

NEW GENERA OF SOUTH AMERICAN THYNNINAE
(TIPHIIDAE, HYMENOPTERA)

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INTRODUCTION

The taxonomy of South American thynnines, as with many neotropical insect groups is badly in need of revision. Many of the genera, particularly *Elaphroptera* and *Scotaena*, are dumping grounds for species that did not fit other generic concepts. As part of our revision of this subfamily it became clear that quite a number of species placed in these groups belonged in separate genera. To accommodate these monophyletic groups we are describing seven new genera.

Specimens used in this study were borrowed from the following individuals and institutions: Bohart Museum of Entomology, University of California, DAVIS, U.S.A. (R. O. Schuster, S. L. Heydon); C. Porter private collection, Gainesville, Florida, U.S.A.; Canadian National Insect Collection, Agriculture Canada, Ottawa, Ontario (L. Masner); Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, U.S.A. (J. E. Rawlins); Department of Entomology, Cornell University, Ithaca, New York, U.S.A. (J. Leibherr); Florida State Collection of Arthropods, Gainesville, U.S.A. (L. A. Stange); Fundación Miguel Lillo, Tucuman, Argentina (A. Willink); Insect Taxonomy Lab., California Department of Food and Agriculture, Sacramento, U.S.A. (M. S. Wasbauer); Los Angeles County Museum, Los Angeles, U.S.A. (R. R. Snelling); Manfredo Fritz, private collection, Salta, Argentina; Museo Argentino de Ciencias Naturales Bernardino Rivadavia, BUENOS AIRES (J. Genise); Museu de Zoologia, Universidad de São Paulo, Brazil (C. R. F. Brandao); Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, U.S.A. (J. M. Carpenter, S. R. Shaw); Museum of Natural History, London,

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England (M. C. Day); Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands (C. van Achterberg); U. S. Museum of Natural History, Washington, D. C., U.S.A. (A. S. Menke); Zoologisk Museum, Copenhagen, Denmark (O. Lomholdt); Zweite Zoologische Abteilung, Naturhistorisches Museum, Wien (Vienna), Austria (M. Fischer). An asterisk (*) following a species entry indicates that the primary types were studied.

Argenthynnus Genise, new genus

(Figs. 2, 17, 21, 27)

Generotype: *Elaphroptera impressa* Brèthes 1910:226.

Diagnosis.

Male: 14–15 mm; clypeus densely punctate, appearing swollen around an apicomedial polished and depressed subtriangular area with ventrolateral corners marked by a low rounded polished welt (fig. 2); tongue not elongated, maxillary palpus 3× longer than stipes, distal segments longer than second, proximal part of galea short and membranous; mandible apically bidentate; pronotum without discrete dorsal surface and without transverse carina, welt or sulcus (fig. 21); tergum VII subtruncate in dorsal view with lateral edge or carina; sternum VIII apically ligulate; genital capsule (fig. 27): gonocoxa elongate and convex dorsally, ending in single lobe or scarcely emarginate apically, gonostylus broad basally and strongly tapering apically, bending ventrally, slightly emarginate apically in dorsal view; cuspis with digitate lateral lobe and acute angle extending toward midline; digitus absent; aedeagus with long parallel-sided base and no lobes before apical loop. Body color black and yellow.

Female: body length 7–8 mm; mandible relatively slender and edentate; pronotum subquadrate with long anterior collar; propodeum evenly convex with long dorsal surface; tergum I with 1 transverse sulcus; tergum II with transverse basal sulcus and submedial carina; tergum VI not protruding much beyond tergum V, with irregular flattened posterior plate, margined dorsally by dense brush of setae and ventrally produced and bilobate with long ventral brush (fig. 17); sternum VI elongate and broadly U-shaped in cross-section, with flat posterior surface crescentic (fig. 17).

Etymology: *Argen*—from Argentina, *thynnus*—common ending in Thynninae (masculine).

Distribution. *Argenthynnus* is only known from southern Argentina.

Species placed in this genus: *Elaphroptera impressa* Brèthes 1910:226*.

Discussion. The male clypeus of *impressa* is the most distinctive feature of this group. Other diagnostic characteristics are the pronotum without a dorsal surface, gonostylus apically emarginate, distinctive shape and vestiture of the female tergum VI, and the simple aedeagus. It is unclear which genus would be most closely related to this one.

Brethynnus Genise, new genus

(Figs. 3, 11, 12, 15, 29)

Genotype: *Elaphroptera inferna* Turner 1910:214.

Diagnosis.

