

# Revision of *Alongatepyris* (Hymenoptera: Bethyilidae) with description of a new species from Colombia

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**ABSTRACT.** Species of the Neotropical *Alongatepyris* Azevedo are rarely collected. It is recognized among Sclerodermini genera by having the body extremely flattened and the submedian cell of the fore wing small and completely closed. Originally monotypic, a second species, *A. ingens* **sp. nov.** from Colombia, is described and illustrated. This species is characterized by the absence of the radial vein of the fore wing. A diagnosis of *A. platunissimus* Azevedo, 1992 is presented and both species are compared. A key to species *Alongatepyris* is provided. **KEY WORDS.** Sclerodermini; Neotropical; taxonomy.

**RESUMO. Revisão de *Alongatepyris* (Hymenoptera: Bethyilidae), com descrição de uma espécie nova da Colômbia.** Espécies do gênero Neotropical *Alongatepyris* Azevedo são raramente coletadas. O gênero é reconhecido dentre os Sclerodermini por possuir o corpo extremamente achatado e a célula submediana da asa anterior pequena e completamente fechada. É descrita e ilustrada uma segunda espécie, *Alongatepyris ingens* **sp. nov.** da Colômbia. Esta espécie é caracterizada por não possuir a nervura radial da asa anterior. É apresentada uma diagnose de *A. platunissimus* Azevedo, 1992. É apresentada uma chave para as espécies do gênero. **PALAVRAS-CHAVE.** Sclerodermini; neotropical; taxonomia.

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*Alongatepyris* was described by AZEVEDO (1992) to accommodate a very unusual Sclerodermini from the state of São Paulo, Brazil. This species has the body extremely flattened and the fore wing with the submedian cell completely closed and much smaller than the median cell. *Thlastepyris* Evans is the genus most closely related to *Alongatepyris* (LANES & AZEVEDO 2008), but in the former the median and submedian cells of the fore wings are incompletely divided (EVANS 1973) because the base of the median vein is absent. Specimens of *Alongatepyris* are rarely collected; we were able to find only three specimens deposited in museums. Nothing is known regarding the hosts of *Alongatepyris*.

The goal of this study is to summarize the available information about this genus and propose a new species from Colombia.

## MATERIAL AND METHODS

Efforts were made to study all available specimens of the genus. Besides, species of *Thlastepyris* and *Bethylopsis* Kieffer were investigated in order to find possible *Alongatepyris* species. Many collections were visited and loans were requested but no material was found. The material examined was kindly provided by

the curators of the following institutions: (DCBU) Universidade Federal de São Carlos, Brazil (A.M. Pentead-Dias); (DZUP) Universidade Federal do Paraná, Brazil (G.A.R. Melo); (IAVH) Instituto Alexander von Humboldt, Colombia (M. Ospina).

Measurements and indices used in this study are as follows. body length: from the apex of clypeus to the posterior margin of the last metasomal segment, excluding male genitalia or female sting; length of head (LH): in frontal view, from vertex crest to median apical margin of clypeus; width of head (WH): in frontal view, its maximum width including eyes; width of frons (WF): in frontal view, its minimum width, usually about bottom of eyes; height of eye (HE): in lateral view, across its maximum height (length); ocelli-ocular line (OOL): measured in latero-dorsal view, the shortest distance from eye top to posterior ocellus; width of ocellar triangle (WOT): in frontal view, maximum width, including ocelli; diameter of anterior ocellus (DAO): in frontal view; distance of ocellar triangle to vertex: in dorso-posterior view; distance from posterior ocellus to vertex crest; vertex-ocular line (VOL): in dorsal view, distance from eye top to vertex crest.

The terms of integument sculpture follows HARRIS (1979) and general terms follow EVANS (1964) and AZEVEDO (1999).

### *Alongatepyris* Azevedo, 1992

Diagnosis. Body strongly flattened (Figs 2 and 7). Full winged; tegula present. Head slightly wider than maximum thorax width. Eye placed forward on head. Clypeus short. Antenna 13-segmented. Occipital carina absent. Palpal formula 6:3. Notaulus nearly absent. Parapsidal furrow and scutellar groove conspicuous. Propodeal disc with lateral, median and posterior carinae (Figs 1 and 6). Femora not well dilated. Fore wing elongate, with three closed cells, costal cell narrow, stigma small and prostigma large, submedian cell much shorter than median, these cells well separated from each other by median vein, radial vein tubular and narrow, pigmented (Figs 4 and 10).

