

The Genus *Oxybelus* in Chile (Hymenoptera: Sphecidae, Crabroninae)

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Abstract.— The large crabronine genus *Oxybelus* contains 9 species in Chile, 8 of them apparently endemic. Descriptions are given of all 9 species, of which 4 (*mimeticus*, *penai*, *tarapacae*, *toroi*) are described as new. Illustrations of the critical features of the metanotum (squamae) and propodeum (mucro) are given.

Oxybelus Latreille is the largest genus in the Crabroninae. It occurs worldwide except for the Australian area. Of the more than 200 listed species (Bohart and Menke 1976), 23 have been recorded from the Neotropical Region.

Recognition of *Oxybelus* depends upon the somewhat winglike protuberances (squamae) of the metanotum, median spear or blade (mucro) of the propodeum, median longitudinal carina of the scutellum and metanotum, and fused submarginal and discoidal cells of the forewing.

Technical symbols used in the key and descriptions are: MOD, median ocellar diameter; LID, least interocular distance; F-I, II, etc., flagellomeres; T-I, II, etc., abdominal terga after the propodeum; squamae and mucro, described above.

Curators and museums (locality symbols in capitals) who have furnished considerable Chilean material or critical types are as follows: J. Genise, Argentine National Museum (BUENOS AIRES); L. Kimsey, University of California Bohart Museum (DAVIS); C. Vardy, British Museum (LONDON); J. Rosen, American Museum of Natural History (NEW YORK); W. Pulawski, California Academy of Sciences (SAN FRANCISCO); L. Stange, Florida State Collection of Arthropods (GAINESVILLE); M. Fritz, Instituto de Investigaciones Entomologicas, Salta, Argentina (SALTA); H. Toro, Universidad Catolica Museum, Chile (VALPARAISO); M. Fischer, Vienna Museum (VIENNA); R. Brooks, University of Kansas Snow Museum (LAWRENCE); A. Menke, U.S. National Museum (WASHINGTON); A. Roland, Universita di Torino, Italy (TURIN). A majority of the specimens were furnished by Haroldo Toro (above).

Systematics.— A short discussion of species characters will help put the Chilean fauna in perspective. Eight of its 9 known species are endemic. One, *joergenseni*, is a wide-ranging South American form which has presumably penetrated a mountain pass to the west. Not only is this species rare in Chile, it is the only one in which the male has a bearded clypeus and three teeth along the median third of the free edge (Fig. 13). This is a situation common among non-Chilean males.

A species character of special value is the sculpturing of the mesopleuron. Females of many South American species have the mesopleuron extensively polished. In males this feature is represented by coarse and widely spaced punctures on an otherwise smooth surface. Many other species have the mesopleuron with moderate and rather close punctation. None of the Chilean forms have the polished condition. However, *chilensis* and *mimeticus* have the mesopleuron rough, and *penai* has vertical ridges. Since no species of *Oxybelus* are known from Australia, no comparison with the Chilean fauna can be made.

In coloration the South American species divide fairly evenly on the basis of red versus all-black on the female pygidial plate or male last tergum. All known Chilean species fall in the red category. In another character based on markings, the reddish tegula and post-tegula (basal wing sclerite) occur in many South American forms. All Chilean species have this situation except *clandestinus*.

Except for *joergenseni* the Chilean species have the pronotal ridge black, a condition rare in other South American forms.

The shape of the metanotal squamae and the following propodeal mucro are important charac-

ters throughout the genus. Among American species the squamae can be divided as follows: (1) slender and pointed (Fig. 8), (2) stout with an apicolateral point (Fig. 4), or (3) long oval with the point obscure (Fig. 1). Of course, there are variations of these. In the Chilean fauna, category (1) contains *clandestinus*, *toroi*, *marginellus*, and

tarapacae; category (2) has *penai*, *mimeticus* and *chilensis*; category (3) includes *joergenseni* and *cordatus*. With respect to the mucro, those in squamal category (1) have it slender, those in (2) have it stout, and those in (3) have it expanded medially or apically.