Male: body length 11–18 mm; clypeus broadly truncate or shallowly bilobate apically and transversely depressed submedially with two ovoid transparent spots medially (visible in species with pale markings on clypeus) (fig. 3); tongue not elongated (figs. 11, 12); maxillary palpus 2.5× longer than stipes, proximal part of galea short and membranous; mandible apically bidentate, apical half broadened, with small triangular tooth near base; tergum VII apically truncate with lateral carinae in dorsal view; genital capsule (fig. 29): gonocoxa elongate and strongly convex dorsally, narrowly or broadly rounded apically, gonostylus dorsal margin convex, tapering to rounded apex; cuspis linear with single lobe; digitus absent; sternum VIII ligulate and rounded apically; aedeagus basally linear, with short apical loop subtended by rounded lateral lobe. Body color black, or black and yellow or red.

Female: body length 8–10 mm; mandible slender and edentate; pronotum strongly angulate apicolaterally, depressed posterolaterally; propodeum depressed laterally, evenly convex without discrete posterior face; tergum I conical anteriorly with sharply declivous anterior face, covered with dense long setae, with transverse carina just before posterior margin; tergum II with two transverse carinae; tergum VI with flat posterior face rimmed by carina

and ventrally trilobate (fig. 15); sternum VI C-shaped in cross-section, funnel-shaped posteriorly (fig. 15).

Etymology: *Brethes*—this genus is dedicated to J. Brèthes, *ynnus*—modification of *Thynnus* (masculine).

Distribution. These average-sized thynnines are found in Argentina, Brazil, Bolivia and Paraguay.

Species included in this genus are: *Elaphroptera inferna* Turner 1910* (= *Elaphroptera tucumana* Brèthes 1910*, new synonymy), *Elaphroptera mapirensis* Turner 1910*, *Elaphroptera paraguayensis* Brèthes 1910*, *Elaphroptera steinbachii* Turner 1910* (= *Elaphroptera tornowii* Brèthes 1910*, new synonymy).

Discussion. Male *Brethynnus* tend to be darkly colored, black and reds or yellow, and are generally quite setose. Configuration of the male clypeus, which is subapically indented and apically subtruncate, and the subconical female first abdominal tergum and T-VI (fig. 15) are immediately diagnostic for this genus. *Brethynnus* appears to be the most closely related to *Telephoromyia* based on the male genitalia and the female terga I and VI.

The new synonymy listed above is the result of both Brèthes and Turner publishing different names for the same species in 1910. Brèthes' paper was published in October, and Turner's in March of 1910, therefore Turner's species names have priority.

Glottynoides Kimsey, new genus

(Figs. 7, 9, 19, 24)

Generotype: *Glottynoides genisei* Kimsey.

Diagnosis.

Male: body length 12–14 mm; clypeus somewhat elongate and not broadly truncate apically; tongue long, protruding in most specimens, maxillary palpus 1.3× stipes length, distal segments shorter than second and third ones, labium with galea heavily sclerotized and smooth, appearing rectangular in lateral view, lacinia sclerotized and nearly as large as galea; mandible apically bidentate (fig. 9); pronotum without transverse anterior carina or welt, evenly rounded to collar; tergum VII tapering, subapically rounded and constricted with flared apical rim; sternum VIII slightly bilobate apically, resembling a horse's hoof; genital capsule (fig. 24): gonocoxa dorsal surface elongate and acutely bilobate apically,

ventral surface narrow and ringlike, nearly hidden by gonostylus; gonostylus elongate and nearly parallel-sided; aedeagus shorter or subequal in length to gonostylus, resting between apical lobes of gonocoxa, with rounded lateral membranous lobes and small hooked medial lobe; cuspis V-shaped, with two slender apical lobes, digitus with curved apical lobe, digitus absent; body color black and yellow.

Female: body length 7–8 mm; mandible slender and edentate; vertex posteriorly compressed and ridgelike (as in *Scotaena*) (fig. 9); pronotum weakly declivous before collar, depressed submedially and appearing trilobate; propodeum with discrete dorsal and posterior surfaces; tergum I with 1 transverse subapical carina; tergum II with 3 transverse carinae; tergum VI with subapical brush of setae, apically with 2 ventral toothlike projections (Fig. 19); sternum VI subcylindrical in cross-section, with horse hoof-like posterior plate (fig. 19).

Etymology: *Glotta*—tongue, *tynnoides*—modification of *Tynnus* (masculine).

Included species: *Glottynoides genisei* Kimsey.

