

**The *Chrysis gibba* species group  
in the New World  
(Hymenoptera, Chrysididae)**

R. M. Bohart

Department of Entomology  
University of California  
Davis, CA 95616

The *gibba* group of *Chrysis* occurs in many parts of the world. It is characterized in part by a lengthened clypeus. Other features are the usually long malar space, micro-ridging on the scapal basin, a frontal carina (when developed) with a broad M-shape and partial posterior rami (broadly biconvex in one species), tergum II apicolaterally obtuse, and tergum III with 4 teeth or lobes. American forms in the male, and to a lesser extent the female, have long whitish hair beneath the head and on the opposing surface of the forecoxae. Other legs are also quite hairy, especially in males. Sternum VIII has the posterior one-half poorly developed and membranous.

The *gibba* group in America presently consists of 13 species, 9 of which are here described as new. All are moderate in size (mostly 9-11 mm long), and green to purple. Most of the species are montane. The only host records are for *tripartita* on bees of the megachilid genus *Anthidium*.

Abbreviations used in the key and descriptions are: flagellomeres, F-I, F-II, etc.; transverse frontal carina, TFC; terga, T-I, T-II, etc.; sterna, S-I, S-II, etc.; median ocellus diameter, MOD; lateral ocellus diameter, LOD.

Cooperators and associated museums who have furnished the bulk of the material studied: A. Willink, L. Stange, C. Porter, Miguel Lillo Institute, Tucumán, Argentina (LILLO); L. Campos, L. Peña, University of Chile, Santiago (SANTIAGO); F. Carrasco, Universidad San Antonio Abad, Cuzco, Peru (CUZCO); M. Cooper, British Museum, Natural History, London (BMNH); R. Schuster, University of California, Davis (UCD); Ing. C. van Achterberg, Rijksmuseum van Natuurlijke Historie, Leiden, Nederland; A. Newton, Museum of Comparative Zoology, Cambridge (MCZ); W. Overal, Museo Goeldi, Belém, Brazil (GOELDI).

*Chrysis alta* Bohart,  
new species

Male holotype: Length 9 mm. Agreeing with description of *saltana* except as

follows: F-I greenish above. Scapal basin and vertex with erect fulvous hair. Scutellum closely punctate, microridged area of scapal basin quite narrow. F-I 1.8x as long as broad, 1.3x F-II length, clypeal apex angularly concave, TFC hardly evident, ocellular space 2.5 LOD: propodeal lateral projection rounded apically, strongly incurved posteriorly (fig. 5); T-III without a median ridge, with 4 sharp but very short teeth (fig. 11), lateral margin broadly curved. Genitalia: Fig. 19.

Female: Unknown.

Holotype male, Cusco, Cuzco, Peru, I-25-65 (F. Carrasco, CUZCO).

Discussion: *C. alta* can be recognized by the erect hair only in the scapal basin, the peculiar propodeal projections (fig. 5), and short teeth of T-III (fig. 11).

*Chrysis atrypa* Bohart,  
new species

Male holotype: Length 9.5 mm. Agreeing with description of *saltana* except as follows: F-I bluish above. Hair of scapal basin erect. Punctures dense on scutellum, close on T-II laterally and T-III apically. F-I 2.2x as long as broad, 1.7x F-II length, clypeal apex weakly convex, F-I longer than either subantennal or malar space, TFC practically absent, propodeal lateral projection nearly straight posteriorly; T-III pit row groove obsolete, individual pits smaller than midocellus, middle pair of teeth acute (fig. 13), lateral margin slightly wavy. Genitalia: Figs. 32, 33.

Female: As in male but F-II also bluish and T-III pits hardly larger than surrounding punctures (fig. 13).

Holotype male, Palle, Lima Prov., Peru, VII-11-82 (C. Porter, T. O'Neill, LILLO). Paratypes, 2 females, Peru: Tarapoto, San Martín Prov. (T. Mitchell, UCD); Chosica, Lima Prov. (Jaffuel, UCD).