KEY TO THE CHILEAN SPECIES OF *OXYBELUS*

1. Mucro spiniform or narrow, (Fig. 6), maximum breadth not more than 1.5 MOD; squama narrow, plainly pointed posteriorly or quite small 2
- Mucro relatively broad, at least in female (Fig. 3), maximum breadth more than 2 MOD; squama rounded, subtriangular or long oval 5
2. Squama small but posterior point strong (Figs. 6, 7), midtibia with a basal yellow dot or spot 3
- Squama exceptionally small (Figs. 8, 9), midtibia various 4
3. Tegula and post-tegula brown and white, last tergum red on apical half; terga with close but weakly impressed punctation, somewhat shiny *clandestinus* Kohl
- Tegula and post-tegula red, last 2 or 3 terga red; terga with close, dull punctation *marginellus* Spinola
4. T-I-II with large, separated spots (Fig. 14), other terga with fragmentary yellow; prepectus areolate or with coarse longitudinal ridging; mucro slender but not spinelike (Fig. 8); midtibia all dark *tarapacae* R. Bohart
- Terga with narrow yellow bands, usually on T-I to IV or V; prepectus (below pronotal lobe) punctate; mucro spinelike (Fig. 9); midtibia maculate *toroi* R. Bohart
5. Mucro flattened and expanded (Figs. 1, 2), squamal point lateral and largely concealed; mesopleuron punctate, not unusually coarse 6
- Mucro stout, incurved beneath (Figs. 3 to 5); squamae various; mesopleural sculpture relatively coarse 7
6. Mucro with greatest expansion subapical (Fig. 1), male clypeus with free edge not tridentate, no bearded area above (Fig. 12) *cordatus* Spinola
- Mucro with greatest expansion median (Fig. 2), male clypeus with free edge tridentate below a bearded area (Fig. 13) *joergenseni* Brèthes
7. Squama with posterior point strong (Fig. 4); prepectus with exceptionally coarse, close punctation; T-I to IV all dark or sometimes T-I with lateral yellow spots, rarely T-II also *mimeticus* R. Bohart
- Squama with point weak and lateral or at most slightly exceeding inner lobe (Figs. 3, 5); prepectus moderately punctate or vertically multiridged; T-I-II, at least, with bright yellow lateral spots 8
8. Lower mesopleuron with coarse punctation but no appressed silvery hair, female with little silvery hair on gena and forefemur; midtibia all dark; mesopleuron without vertical microridging *chilensis* Reed
- Lower mesopleuron moderately punctate but with considerable silvery hair in both sexes, female with much silvery hair on gena and forefemur; midtibia with basal yellow dot; mesopleuron with vertical microridging which is most obvious in female *penai* R. Bohart

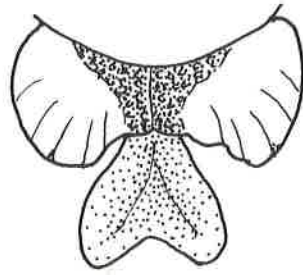
Oxybelus chilensis Reed

Oxybelus chilensis Reed 1894:651. Lectotype male (here designated), Chile (VIENNA).

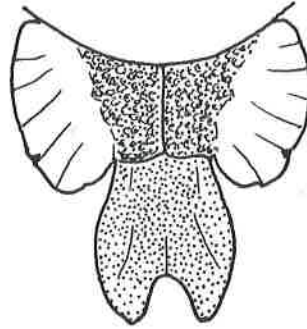
Oxybelus comatus Reed 1894:651. Chile. Types lost? New synonymy.

Female.— Length 6 mm. Black, tegula, post-tegula, T-VI or V-VI, red; metanotal squamae, subapical bands on T-I to V, those on I to IV separated medially, yellow; eyes brown; wings lightly stained.

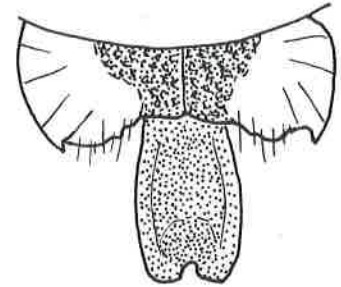
Pubescence silvery appressed on face below and pale erect above and on vertex; moderately abundant and silvery on gena, notum, forefemur, lower mesopleuron, and tergal apices. Punctation moderate and close on head, notum, and terga; coarse on lower mesopleuron; propodeum cross-ridged laterally, ridged to areolate posteriorly. Clypeus with a bevel, flanked by a stout tooth. LID 1.6x eye breadth; metanotal squama rather broad, point lateral; propodeal mucro strong, incurved beneath,