Distribution. This genus is known from northwestern Argentina.

Discussion. The superficial appearance of the male is very much like that of *Anodontyra*. However, the distinctive modifications of the male tongue in *Glottynoides* are unique. The female head and apical abdominal tergum are also diagnostic, but indicate a strong relationship with *Scotaena* and *Rostrynnus*. This relationship is further supported by the male genitalia.

***Glottynoides genisei* Kimsey, new species**

Holotype male: body length 12 mm; forewing length 10 mm; clypeus apicolaterally shallowly concave, medially shallowly concave, medially shallowly emarginate and sublateral corners relatively sharp; mandible slender with small subsidiary and short apical tooth; flagellomere I 1.7× as long as broad; flagellomere II twice as long as broad; frontal lobes over antennal sockets separated by narrow rounded medial notch; pronotum, scutum and scutellum polished with shallow punctures, 1–3 puncture diameters apart; mesopleuron and propodeum rough-looking with shallow, nearly contiguous punctures; genital capsule (fig. 24): gonocoxa elongate, narrowly emarginate apically with short broad lobe on

either side of aedeagus; gonostylus tapering apically with ventral margin broadly rounded; aedeagus elongate with long, narrow transparent lateral lobes and C-shaped and apically capitate apical lobe. Body black, with yellow markings on: ventral half of clypeus, mandibles medially, inner eye margin, frontal lobes, between ocelli, genal eye margin, narrow broken band across back of head, pronotum mostly except small medial and lateral spots; tegula, one small spot on scutum, mesopleural large subalar spot and smaller more ventral one, large medial spot on scutellum, metanotum, large lateral spot on pronotum, femoral stripes, transverse band on abdominal terga I-VI, and tibiae; tarsi brown; wings amber-tinted, darkest subapically; pubescence pale golden.

Female: body length 7–8 mm; mandible edentate and slender; frons finely shagreened, nearly impunctate; subantennal distance to clypeal apex $1.5\times$ malar space; vertex compressed, sublaterally angulate and sharp edged posteriorly (fig. 7); pronotal disk subquadrate, with triangular swelling medially, depressed sublaterally and with a low broad posterolateral lobe, slightly declivous anteriorly to collar, collar narrower than disk, surface of disk shagreened; scutum flat in profile; propodeum with discrete dorsal surface having a small lateral and medial swelling, broadly rounded to posterior face; thoracic and abdominal integument shagreened; tergum I strongly convex anteromedially, with 1 transverse carina; tergum II with three transverse carinae and posterior margin flared; tergum VI posterior surface coarsely and irregularly punctate, with long projecting beard of setae above deep emargination, emargination with long digitate lobe on either side, and smaller version of lobate platform in emargination (fig. 19); sternum VI with posterior plate broadly U-shaped, with large exposed valve covers (fig. 19). Body reddish brown.

Holotype male: ARGENTINA: Cordoba, Cosquin, Sierra de Cordoba, 1–9 March 1920, Cornell University Expedition (ITHACA). Paratypes: 4 females and 48 males—same data as type (BUENOS AIRES, DAVIS, ITHACA); 39 males—Cordoba: Carlos Paz-Capilla del Monte, 26 February 1966, C. C. Porter (BUENOS AIRES, DAVIS, GAINESVILLE).

Discussion. Since this is the only species known for *Glottynoides* the diagnostic features given above for the genus should be sufficient to distinguish *genisei* from others.

Glottynnus Genise, new genus

(Figs. 10, 20, 25, 26)

Generotype: *Elaphroptera lara* Brèthes 1910:226.

Diagnosis.

Male: body length 10–12 mm; clypeus somewhat elongate and broadly truncate apically; tongue long, protruding in most specimens, maxillary palpus 1.6× stipes length, distal segments lengths subequal to those of second and third segments, labium with galea heavily sclerotized and smooth, appearing subtriangular in lateral view, proximal part elongated and sclerotized, projecting laterally over the lacinia (fig. 10); mandible apically bidentate; pronotum without transverse anterior carina or welt, evenly rounded to collar; tergum VII tapering, subapically rounded and constricted with flared apical rim; sternum VIII slightly bilobate apically, resembling a horse's hoof; genital capsule (fig. 25, 26); gonocoxal dorsal surface elongate and acutely bilobate apically, ventral surface narrow and ringlike, nearly hidden by gonostylus; gonostylus elongate and nearly parallel-sided; aedeagus shorter or subequal in length to gonostylus, resting between apical lobes of gonocoxa, with rounded lateral membranous lobes and small hooked medial lobe; cuspis broadly rounded, forming inner surface of genital capsule, digitus with curved apical lobe protruding between gonocoxa and gonostylus; body color black and yellow.