Discussion: Recognition characters are the erect hair only in the scapal basin, the long F-I, obsolete pit row groove, and posteriorly straight propodeal projection.

Key to species of *Chrysis gibba* group in America

1. Scapal basin with white appressed hair except along midline (best viewed obliquely from above). . . . . .2  
Scapal basin with erect hair only. . . . . .6
2. Subantennal space more than 3x as long as antennal socket diameter, TFC broadly biconvex (fig. 2) . . . . . *longirostris* Gribodo  
Subantennal space less than 3x as long as antennal socket diameter, TFC M-shaped when present . . . . . .3
3. Pit row hardly indented, pits mostly isolated (fig. 14); T-III prepit area with polished interspaces between well separated punctures. . . *peruvioa* Bohart  
Pit row indented; T-III prepit area closely punctate, not or hardly polished. .4
4. Pronotal dorsal plate medially about as long as head in dorsal view, hair of pronotum and scutum as long as 2-3 MOD, malar space shorter than subantennal space (fig. 3, male known only). . . . . *villosula* Bohart  
Pronotal dorsal plate medially longer than head in dorsal view, hair of pronotum and scutum 1-1.5 MOD, malar space nearly equal to subantennal space (fig. 1) . . . . . .5
5. Pronotal dorsal plate measured at middle about two-fifths as long as broad, propodeal projection short and blunt (fig. 4), Argentina. . *saltana* Bohart  
Pronotal dorsal plate measured at middle about one-third as long as broad, propodeal projection not sharp but forming an acute angle, U.S. to Venezuela . . . . . *tripartita* Aaron
6. T-III pit row weakly developed, most pits small to nearly obsolete (fig. 13); F-I a little more than 2x as long as broad . . . . . *atrypa* Bohart  
T-III pit row well developed, F-I various. . . . . .7
7. Metanotum with a strong longitudinal crest, highest posteriorly (fig. 16) . . . . . *crispa* Bohart  
Metanotum sometimes rough or spiculate but not distinctly crested. . . . . .8
8. Clypeus with close longitudinal microridging (use high magnification), underside of head in male with unusually long and abundant white hair, male flagellum lobulate beneath on articles II-VI (fig. 6) . . *striatula* Bohart  
Clypeus not microridged, head with moderately long hair, male flagellum various. . . . . .9
9. Pronotal dorsal plate longer medially than head in dorsal view. . . . . .10  
Pronotal dorsal plate about as long medially as head in dorsal view. . . . . 11
10. Propodeal projection stout, blunt, convex posteriorly; F-III teeth moderately long, middle pair usually rounded; male flagellum with II-VI lobulate beneath (about as in fig. 6). . . . . *gibba* Brulle  
Propodeal projection rounded apically, strongly concave posteriorly (fig. 5); F-III teeth quite short, but sharp (fig. 11); flagellum not lobulate (male known only). . . . . *alta* Bohart
11. Vertex hair abundant, 2-4 MOD long (fig. 8); T-III lateral margin bowed out at distal two-thirds; clypeus emarginate apically . . . . . *pilosula* Bohart  
Vertex hair moderate, 1-1.5 MOD long; T-III lateral margin nearly straight; clypeus slightly convex apically (female known only).. *florisomnis* Mocsary

*Chrysis crista* Bohart,  
new species

**Male holotype:** Length 9.5 mm. Agreeing with description of *saltana* except as follows: Blue to purple, F-I purplish above, wings nearly clear. Scapal basin with erect pale hair only. Punctures close on scutellum. F-I 2.2x as long as broad, 1.8x F-II length, TFC weak, ocellocular space 3.5 LOD, metanotum with an obtusely angled cristate ridge (fig. 16), T-III lateral margin slightly and broadly convex. Genitalia: Fig. 29.

**Female:** Length 8-9 mm. As in male but often more greenish (some male paratypes too). T-III prepit bulge broad and moderate.