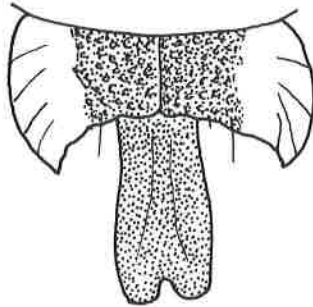
1. cordatus



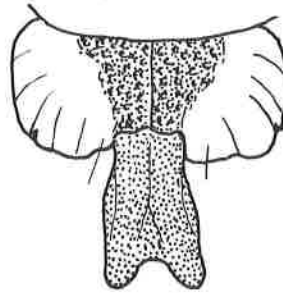
2. joergenseni



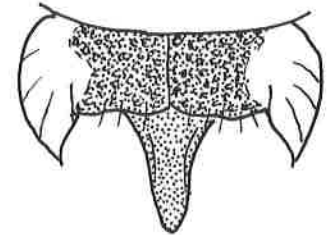
3. chilensis



4. mimeticus



5. penai



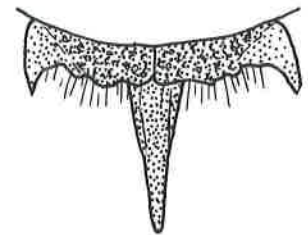
6. clandestinus



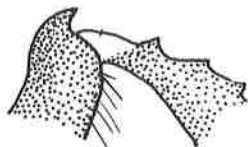
7. marginellus



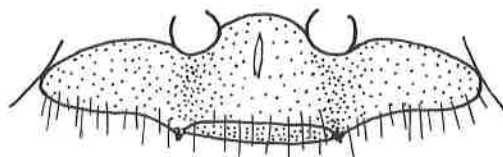
8. tarapacae



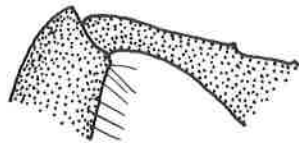
9. toroi



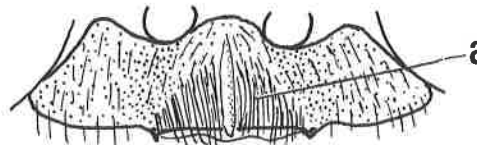
10. mimeticus



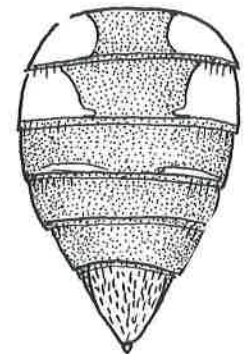
12. cordatus



11. tarapacae



13. joergenseni



14. tarapacae

Figs. 1-9, Squamae and mucro, females. Figs. 10, 11, Femorotibial area, outer view, females. Figs. 12, 13, Clypeus, males; 13a, White beard. Fig. 14, Terga, female, dorsal. Figs. 4, 5, 8, 9, 10, 11, 14, Holotypes. Fig. 12, Paratype. Figs. not drawn to scale.

notched apically (Fig. 3); hindfemur with a strong apicodorsal crest (as in Fig. 10); pygidial plate angled about as in Fig. 14.

Male.—Length 4.5-6 mm. T-VI-VII or V to VII red; T-II to VI with lateral teeth.

Distribution.—The 12 males and 11 females that I have seen are from the Chilean provinces of Coquimbo: Rivadavia, Las Breas; Valparaiso: Las Peñas, Salinas; Santiago: Santiago, Las Condes, El Canelo; Colchagua: Camino a Termas del Flaco; Concepción; Malleco: Lago Icalma, La Fusta Mts., Lago Galletue.

Systematics.—*Oxybelus chilensis* is one of the more abundant species in central Chile. The brown eyes; nearly all black mesonotum; red tegula, post-tegula, and terminal terga; and stout but not expanded mucro are found also in *mimeticus* and *penai*. *O. chilensis* differs from the former species by its more laterally pointed squamae, more extensive tergal maculation, and all dark male midtibia. The coarse vertical ridging of the mesopleuron and extensive silvery pubescence are distinctive in *penai* and will separate it from *chilensis*. Both sexes of *penai* have the lower mesopleuron with silvery hair. In *chilensis* this area is coarsely punctate and not silvery appressed. The poorly described type of *comatus* has not been located and may be lost. The synonymy of *comatus* is based on a specimen of *chilensis* in the British Museum determined by Reed as *comatus*.

Oxybelus clandestinus Kohl

Oxybelus clandestinus Kohl 1905:358. Lectotype female (here designated), Concepcion, Concepcion Prov., Chile (VIENNA).

