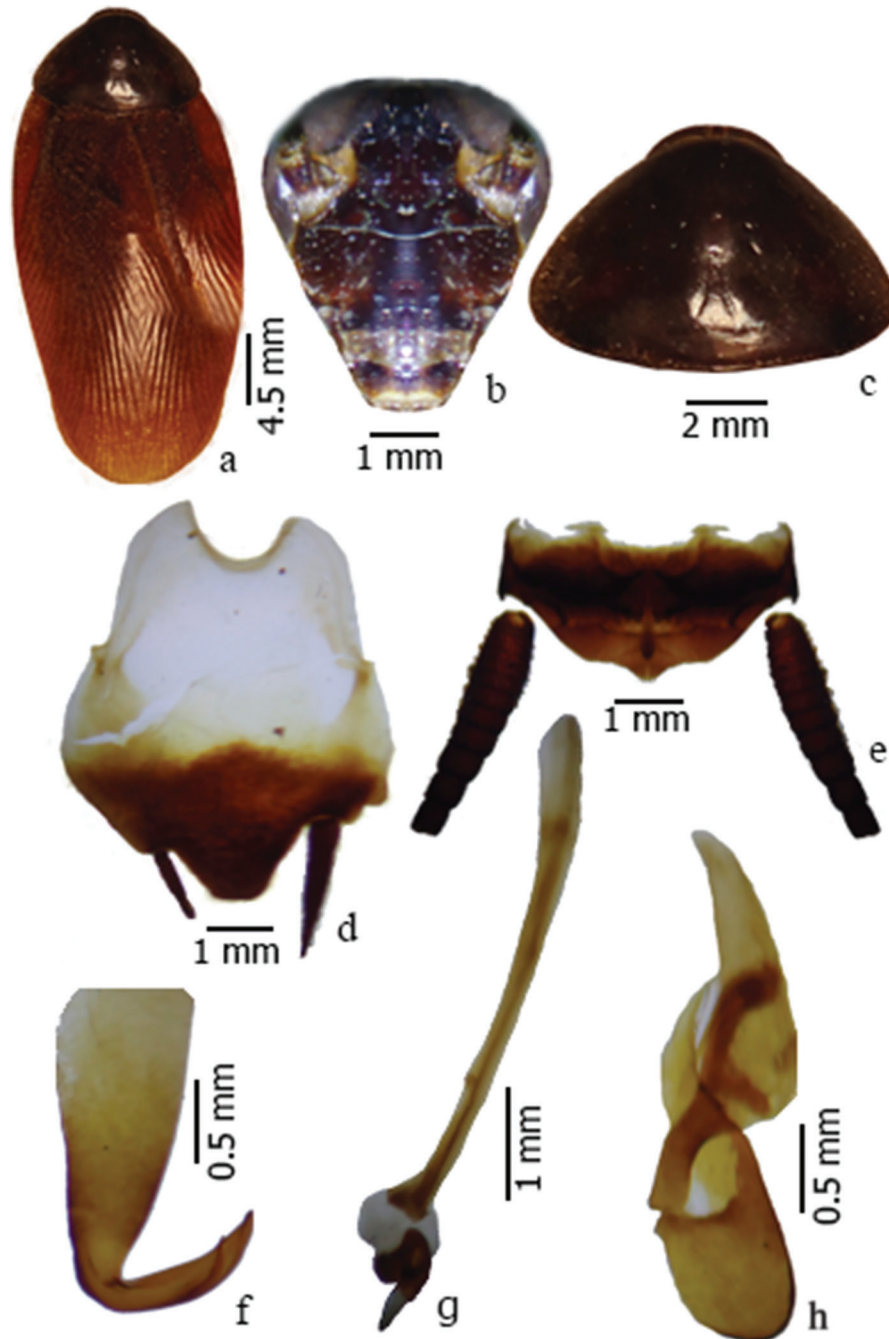
anal field ample and well marked. Wings with anterior field with apexes of rami not dilated; apical triangle slightly developed, and anal field fan-folded.

Abdomen with subgenital plate widened and with rounded medio-apical projections. Styles differentiated, right style slightly larger than left (Figure 1d). Supra-anal plate triangular, projected and rounded medio-apically; cerci long, tapering apically (Figure 1e). Genitalia with right phallomere sclerotized medially (Figure 1f); median sclerite slender apically; median sclerite tapering apically, sickle-shaped (Figure 1g); left phallomere hook-shaped, rounded apically (Figure 1h).