Female: body length 5 mm; mandible slender and edentate; pronotum declivous before collar, convex medially and appearing quadrate dorsally; propodeum sloping obliquely from scutellum; tergum I with 1 transverse subapical carina; tergum II with 2 transverse carinae; tergum VI prolonged posteriorly in a subrectangular, carina margined plate (fig. 20); sternum VI subcylindrical in cross-section, with horse hoof-like posterior plate (fig. 20).

Etymology: *Glotta*—tongue, *tynnus*—modification of *Thynnus* (masculine).

Included species: *Elaphroptera lara* Brèthes 1910*.

Distribution. This genus is known from northwestern Argentina.

Discussion. The superficial appearance of the male is very much like that of *Anodontyra*. However, the distinctively modified protruding tongue of the male of *Glottynnus* is unique, as is the apical abdominal segment in the female. Even though both *Glottynnus*

and *Glottynoides* both have elongate tongues and superficially similar males, they are not closely related. *Glottynnus* is most closely related to *Pseudelaphroptera* and *Anodontyra* based on the male genitalia and female tergum VI.

Rostrynnus Genise, new genus

(Figs. 4, 13, 14, 18, 22, 23)

Generotype: *Thynnus tarsatus* Klug 1842:39.

Diagnosis.

Male: body length 11–16 mm; clypeus long and narrow, apically emarginate (fig. 4); tongue little elongated, maxillary palpus twice as long as stipes, distal segments longer than second or third, proximal part of galea elongated and somewhat sclerotized (fig. 13, 14); hypopygium slightly bilobate; mandible apically bidentate; tergum VII apically rounded and constricted with slightly flared apical rim; sternum VIII broadly rounded apically; genital capsule (fig. 22, 23): gonocoxa broad with strongly ventrally bent, digitate apical lobe wrapping around aedeagus; gonostylus lanceolate apically and strongly narrowed basally; cuspis small and rounded; digitus slender and digitate; aedeagus long and broadly winged laterally, apical lobe short with ventral projection; body color black and yellow.

Female: body length 8–11 mm; mandible edentate; pronotum subquadrate and slightly depressed anteromedially; propodeum with short dorsal surface, if any; T-I with transverse subapical sulcus; T-II with 2–4 transverse ridges; tergum V deeply emarginate apicomediaally; T-VI narrow and strongly convex, strongly constricted subapically and slightly flared apically with dense apical and lateral brushes of setae (fig. 18); S-VI C-shaped in cross-section, posterior plate horse hoof-like (fig. 18).

Distribution. Specimens of this genus have been seen from Misiones and Entre Rios, Argentina, and southern Brazil.

Etymology: *Rostrum*—refers to the rostrum-like clypeus; *ynnus*—modification of *Thynnus* (masculine).

Included species: *Thynnus tarsata* Klug 1842.

Discussion. The male genitalia, particularly the lobate aedeagus, and constricted male tergum VII, in this genus indicate a close

relationship with *Pseudelaphroptera*, *Anodontyra*, *Ornepetes* and *Scotaena*.

Upa Kimsey, new genus

(Figs. 1, 16, 28)

Generotype: *Scotaena impressiceps* Turner 1910:183.

Diagnosis.

Male: body length 12–15 mm; clypeus apically trilobate, often medially lobate as well (fig. 1); maxillary palpus more than twice as long as stipes, distal segments longer than second and third; galea and lacinia weakly sclerotized; mandible slender and apically bidentate; tergum VII apically truncate with coarsely punctate lateral carina in dorsal view; sternum VIII ligulate or apically bidentate; genital capsule (fig. 28): gonocoxa elongate and convex dorsally terminating in a single lobe, gonostylus broad, basally C-shaped in cross-section, strongly curving ventrally and broadly rounded apically; volsella indistinguishably fused to paramere; aedeagus with long parallel-sided base ending in 2 acute, slender ventral projections before apical loop. Body color black and yellow.

Female: body length 7–8 mm; mandible slender and edentate; head slightly indented above occipital foremen behind a large, deep depression on the vertex; pronotum subquadrate, convex laterally; propleura strongly bulging ventrally; tergum I with transverse sulcus before posterior margin; tergum II rugose between two transverse carinae; tergum V with deep posteromedial notch; tergum VI narrow and dorsally flattened, posteriorly spikelike (fig. 16); sternum VI subcylindrical in cross-section, with flat posterior surface, with broad lateral and ventral lobe (fig. 16).