Female.—Length 6 mm. Black, antenna beneath and apically, mandible medially, pygidial plate apically, reddish; mandible to near base, tegula, post-tegula in part, tibiae basally (extended on foretibia), squama, apicolateral streaks on T-I-II (broken medially) pale yellow; eyes gray; wings very lightly stained. Pubescence silvery appressed on lower half of face, gena, mesopleuron (weak), tergal apices, and pygidial plate. Punctuation mostly fine and close, a little more coarse on mesopleuron; propodeum with cross-ridging laterally and posterolaterally, broadly areolate toward base below metanotum. Free clypeal margin nearly straight, not beveled, a tooth at outer fifth, a small knob on clypeus medially; LID 1.2x eye breadth;

metanotal squamae small, posteriorly pointed, broadly disconnected; propodeal mucro narrow, tapering to a slightly rounded apex (Fig. 6); pygidial plate angled about as in Fig. 14.

Male.—Length 5 mm. No lateral tergal teeth, LID 1.1x eye breadth, T-I only with lateral streak or all T-I to VI dark, T-VII reddish on apical half.

Distribution.—I have seen 7 males and 2 females from the following Chilean Provinces: Nuble: Termas de Chillan, I-27-67 (M. E. Irwin), Concepción (type female and male). Malleco: La Fusta Mts., II-21-62 (L. E. Peña); Curacautin 3 km.s., I-14-89 (L. S. Kimsey).

Systematics.—The slender mucro, pointed squamae, mostly dark tegula and post-tegula, red apical half of last tergum, and gray eyes of museum specimens are characteristic.

Oxybelus cordatus Spinola

Oxybelus cordatus Spinola 1851: 364. Lectotype female (here designated), Chile: "provincias del norte, en Coquimbo, etc." (TURIN).

Female.—Length 4-5 mm. Black, apical two-thirds of flagellum, tegula, post-tegula, legs partly, T-V usually, T-VII, reddish; mandible to base, pronotal lobe, squama, mucro around edge, femora toward apex, tibiae outwardly, lateral spots on T-I, lateral subapical streaks on T-II to IV, pale yellow; eyes gray, wings lightly stained. Pubescence silvery appressed on lower face, becoming yellowish above and brownish on vertex where it is erect but short; off-silvery hair on notum; silvery appressed on gena, mesopleuron, and tergal apices; pygidial setae yellowish. Punctuation fine and close, propodeum mostly polished laterally, weakly sculptured posteriorly. Clypeus with free edge beveled across middle half, flanked by a sharp tooth, median knob obsolete; LID about equal to eye breadth; metanotal squama broad, point lateral; propodeal mucro flattened, about as broad as long, obtusely notched at apex (Fig. 1); hindfemur with a moderate apicodorsal crest; pygidial plate angled at 75°, unusually narrow at apex.

Male.—Length 4-5 mm. Last flagellomere black, T-V to VII usually red, legs more extensively yellow, mucro usually a little more narrow, T-II to VI with small lateral teeth, clypeal shape (Fig. 12). *Distribution*. This is the most abundant and widely dispersed of the Chilean *Oxybelus*. I have studied about 320 males and 120 females from the follow-

ing Chilean Provinces: Atacama, Coquimbo, Aconcagua, Valparaiso, Santiago, O'Higgins, Curico, Linares, Nuble, Bio-Bio, Malleco, and Aisén.

Systematics.— Principal characters are the extensive yellow leg markings, flat mucro which is short and broad as well as obtusely notched apically (Fig. 1), relatively simple male clypeus, and overall fine punctation.

Oxybelus joergenseni Brèthes

Oxybelus joergenseni Brèthes 1913: 141. Holotype female (Type examined), Mendoza, Mendoza Prov., Argentina (BUENOS AIRES).

Female.— Length 7 mm. Black, flagellum clypeal bevel, tegula, post-tegula, legs slightly, T-V-VI and associated sterna, red; mandible mostly, pronotum nearly all across, suctellar spots, squamae, apical femoral spots, subapical bands on T-I to IV, that on I enlarged laterally, yellow; eyes gray; wings nearly clear. Pubescence silvery appressed on lower face, gena, forefemur, mesopleuron; off-silvery on vertex, notum. Punctation moderately fine and close on vertex, notum; moderate and somewhat separated on shiny integument of upper face, mesopleuron; fine and close on terga, propodeum mostly polished laterally, weakly areolate posteriorly. Clypeus with free edge beveled across middle three-fifths, flanked by a sharp tooth, median knob present; LID about equal to eye breadth; metanotal squama longer than broad, point latera; mucro flattened, expanded medially, acutely notched at apex (Fig. 2); hind femur with strong apicodorsal crest; pygidial plate angled at about 80°; sides distinctly convex.