Material examined: Holotype ♂, Brazil, Rio de Janeiro, Marambaia, 8/VI/1981, Roberto Xerez col. (on bromeliad).

#### Discussion

The species differs from *Ny. sericea* Burmeister, 1838 by coloration totally blackened pronotum and not to present the yellow spot in the marginal field; by setting the subgenital plate more pronounced medially; triangular supra-anal plate with apex acuminate medially; left phallomere hook-shaped with



**Figure 2.** *Nyctibora isoldae* sp. nov. holotype male. a. Habitus; b. Head, ventral view; c. Pronotum, dorsal view; d. Subgenital plate, ventral view; e; supra anal plate, dorsal view; f. left phallomere, dorsal view; g. median sclerite, dorsal view; h. right phallomere, dorsal view.

tapered apically and higher in length; median sclerite rounded in the base with the apex in the shape of a sickle.

### Etymology

The species epithet refers to the habitat where it was collected, a bromeliad.

### 2. *Nyctibora isoldae* sp. nov.

General coloration: dark brown (Figure 2a). Head dark with ocelli (Figure 2b), apex of maxillar and labial palps yellowish, golden tomentose. Pronotum uniformly colored (Figure 2c); legs with pulvilli yellowish; tegmen dark, yellowish tomentose.

Dimensions (mm): Holotype ♂: Total length: 30.0; Length of pronotum: 7.0; width of pronotum: 10.0; length of tegmen: 26.5; width of tegmen: 10.0. Paratype ♀: Total length: 32.0; length of pronotum: 8.0; width of pronotum: 10.5; length of tegmen: 27.5; width of tegmen: 10.5.

Head “triangular”, vertex covered by pronotum in dorsal view; interocular space narrow, measuring about one-sixth distance between antennal bases; ocelli well-defined; maxillary palp with fifth segment dilated, longer and more tomentose than the others.

Thorax with pronotum subtriangular, convex, transverse, sparsely tomentose; legs with fore femur with anteroventral surface bearing a row of ten spines from base to median region, two apical spines slightly larger than anterior spines; plus two large apical spines; posteroventral surface with four robust spaced spines on apex, one on apical third. Mid- and hind femora bearing six to eight robust and spaced spines, one apical, on ventral surface; genicular spines present on last two femora. Pulvilli present on all tarsal segments; arolia present and well developed; nails asymmetrical and simple. Tegmen long, reaching beyond apex of cerci, subcostal venation well differentiated toward scapular field; marginal field short; scapular field narrow with oblique veins; discoidal field with longitudinal veins; anal field ample and well demarcated. Wings developed, not reaching beyond apex of tegmen; anterior field with apex of rami of radial not dilated, apical triangle little developed, and anal field ample, fan-folded.

Abdomen with subgenital plate wide and asymmetrical, with apex rounded medially and projected between styles. Styles differentiated, right style more developed than left (Figure 2d); supra-anal plate symmetrical, medio-apically produced, short with sparse cilia. Cerci long, ciliated, tapering toward apex (Figure 2e). Genitalia with right phallomere sclerotized medially (Figure 2f); median sclerite slender, widened apically; apical sclerite sclerotized, without defined shape (Figure 2g); left phallomere hook-shaped apically, slender, with pre-apical notch (Figure 2h).

Material examined: Holotype ♂, Brazil, Petrópolis, Mosela, 12/II/1975, Isolda Rocha e Silva col. Paratype 2 ♀, data same as holotype.

### Discussion

*Ny. isoldae* sp. nov. differs from *N. sericea* by coloration totally, blackened pronotum and tegmen and without yellow spot in the pronotum; subgenital plate similar to *Ny. bromelicola* sp. nov. and differs from *Ny. bromelicola* sp. nov. and *Ny. sericea* by configuration of the sinous apex apical of supra-anal plate and little acuminate compared to *Ny. bromelicola* sp. nov. In *Ny. sericea* is absent. Left phallomere has hook-shaped with elongated and tapered apex as in *Ny. bromelicola* sp. nov, but with reentrance sub-apical. Sclerite very long in length, rounded at the base; apex with rounded in the base and tapered apex, which sets it apart from *Ny. bromelicola* sp. nov. and *Ny. sericea* which does not have this configuration.

### Etymology

The name honors Isolda Rocha e Silva, former researcher on Blattodea at the Museu Nacional, now retired.

### Acknowledgements

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