#### Key to species of *Alongatepyris* (females)

1. Head subquadrate (Fig. 1); anterior margin of pronotal disc slightly convex (Fig. 1); propodeal disc conspicuously narrowing posterad (Fig. 1); fore wing with long radial vein, discoidal vein absent (Fig. 4) ..... *A. platunissimus* Azevedo
- 1'. Head elongate (Fig. 6); anterior margin of pronotal disc broadly convex (Fig. 6); propodeal disc slightly narrowing posterad (Fig. 6); fore wing without radial vein, discoidal vein short as stub (Fig. 10) ..... *A. ingens* sp. nov.

### *Alongatepyris platunissimus* Azevedo, 1992

Figs 1-5

Material examined. Holotype female: BRA[ZIL], *S[ão]* *P[aulo]*, São Carlos, Fazenda Canchim, mata [= forest], 7.X.1988, suspensa [= ariel Malaise trap], L.A. Joaquim col. (DCBU). BRA-ZIL, *Paraná*: Jundiá do Sul (Monte Verde Farm), 22.IX.1986, 1 female, armadilha [= trap] Malaise, Lev[antamento] Ent[omológico] Profaupar (DZUP).

Diagnosis. Female. Length about 4.0 mm; LFW about 2.0 mm. Black. Head (Figs 1 and 2). Mandible with three apical teeth (Fig. 3). Clypeus extending backward into frons, median lobe rounded, surface of median area flat, without median carina. Eye with sparse setae. Antennal segment III 1.3x as long as wide. Frons strongly coriaceous, surface flat with linear elevation above clypeus which becomes linear depression from mid frons to anterior ocellus. WH 0.92-0.95x LH; WF 0.51-0.56x WH; WF 1.02-1.12x HE; OOL 1.67-1.86x WOT; head strongly flattened, its thick 0.32x LH; frontal angle of ocellar triangle obtuse; posterior ocelli distant from crest vertex 0.5x DAO. Vertex straight, with or without median callus, corner shortly rounded. VOL 0.8x HE. Temple straight and subparallel. Mesosoma (Figs 1 and 2). Surface of mesosoma mostly flat. Pronotal disc with series of small foveae paralleling posterior margin, which can be slightly angled forward medially. Notaulus short as stub and very weak, virtually absent. Parapsidal furrow strong, straight, absent on posterior anterior fifth or third of mesoscutum, not reaching posterior margin of mesoscutum. Scutellar groove narrow, deep, ends non-dilated and angled backward. Propodeal disc 1.1x longer than wide, median carina complete, basal triangle areolate, disc otherwise

weakly coriaceous; declivity short, without carina, median area polished. Mesopleuron with shallow fovea nearly as large as mesopleuron, with central pit (Fig. 2). Fore wing with radial vein long (Fig. 4). Mid tibia not spinose. Fore femur 2.1x longer than wide. Claws simple. Metasoma with posterior margins of sternites IV-VI strongly bi-emarginate (Fig. 5).