Male.— Length about 5 mm. Last flagellomere dark, T-VI-VII red, tibiae and tarsi extensively yellow, free edge of clypeus with 3 teeth medially (Fig. 13), central one dividing a beard, T-III to VI with slender lateral teeth.

Distribution.— *Oxybelus joergenseni* occurs widely in South America. The only Chilean material I have seen are 2 males from the U.S. National Museum. Data on the specimens are "Chile, R. C. Shannon."

Systematics.— Characteristics of this species are the expanded mucro, convexly sided female pygidial plate, red T-V-VI (female) or T-V to VII (male), tridentate male clypeus, red tegula and post-tegula, and complete yellow bands on T-I to IV. In addition it differs from other Chilean species by having pale markings on the pronotal ridge.

Oxybelus marginellus Spinola

Oxybelus marginellus Spinola 1851:365. Lectotype male (here designated), Chile (TURIN).

Female.— Length 6.0-6.5 mm. Black, antenna weakly beneath, tegula and post-tegula, T-V at least partly, and pygidial plate, red; squama, basal tibial spots, lateral spots on T-I-II, lateral streaks on T-IV or absent, pale yellow; eyes usually brown; wings very lightly stained. Pubescence silvery appressed on lower face, gena, and apical bands of T-I to IV; brownish erect hair on upper face, vertex, notum, and mesopleuron; golden are apical fringe of T-V and sparse setae of pygidial plate. Punctation rather fine to moderate, a few larger punctures on mesopleuron above and on rather polished lower area; propodeum cross-ridged laterally, areolate posteriorly. Free clypeal margin toothed at lateral fourth, flanking a median beveled strip, a small knob on clypeus medially; LID 1.2x eye breadth, metanotal squama small, pointed; propodeal mucro clublike, gradually expanding to 1 MOD with hardly incised apex (Fig. 7); hindfemur without a prominent apicodorsal crest; pygidial plate angled about as in Fig. 14.

Male.— Length 4.5-5 mm. Lateral teeth weakly developed on T-III to VI; erect hair on upper face, vertex, and mesopleuron pale; T-V to VII red; mandible sometimes partly yellow.

Distribution.— Thirteen males, 4 females, from Chilean Provinces: Aconcagua: Los Riecello, 2800 meters, I-20-74 (H. Toro); Santiago: Santiago (A. Faz), Las Condes, X-1953 (L. Peña) Cañon del Plomo, XII-1988 (M. Fritz); Nuble: Termas de Chillan, I-27-67 (M. Irwin); Malleco: Lago Icalma, I-15-62 (L. Peña), I-II-79 (O. Martinez), I-II-79 (Pasten), I-12-89 (L. Kimsey), Lago Galletue, I-9-62 (L. Peña).

Systematics.— The usually brown eyes of museum specimens, slender but not spinelike mucro, basal tibial spots, red tegula and post-tegula, and brownish erect hair of the female upper face and vertex, characterize the species.

Oxybelus mimeticus R. Bohart, new species

Female holotype.— Length 7 mm. Black, tegula posteriorly, post-tegula inwardly, T-V-VI (VI yellowish), red; metanotal squama on outer half, weak basolateral dot on T-I, yellow; eyes mahogany red; wings nearly clear, venation dark brown. Facial pubescence silvery appressed below, erect and

partly brownish above, pale on thorax (not appressed on mesopleuron), and laterally (not fringed) on terga. Punctuation moderate and close on head, notum and terga, quite coarse and about 0.5 MOD on mesopleuron; genal area multiridged; propodeum partly cross-ridged laterally, coarsely posterolaterally and behind metanotum. Clypeus with a weakly impressed bevel, flanked by a stout tooth; LID much greater than eye breadth; metanotal squama with point posterior; propodeal mucro strong, twice as long as broad, incurved beneath, with a small apical notch (Fig. 4); hindfemur with a stout apicodorsal crest (Fig. 10); pygidial plate angled about as in Fig. 14.