**Holotype male:** Matucana, Lima Prov., 2389 m., Peru, VI-30-74 (C. Porter, L. Stange, LILLO). Paratypes, 12 males, 6 females, Peru: Topotypic (C. Porter, L. Stange, M. Cooper, C. Calmbacher, LILLO, UCD, BMNH); Palle, Lima Prov. (C. Porter, L. Stange, LILLO), Cusco, Cuzco Prov. (F. Carrasco, CUZCO, UCD); Bolivia: Carnavi, La Paz Prov. (J. Ballard, UCD); Chile: Putre, Tarapaca Prov., 3600 m. (Etcheverry, SANTIAGO), Beleñ, Arica Prov. (L. Peña, UCD); Argentina: Mts. near Tilcara, Jujuy Prov. (A. Willink, L. Stange, LILLO).

**Discussion:** The metanotal crest is a distinctive feature of *crista*. Some other species, such as *striatula* and *pilosula* may have raised interpunctural areas but these do not create a strong crest. Other features are the erect hair only in the scapal basin and the broad ocellocular space. The gonostylus of *crista* is similar to that of *pilosula* but the cuspis of the former is more slanted toward the apex.

*Chrysis florissomnis* Mocsáry

*Chrysis florissomnis* Mocsáry 1912:576. Holotype female, Obidos, Amazonas, Brazil (Budapest Mus.). Ann. Mus. Nat. Hung. 10.

**Discussion:** Known only from the type, *florissomnis* is best differentiated by characters given in the key. Especially notable are the erect hair only in the scapal basin, relatively short pronotum, and short T-III teeth.

*Chrysis gibba* Brulle

*Chrysis gibba* Brulle 1846:31. Holotype male, Chile (Paris Mus.). In A. Lepeletier de Saint Fargeau. Hist. Nat. Ins. Hym. 4.

*Chrysis gayi* Spinola 1851:406. Chile (Turin Mus.). In C. Gay. Hist. Chile.

*Chrysis gibba* is a relatively abundant species in Chile and it has crossed the mountain passes into the Argentine provinces of Neuquen and Rio Negro. As in *striatula* (fig. 6), the male flagellum is lobulate, but the scapal basin has erect hair only, and the clypeus is not microridged. The scapal basin hair is a ready means of separation from *saltana*. The gonostylus is unusually slender toward the apex (fig. 20).

*Chrysis longirostris* Gribodo

*Chrysis longirostris* Gribodo 1879:334. Holotype male (Copenhagen Mus.), Minas Gerais State, Brazil. Ann. Mus. Civ. Storia Nat. Genova 14.

In a species group noted for the long clypeus, *longirostris* is still remarkable in this respect (fig. 2). It is known from the holotype male and a female with much the same features from Goias State in Brazil (E. Andre, Paris Mus.). T-III teeth are sharp in both sexes, the propodeal projection is blunt and convex posteriorly, TFC is biconvex (fig. 2), and F-I is only 1.1x as long as II (male), 1.2x (female). The gonostylus is unusually stout (fig. 17).

*Chrysis peruvica* Bohart,  
new species

**Male holotype:** Length 9 mm. Agreeing with description of *saltana* except as follows: Scapal basin with lateral one-third thinly covered with appressed hair. Scutellum closely punctate, T-II laterally without unusually large punctures, extreme lateral edge with a band of micropunctures. F-I 1.9x as long as broad, 1.4x F-II length, clypeus straight anteriorly, subantennal and malar spaces each 4.0 MOD and longer than F-I, T-III pit groove not indented medially and tergal profile evenly convex, more medial pits large (fig. 14), lateral tergal margin faintly bent outward, postpit and prepit areas polished medially. Genitalia: Figs. 30, 31.

**Female:** Length 8-9 mm. As in male except F-I dull bluish above.

**Holotype male,** Simbal (near Trujillo), La Libertad, Peru, VII-7-74 (C. Porter, L. Stange, LILLO). Paratypes, 3 males, 3 females, Peru: topotypic (C. Porter, L. Stange, LILLO, UCD); 2 males, 1 female,

Ecuador: Guayaquil, VI-?-13 (C. Brues, MCZ, UCD; A. Ducke, GOELDI).