### *Alongatepyris ingens* sp. nov.

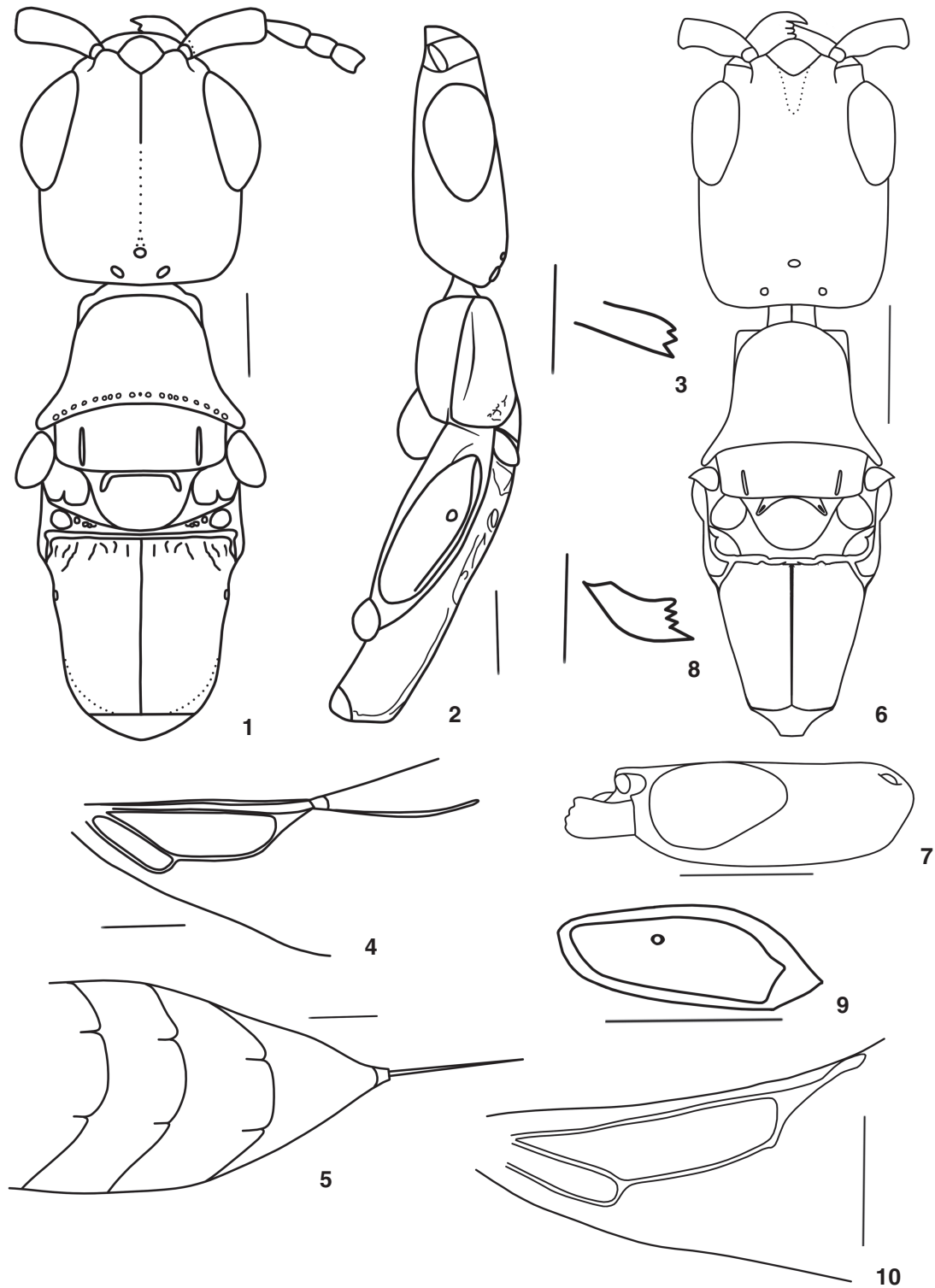
Figs 6-10

Material examined. Holotype, female: COLOMBIA, *Guaviare*: Tomachipán (playa río Inirida, 2°13'52"N, 71°31'31"W), 29.I.1999, F. Fernández leg. (IAVH 31862).

Description. Female. Body length 2.9 mm; LFW 134 mm. Color: body mostly black, palpi castaneous; mandible dark castaneous, median area of outer surface lighter; antenna dark castaneous, scape and flagellomeres infuscate; coxae and femora dark castaneous; trochanters castaneous; mid and hind tibiae dark castaneous, tarsi castaneous; tegula dark castaneous; wings hyaline, veins castaneous.