Male.— Length 5.5 - 6.0 mm. About as in female; LID about 1.3x eye breadth, T-I sometimes all black, midtibia and hindtibia sometimes with basal yellow dots, T-V to VII and associated sterna red; lateral teeth on T-II to VI well developed.

Types.— Holotype female (American Museum of Natural History, NEW YORK), Chile, Atacama: 26 mi. s. Copiapó, X-19-69 (J. Rozen, L. Peña). Paratypes, 16 males, 2 females, Chilean Provinces: Atacama: Rio Pinte, 1400 m, II-2-67 (L. Peña, VALPARAISO); Paipote, X-12-71 (J. Rozen, L. Peña, NEW YORK); Tierra Amarilla, II-1-72 (W. Sielfeld, H. Toro, VALPARAISO); Los Loros, X-4-82 (E. Chiappa, DAVIS). Coquimbo: Las Breas, XI-78 (H. Toro, DAVIS); Balala, X-18-79 (L. Ruz), VALPARAISO; 5 mi. n. Laguna Dam, 8000 ft., XII-6-50 (E. Ross, A. Michelbacher, SAN FRANCISCO), Rivadavia, X-29-57 (L. Peña, VALPARAISO). Santiago: Rio Clarillo, Cordillera, XII-1989 (L. Stange, GAINESVILLE).

Systematics.— The stout and downcurved mucro occurs in *penai*, *mimeticus*, and *chilensis*. All of these have the mesopleural punctuation close and rough. However, the first two have it exceptionally rough, and *penai* has vertical ridges and abundant silvery hair on the lower mesopleuron in addition. The squamae of *mimeticus* are moderately stout but have a strong posterior point. In the other two, the squamae are broader and the point is more lateral.

***Oxybelus penai* R. Bohart, new species**

Female holotype.— Length 7 mm. Black, tegula, post-tegula, T-V-VI, red (pygidium only a little brown-tinged in a female paratype); pronotal lobe dully, basal dots on midtibia and hindtibia, lateral spots on T-I to IV, yellow; eyes brown; wings nearly clear. Appressed facial pubescence silvery,

erect hair above pale but a little dark on vertex (much darker in paratypes); abundant, rather appressed, somewhat shaggy silvery hair on gena, femora, and lower mesopleuron; pygidial setae pale golden. Punctuation moderate and close on head, notum and terga; multiridging on gena (obscured by pubescence); mesopleuron with prominent dorsoventral multiridging; propodeum with strong lengthwise ridges laterally, cross-ridges posteriorly. Clypeus with a pronounced bevel, flanked by a weak tooth, a prominent median knob above; LID 1.6x eye breadth, face bulging toward middle; metanotal squama large, pointed laterally before posterior apex, propodeal mucro strong, twice as long as broad, incurved beneath, with a moderate apical notch (Fig. 5); hindfemur with a moderate apicodorsal crest; pygidial plate angled at 85°.

Male.— Length 6 mm. As in female but silvery pubescence less prominent, T-V to VII red, T-II to VI with lateral teeth.

Types.— Holotype female (Catolica Museum, VALPARAISO), Chile, Valparaiso Province, Concon, II-1963 (Nuñez). Paratypes, 36 males, 7 females, collected by L. Peña, L. Ruz, E. Reed, A. Faz, J. Lagunacelaya, E. Tosti-Croce, F. Rodriguez, H. Toro, and L. Kimsey. Provinces of paratypes are Atacama: La Junta; Coquimbo: Las Breas, Rivadavia; Valparaiso: Las Peñas, Via del Mar, Olmue, Salinas; Santiago: Santiago, El Peumo, Pudahuel, El Canelo; Colchagua: Camino a Termas del Flaco; Curico: Los Quenes, Mt. Tonlemo; Talca: El Radal, 1100 m; Linares: Villego; Malleco: Conguillio National Park, Nahuelbuta; Chiloe: Los Quellon. Paratypes have been deposited in the museums listed in the introduction. The species is named for the well-known Chilean collector, Luis E. Peña.

Systematics.— Related species, judging by the similar squamae and mucro, are *mimeticus* and *chilensis*. The vertical multiridging of the mesopleuron is distinctive. However, it may not be easily seen in some males, and there might be confusion with *chilensis*. In these cases the silvering of the lower mesopleuron in *penai* is differentiating. From *mimeticus* the lateral rather than posteriorly pointing squamae of *penai*, as well as the extensive silvery hair of the female, are additional differences.