Discussion: An obsolete pit groove occurs also in *atrypa*. In *peruvica* T-III is partly polished medially before and after the pit row, but not in *atrypa*. The gonostylus is similar to that of *striatula* but the cuspis is quite different. Specimens in the Museo Goeldi in Belém, Brazil were identified by A. Ducke as *gibba* Brulle.

*Chrysis pilosula* Bohart,  
new species

Male holotype: Length 8.5 mm. Agreeing with description of *saltana* except as follows: F-I greenish above, wings nearly clear. Erect hair on vertex 3-5 MOD long (fig. 8), that on notum nearly as long, scapal basin with erect hair only. Punctures of scutellum close. F-I 2x as long as broad, 1.4x F-II length, clypeus slightly concave at apex, TFC hardly discernible, ocellocular space 3.2 LOD, pronotal dorsal plate equal in median length to head in dorsal view, propodeal lateral projection rather sharp, weakly concave posteriorly (as in fig. 9), T-III with 4 acute teeth, narrowly rounded apically (fig. 15), T-III lateral margin rounded out at distal two-thirds. Genitalia: Figs. 25, 26.

Female: Unknown.

Holotype male, Mina Aguilar, Jujuy Prov., Argentina, XI-28-74 (A. Willink, L. Stange; LILLO).

The vertex hair of *pilosula* is unusually long and abundant. Also of importance are the rather short pronotum, prominent propodeal projection, broad ocellocular space, and peculiar T-III teeth (fig. 15). The genitalia are similar to those of *crista*.

*Chrysis saltana* Bohart,  
new species

Male holotype: Length 9.5 mm. Blue green to purplish, F-I mostly dark, S-II spots rounded, well separated, wings light brown stained. Pubescence pale, 1-2 MOD long behind genal carina, on coxae and femora; scapal basin, except median one-fifth, with appressed white hair. Punctures moderate to coarse and close, somewhat separated by shiny interspaces on scutellum posteriorly, T-II laterally, and T-III in postpit area; scapal basin with some fine crossridging along median line. F-I 1.6x as long as broad, 1.3x F-II length (fig. 1), clypeus slightly concave at apex, subantennal and malar spaces each 2.5 MOD, TFC broadly M-shaped with weak posterior rami, ocellocular space 2 LOD, pro-

notal dorsal plate longer than head in dorsal view, mesopleuron simple with strong scrobal (longitudinal) sulcus, metanotum rough but not cristate, propodeal lateral projection stout, blunt, rounded posteriorly (fig. 4), T-II apicolateral corner narrowly but obtusely rounded, T-II-III with faint indication of a median ridge, T-III with pit row sunken and well developed, pits narrowly separated medially, postpit area with 4 sharp but obtuse teeth and an angle posterolaterally (fig. 10). Genitalia: Figs. 27, 28.

Female: Length 8-9 mm. As in male except: F-I bluish above, 2x as long as broad, and 1.7x F-II length. T-III with a broad but rather low prepit bulge.

Holotype male, Cafayate, Salta Prov., Argentina, XII-11-75 (R. M. Bohart, UCD). Paratypes, 6 males; 7 females, Argentina: topotypic (R. Bohart, UCD); Los Nacimientos de Abajo, Catamarca Prov. (A. Willink, etc., LILLO), Andalgalá, Catamarca Prov. (G. Bohart, USU, UCD), Belém, Catamarca Prov. (G. Bohart, UCD; A. Willink, LILLO), Patquia, La Rioja Prov. (Breyer, LILLO); Los Tigres, S. del Estero Prov. (R. Golbach, LILLO).

Discussion: A full description is given of *saltana* since it embodies most of the features of the group. Both malar and subantennal spaces are long (fig. 1) as is usual. Differentiating characters taken together are the appressed hair of the scapal basin, angled lateral T-III margin (fig. 10), long pronotum, short and blunt propodeal projection (fig. 4), and relatively coarse tergal punctation. A closely related species seems to be *tripartita* which has a longer and more pointed propodeal projection, and slightly shorter pronotum. Also, *saltana* is not known north of Bolivia, whereas *tripartita* is in Venezuela at its most southern point. Genitalia of the 2 species are quite different (figs. 24, 27).