Head (Fig. 6). Mandible with four teeth, lower tooth sharpened (Fig. 8). Clypeus very short, median lobe rounded, median carina absent, base of clypeus extending back into frons. Eye sparsely hairy, situated forward on head. Antennal scrobe not carinate. Head very elongate, about 0.6x length of mesosoma, width of head barely larger than maximum mesosomal width; WH 0.80x LH; WF 0.50x WH; WF 1.0x HE; OOL 1.8x WOT; head 0.32x as high as long (Fig. 7); frontal angle of ocellar triangle obtuse; posterior ocellus distant from vertex crest slightly more than own diameter. VOL 1.0x HE. Vertex concave medially with corner broadly rounded. First four antennal segments in ratio of about 10:5:2:3, segment III 1.0x as wide as long. Frons strongly coriaceous, surface above clypeus with polished flat linear elevation that does not surpass imaginary line between half length of eye. Sides of head parallel in lateral view. Palpal formula 6:3.

Mesosoma (Fig. 6). With the same texture of frons. Pronotal disc with median width 1.64x median length; anterior margin conspicuously convex; posterior margin not paralleled by series of small foveae; length of pronotal disc/mesoscutum/scutellum in about 2:1:1. Notaulus absent. Parapsidal furrow well impressed and straight, not reaching both anterior and posterior margins of mesoscutum. Scutellum wide posteriorly and broadly in contact with propodeal disc. Scutellar groove deep, progressively narrowing mesad, ends angled backward and not dilated. Propodeal disc 1.08x as long as maximum width, progressively narrowing posterad, anterior, median, lateral and posterior carinae complete, lateral carina not straight; propodeal disc strongly striate anteriorly; propodeal declivity short and striate; side-piece of propodeum coriaceous with weak striae. Mesopleuron with shallow large fovea occupying nearly entire surface of mesopleuron, outlined by carina; central pit small (Fig. 9). Propleuron angulate in dorsal view. Mesosternum without striae or foveae, with shallow



Figures 1-10. (1-5) *Alongatepyris platunissimus*: (1) head and mesosoma, dorsal view; (2) head and mesosoma, lateral view; (3) mandible, frontal view; (4) fore wing, dorsal view; (5) apex of metasoma, ventral view; (6-10) *A. ingens* sp. nov.: (6) head and mesosoma, dorsal view; (7) head, lateral view; (8) mandible, frontal view; (9) mesopleuron, dorsal view; (10) fore wing, dorsal view. Scale bar = 250  $\mu$ m.

depression near margin of mid coxa. Fore wing with radial vein absent, basal vein with thickening medially (Fig. 10). Mid tibia not spinose. Fore femur 2.2x as long as wide. Claws simple and much arched.

Metasoma. Wholly polished. Tergites and sternites with a row of setae posteriorly, former ones with few lateral setae. Posterior margin of sternites IV-VI evenly curved and bi-emarginate. Transverse section elliptical. Part exposed of sting 0.03 mm long. Length of metasoma 1.55x length of mesosoma.

Etymology. The specific epithet refers to the large size of the head.

## DISCUSSION

The only known specimen of *A. ingens* was collected 3,600 km away in a straight line from the type locality of *A. platunissimus* (Brazil, São Paulo, São Carlos). This broadens considerably the distribution of the genus, since the known distribution was restricted to two sites in southern Brazil, which are distant from each other about 290 km in a straight line. This gap suggests that the species of this genus may have a broader distribution within South America.

Although AZEVEDO (1992) stated that *Alongatepyris* has the radial vein of the fore wings long, this applies only to *A. platunissimus*, since this vein is absent in *A. ingens* sp. nov. This broadens the concept of the genus. However, *A. ingens* sp. nov. fits perfectly well in *Alongatepyris* with respect to other generic characters. It is important to point out that the characters related to wing venation are among the most useful ones for taxonomic and phylogenetic studies of the Sclerodermini (see LANES & AZEVEDO 2008).

*Alongatepyris ingens* sp. nov. differs from *A. platunissimus* by many features. The main differential characters are indicated in the key. Besides such differences, *A. ingens* sp. nov. has the clypeus less projected backward, the median depression does not reach the anterior ocellus, whereas in *A. platunissimus* the clypeus is well projected backward and the linear frontal depression reaches the anterior ocellus. In addition, in *A. ingens* sp. nov. the mandibles have four teeth, the head is almost evenly high in lateral view, and the scutellar

groove is narrower medially, whereas *A. platunissimus* has three mandibular teeth, the head progressively narrowing anterad in lateral view, and the scutellar groove evenly narrow.

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