Oxybelus tarapacae R. Bohart, new species

Female holotype.— Length 6 mm. Black, flagellum toward apex beneath, tarsi dully toward apex, tegula and post-tegula, T-V apically, T-VI and associated sternum, red; large lateral spots on T-I-II, thin and broken subapical line on T-III, yellow (Fig. 14); wings a little stained; eyes brownish grey (brownier in paratypes). Appressed facial pubescence silvery, that of vertex and elsewhere pale and scanty (erect on mesopleuron), pygidial setae reddish golden. Punctuation mostly rather fine and close, mesopleuron with longitudinal ridges, strongest on prepectus, lower mesopleuron moderately punctate, propodeum laterally almost all polished, cross-ridged posterolaterally, areolate below metanotum, terga a little polished between punctures. Clypeus with an obtuse bevel flanked by a small tooth; LID 1.5x eye breadth; metanotal squama small, posteriorly pointed, mucro finger-like, not sharply pointed (Fig. 8); hindfemur without an apicodorsal crest (Fig. 11); pygidial plate angled as in Fig. 14.

Male.— Length 5 mm. T-VI and T-VII mostly red, no lateral tergal teeth.

Types.— Holotype female (Catolica Museum, VALPARAISO), Chile, Tarapaca Prov.: Chusmisa, X-15-81 (H. Burgos). Paratypes (DAVIS), male, female, Tarapaca Prov.: Chusmisa, II-82 (P. Toro).

Systematics.— The dark squama, relatively large yellow spots on T-I-II, and all dark legs, characterize the species.

Oxybelus toroi R. Bohart, new species

Female holotype.— Length 5 mm; black, flagellum and tarsi mostly, tegula, post-tegula inwardly, terga V-VI and associated sternum, red; mandible medially, pronotal lobe, post-tegula outwardly, tibiae outwardly, metanotal squamae weakly, narrow subapical bands on T-I to V, that on V a little reddish, that on I slightly enlarged laterad, yellow; eyes gray; wings nearly clear. Appressed facial pubescence, erect vertex hair, appressed mesopleural pubescence, tergal fringes, pygidial setae, very

slightly off-silvery. Punctuation moderately fine and rather close on head, thorax and terga; propodeum with cross-ridging laterally and posterolaterally, broadly areolate toward base below metanotum. Clypeus with an obtuse median bevel, flanked by a sharp tooth; LID greater than eye breadth; metanotal squamae quite small and widely separated; propodeal mucro a slender spike (Fig. 9); hindfemur without an apicodorsal crest; pygidial plate angled at 85°.

Male.— Length 4.0-4.5 mm. No lateral tergal teeth, LID only a little greater than eye breadth, T-VI-VII red, mandible yellow to near base, tibiae mostly dark.

Types.— Holotype female (Catolica Museum, VALPARAISO), Chile, Antofagasta Prov.: San Pedro, I-7-71 (W. Sielfeld). Paratypes, 4 males, 2 females, same data as type; other paratypes, Antofagasta Prov.: male, Chiu-Chiu, I-24-72 (W. Sielfeld); female, Quillagua, X-12-81 (E. Tosti-Croce); male, Losana, IX-13-71 (L. Ruz); Tarapaca Prov.: Iquique, Quebrada de Chiza, II-II-89 (R. Miller, L. Stange). Paratypes have been deposited in the museums listed in the introduction.

Systematics.— The spinelike mucro (so slender that it may be broken off in some males), tiny squamae (Fig. 9), narrow yellow tergal bands, and gray eyes of museum specimens, are characteristic.

The species is named for Haroldo Toro, who furnished the majority of the specimens used in this study.

LITERATURE CITED

- Bohart, R. M. and A. S. Menke. 1976. *Sphecid Wasps of the World, a Generic Revision*. University of California Press, Berkeley. ix + 695 pp.
- Brèthes, J. 1913. Himenopteros de la América Meridional. *Anales del Museo Nacional de Buenos Aires* 24: 5-165.
- Kohl, F. F. 1905. Hymenopterentypen aus der neotropischen Fauna. *Verhandlungen Zoologische-Botanische Gesellschaft Wien* 55: 338-366.
- Reed, E. C. 1894. Entomologia Chilena. Los fosoires o avispas cavadoras. *Anales de la Universidad, Republica de Chile* 84: 599-653.
- Spinola, M. 1851. In Gay, C. *Historia Fisico y Politica de Chile*. Maulde and Renon, Paris. *Zoologia*, vol. 6., 572 pp.