*Chrysis striatula* Bohart,  
new species

Male holotype: Length 10 mm. Agreeing with description of *saltana* except as follows: F-I bluish above. Pubescence unusually long and abundant, that behind gena as long as 7 MOD, scapal basin with erect hair. Punctures of scutellum and T-III postpit area evenly distributed, middle third of scapal basin and clypeus with extensive close microridging. F-I 2.8x as long as broad, longer than either malar or subantennal spaces, 1.6x F-II length, F-II-V lobulate be-

neath (fig. 6), malar space 3.0 MOD, sub-antennal space 2.4 MOD, TFC weak, median ridge of T-II-III hardly indicated, T-III with teeth broadly obtuse and not sharp (fig. 12), lateral margin nearly straight; genitalia: Figs. 34, 35.

Female: Length 8.5-12 mm. As in male except: Flagellomeres not lobulate, middle pair of T-III teeth often rounded.

Holotype male, Mts. near Cafayate, Salta Prov., Argentina, XII-11-76 (R. M. Bohart), UCD). Paratypes (to various institutions), 28 males, 16 females, Brazil: Nova Teutonia, Santa Catarina. Bolivia: Toralapa. Argentina: Tacuil (2700 m.), Yacochuya, and Cachi, Salta Prov.; Mts. near Tilcara and Purmamarca (2100 m.), Jujuy Prov.; Amaicha del Valle, Tucumán Prov.; 7-9 km. s. Angulos, and Cuesta de Miranda (1500 m.), La Rioja Prov.; 10 km. n. Potrerillos, and Tupungato, Mendoza Prov.; Tandil (250 m.), Buenos Aires Prov. Months of collection were December to March.

Discussion: A unique feature of *striatula* is the clypeal microridging. In the male the unusually prominent hair under the head and on the legs as well as the lobulate flagellum are striking. The lobulate condition also occurs in *gibba* but that species has no microridging on the clypeus. Most of the collections were made at considerable altitudes. The gonostylus of *striatula* resembles that of *pemuvica* but the cuspis is quite different (figs. 31, 35).