Etymology: *Upa* is a random letter combination chosen because it is short and easy to pronounce (feminine).

Distribution. Specimens of this genus have been collected in Argentina, Brazil and Paraguay.

Included species: *Scotaena impressiceps* Turner 1910:183*.

Discussion. The most distinctive features of *Upa* are the deeply sunken female vertex and the oddly, apically trilobate male clypeus. Additional diagnostic male characters are the simple, apically bidentate mandibles, and narrow and apically bidentate

sternum VIII. In females the depression of the vertex is the most striking feature; however, the bulging propleura and narrow, sharp tergum VI are also diagnostic features. Males of *Scotaena* and *Upa* share a superficial resemblance in size and color, but the male and female terminalia indicate that they are only distantly related. *Upa* is probably closest to *Zeena* and *Dolichothynnus*.

***Zeena* Kimsey, new genus**

(Figs. 5, 8, 30)

Generotype: *Thynnus aethiops* Klug 1842:38.

Diagnosis.

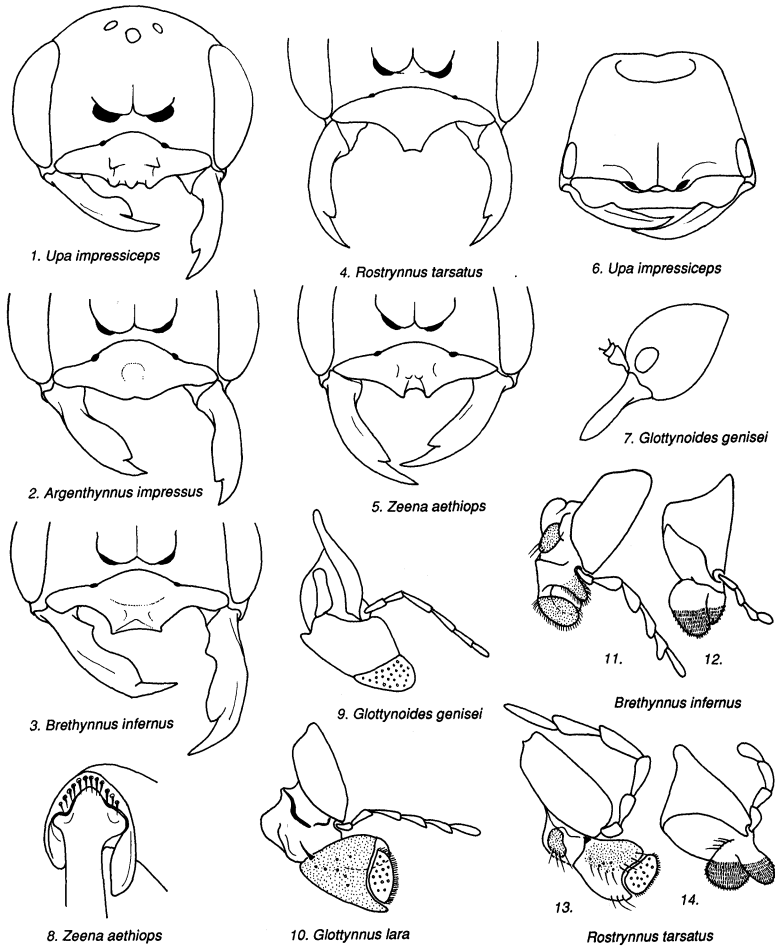
Male: body length 9–22 mm; clypeus emarginate between 2 apical teeth or lobes, with subtriangular concave polished area above, often with 1 or more tubercles medially (fig. 5); maxillary palpus 3× as long as stipes, distal segments considerably longer than second and third; galea and lacinea short, weakly sclerotized; mandible broadest before subsidiary tooth, apical tooth elongate and acute; hindfemoral apex produced into a ventral tooth on either side of tibial base, with the inner tooth the longest (fig. 8); tergum VII apically truncate or somewhat rounded with lateral carinae in dorsal view; sternum VIII with lateral ridge terminating before apical platform, appearing notched submedially, apical platform ovoid and horse hoof-like; genital capsule (fig. 30): gonocoxa elongate dorsally, simple or slightly bilobate apically, gonostylus slender and tapering in profile, ventral margin angulate and apex capitate or lobate on inner margin; cuspis appressed against aedeagus; elongate and slender; aedeagus basally linear, without lobes before apical loop. Body color black, or black and yellow, with some orange in a few species.