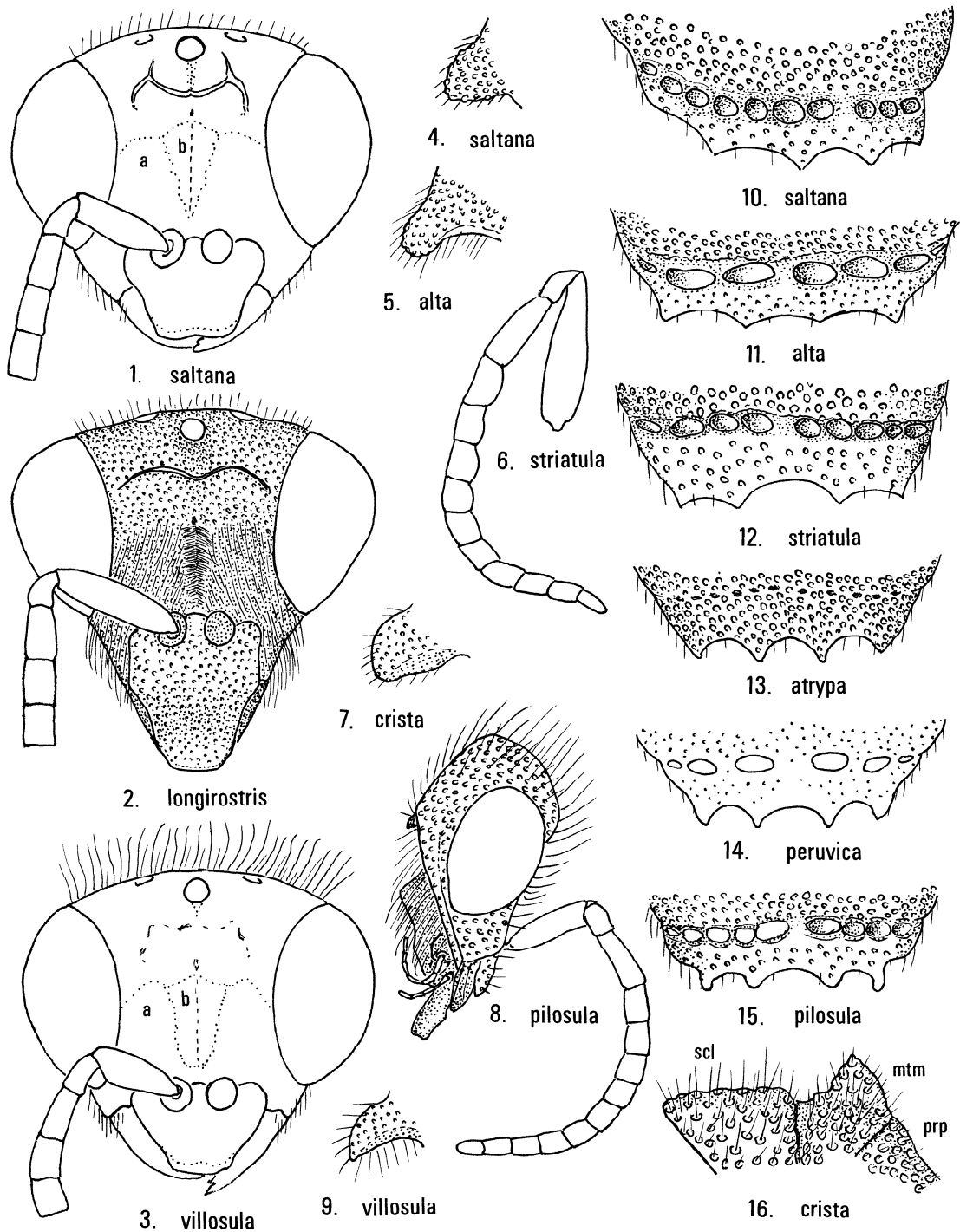
*Chrysis villosula* Bohart,  
new species

Male holotype: Length 8.5 mm. Agreeing with description of *saltana* except as follows: S-II spots large, narrowly separated. Vertex, pronotum and scutum with much pale erect hair as long as 3 MOD. Scutellar punctation close. F-I 2.1x as long as broad, 1.7x F-II length, clypeus convex and unusually narrow at apex, TFC hardly evident, malar space 1.5 MOD (fig. 3), subantennal space 2.4 MOD, ocellocular space 2.7 LOD, pronotal dorsal plate a little shorter than head in dorsal view, propodeal lateral projection moderately sharp, incurved posteriorly (fig. 9), T-II-III without a median ridge, T-III pits partly confluent, T-III with teeth short and not sharp, lateral margin a little wavy. Genitalia: Figs. 22, 23.

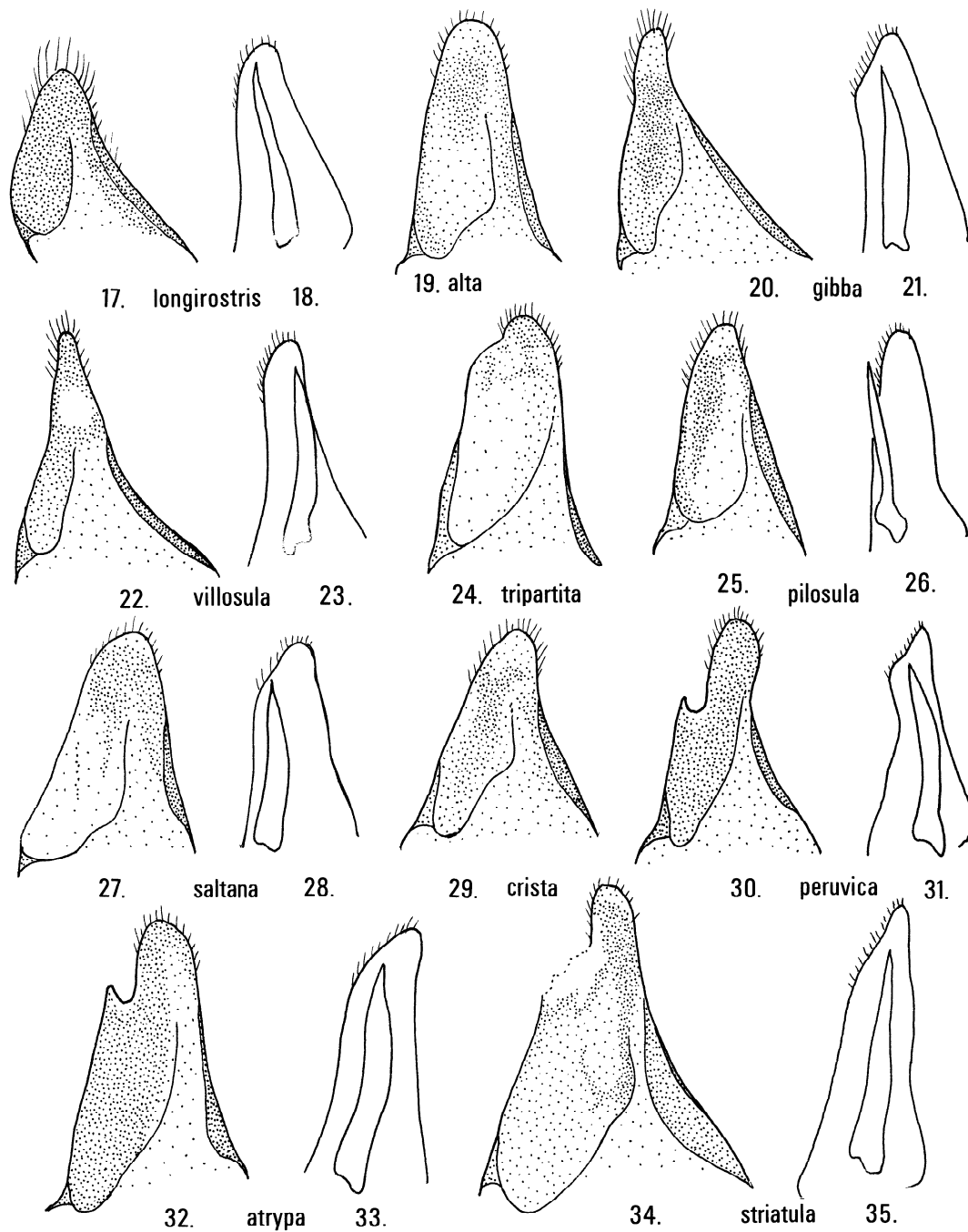
Female: Unknown.

Holotype male, Nochistlan, Zacatecas State, Mexico, 6300 ft., VIII-26-79 (B. Villegas, UCD).

Discussion: The unusual notal hair, narrowed clypeus, relatively short malar space (shortest in the group), broad ocellocular space, short pronotum, and appressed scapal basin hair characterize *villosula*. The gonostylus is unique: acute toward the apex and with a subapical "window" (fig. 22).



Figs. 1-16, *Chrysis gibba* group male holotypes except fig. 13, female paratype. Figs. 1-3, facial view, 1, 3 in outline with appressed hair zone (a) and microridged zone (b). Figs. 4, 5, 7, 9, left propodeal projection, obliquely from above. Fig. 6, left antenna. Fig. 8, head, lateral. Figs. 10-15, T-III pit row area. Fig. 16, propodeum (prp), cristate metanotum (mtm), scutellum (scl), lateral.



Figs. 17-35, gonostylus or paramere (stippled), and cuspis with overlying digitus. Genitalic parts dissected and mounted flat.