Etymology: This is a nonsense name chosen because it is short and easy to pronounce (feminine).

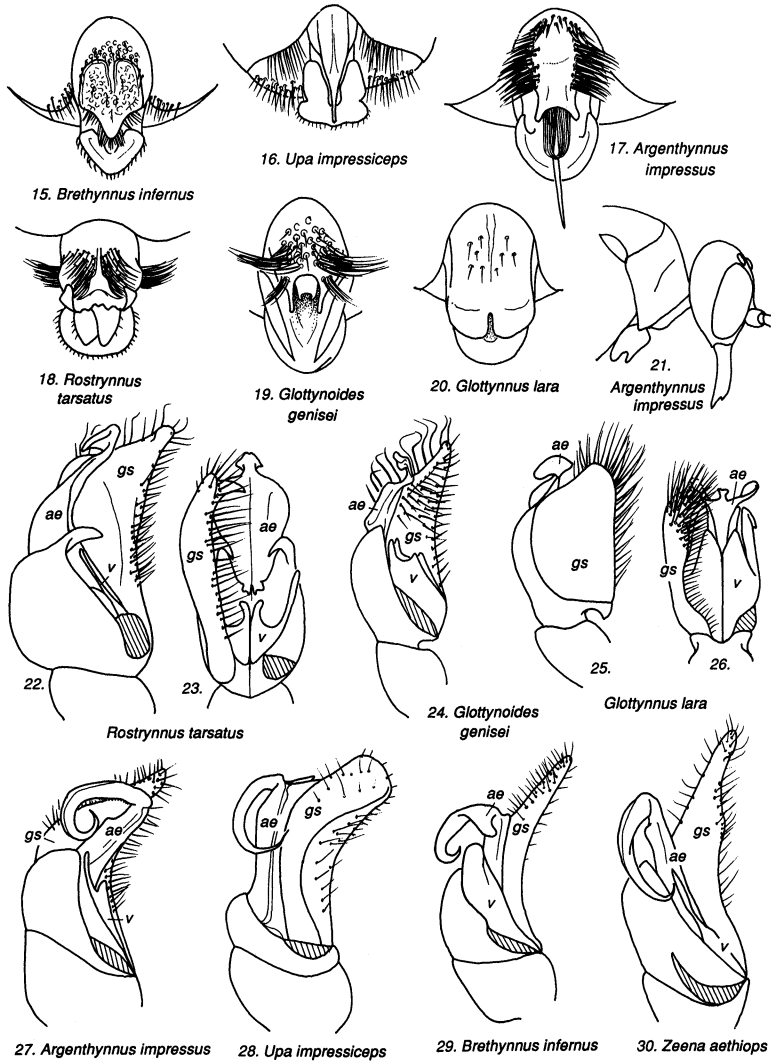
Distribution. *Zeena* species have been collected in Brazil.

Species included in this genus are: *Elaphroptera acuminata* Turner 1910, *Thynnus aethiops* Klug 1842*, *Thynnus anthracinus* Klug 1842*.

Discussion. These wasps superficially resemble *Scotaena* and *Dolichothynnus* because of the deeply notched clypeus. However, the truncate male pygidium and male genitalia immediately



Figs. 1–5. Front view of male face, with antennae removed. Fig. 6. Front view of female head, with antennae removed. Fig. 7. Lateral view of female head, with flagellum removed. Fig. 8. Femorotibial joint of male hindleg. Figs. 9, 10, 12, 13. Male maxilla. Figs. 11, 14. Male labium.



Figs. 15–20. Posterior view of female apical abdominal tergum (dorsal) and sternum (ventral). Fig. 21. Lateral view of male head and prothorax. Figs. 22–30. Male genital capsule, ae = aedeagus, gs = gonostylus, v = volsella. Figs. 22, 24, 25, 27–30. Lateral view. Figs. 23, 25. Ventral view.

separate *Zeena* from *Scotaena*. The apically asymmetrically toothed hindfemur, and simple aedeagus will immediately distinguish this genus from the others with a truncate male pygidium and aedeagus with a slender apical loop.

SUMMARY

Six new genera of South American Thynninae are described, including: *Argenthynnus* Genise, *Brethynnus* Genise, *Glottynoides* Kimsey, *Glottynnus* Genise, *Rostrynnus* Genise, *Upa* Kimsey and *Zeena* Kimsey, and one new species *Glottynoides genisei* Kimsey.

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