

NEOTROPICAL TINEIDAE VIII: *FALSIVALVA*, A NEW GENUS FROM  
AUSTRAL SOUTH AMERICA WITH EXTREME MODIFICATION OF THE  
MALE POSTABDOMINAL TERGA (LEPIDOPTERA: TINEIDAE)

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*Abstract.*—*Falsivalva*, new genus is described and illustrated. In addition to the previously named type species, “*Tinea*” *prensoria* Meyrick, three new species, *F. clavata*, *F. nephophila*, and *F. paraprensoria*, are described. The most conspicuous synapomorphy of *Falsivalva* is the highly specialized tergum IX (tegumen) of the male, which is greatly enlarged and almost completely divided to resemble the male gonopods (valvae). It is suggested, but not observed, that these paired structures may function either to guide or clasp the female oviscapt during copulation. The genus occurs in both coastal and Andean *Nothofagus* forests primarily in southern Chile from approximately 35°S in Maule Province south to about 45° in Chiloe Island and east to Neuquén Province, Argentina. The biology is unknown.

*Key Words:* Argentina, Chile, male genitalia, morphology, pectinifer, *Pelecystola*, tegumen, tergum IX

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The most recent catalogue of Neotropical Tineidae (Davis 1984) lists 51 valid species for the genus *Tinea* for the region. Research to date by DRD and others indicate that at least half of these are not congeneric with the type of the genus, *Tinea pellionella* L., and require reassignment to other genera. Such has been the decision for the species known previously as *Tinea prensoria* Meyrick. During his prolific career, Edward Meyrick described over 14,000 species of Microlepidoptera, excluding Pyraloidea (Clarke 1955). Although the significance of genitalic morphology to Lepidoptera classification was beginning to be realized well before his death in 1938,

Meyrick preferred not to utilize those characters in classification and rarely referred to the genitalia in his species descriptions. However, in his description of *Tinea prensoria*, Meyrick (1931) referred to the male genitalia of this species by stating “valvae extremely long, nearly as long as rest of abdomen (this however shorter than usual), narrow, slightly expanded towards rounded apex, clothed with rough hairs,” and “The valvae are relatively longer than in any other species known to me.”

Indeed the valvelike structures in the males of *prensoria* are noteworthy in that they may equal the length of the entire pregenital abdomen. Upon examination,

however, we determined that the 'valvae' noted by Meyrick are derived from tergum IX. These structures, therefore, cannot be homologous to the male valvae (or gonopods) which are considered to be appendages that articulate with the posteroventral margin of segment IX (Kristensen 2003). More convincingly, true valvae articulating with the caudal margin of the vinculum are present in *prensoria* and its allies, but these are greatly reduced and relatively inconspicuous compared to the prominent dorsal lobes. Even though this segment is almost completely divided into two valvoid lobes in the new genus *Falsivalva*, the segment is believed to represent the sclerotized dorsal half of segment IX, or tegumen. The position of the anus, immediately ventral and near the base of this tergite, further supports this homology. It is possible that these extended lobes assist the smaller valvae as guides for the ovipositor or even clasping organs during copulation. After clearing in potassium hydroxide, the tegumenal lobes can be easily spread apart (e.g., Clarke 1970: fig. 2a, plate 51) suggesting that some lateral movement of these lobes might be possible in life. Observations of these species *in copulo*, as well as a study of the musculature of these structures, likely would provide further insight on the homology and function of the tegumenal lobes.

In addition to *F. prensoria*, extensive fieldwork in southern Argentina and Chile during 1979–1982 by D. and M. Davis and E. Nielsen and O. Karsholt resulted in the discovery of three additional species in this genus. All adults are believed to have been collected in traps utilizing either mercury vapor or ultraviolet lights. Nothing is known of their immature stages or biology. Their subfamily relationships likewise are unknown. The biotic provinces referred to in the species distributions were summarized by Davis (1986).

#### MATERIALS AND METHODS

After macerating the abdomen in 10% KOH and subsequent cleaning and staining with chlorazol black, the abdomen and genitalia were mounted ventral side up on slides in Canada balsam. Before mounting, the male genitalia were placed temporarily in glycerine to illustrate both lateral and ventral views. The wings were descaled by gently brushing in 70% ethanol, stained overnight in safranin, and mounted either dry under a coverslip or in Canada balsam.

Specimens examined are deposited in the institutions listed below (acronyms as used in this study are in parentheses): The Natural History Museum (formerly the British Museum (Natural History)), London, United Kingdom (BMNH); Instituto de Zoología, Universidad de Concepción, Concepción, Chile (IZUZ); Museo Argentino de Ciencias Naturales "Bernardino Rivadavia," Buenos Aires, Argentina (MACN); collections of the former United States National Museum, now deposited in the National Museum of Natural History, Smithsonian Institution, Washington, DC, U.S.A. (USNM); and Zoologisk Museum, Universitets Kobenhaven, Copenhagen, Denmark (ZMUC).

#### RESULTS AND DISCUSSION

##### *Falsivalva* S. and D. Davis, new genus

Type species.—*Tinea prensoria* Meyrick 1931.

Adult.—Small moths with forewing length 4.2–8.0 mm.

*Head* (Figs. 10–11): Vestiture rough; frons and vertex densely covered with erect scales. Antenna simple,  $\sim 0.7\text{--}0.8\times$  length of forewing; scape without pecten; flagellum with 2 dorsal and 1 ventral rows of scales encircling each segment. Eye well developed, vertical diameter  $\sim 1.3\times$  length of scape; frons wide, interocular index (= vertical diameter of eye/minimum interocular distance

across frons  $\times 100$ )  $\sim 0.8$ . Labrum trilobed, with central lobe triangular; pilifer well developed, slender. Mandible vestigial but moderately large. Haustellum reduced,  $\sim 0.7\times$  length of maxillary palpus. Maxillary palpus elongate, 5-segmented; apical segment with minute subapical process; length ratio of segments from base: 1.0:0.9:1.3:4.5:1.8. Labial palpus well developed; length ratio of segments from base: 1.0:2.6:1.8; vestiture moderately smooth dorsally, rough ventrally, with  $\sim 4$ – $6$  elongate, fuscous bristles arising latero-ventrally and  $\sim 12$ – $14$  from apex of segment 2.

*Thorax:* Forewing (Fig. 12) moderately slender, W/L ratio  $\sim 0.29$ , apex slender, subacute. Venation with most veins well developed. Forewing with all 5 branches of R present and separate; Rs4 terminating on costa before apex; accessory cell indistinct, open; M1-3 all separate; CuA1-2 separate; CuP relatively distinct; A1 and 2 with basal fork, then fused for  $\sim 2/3$  their remaining length; male retinaculum moderately curved. Hind wing W/L ratio  $\sim 0.35$ ; M1 and 2 forked for half their length, M3 separate; CuA1, 2, and A1 well developed; A2 and 3 slightly more faint; frenula a single bristle in male, 2 bristles in female. Legs with tibial spur pattern of 0-2-4; epiphysis present,  $\sim 0.4\times$  length of foretibia.

*Abdomen* (Fig. 13): Sternum 2 apodemes slender, nearly straight,  $\sim 0.3\times$  length of undivided base of S2. Male tergum VIII shorter, more sclerotized than preceding terga; caudal margin with broad median excavation  $\sim 1/3$  width of tergum. Male coremata and female corethrogyne absent. Male genitalia: Uncus absent. Tegumen (tergum IX) deeply divided to base, forming pair of elongate, valviform lobes extending  $0.5$ – $1.0\times$  length of pregenital abdomen; primary lobes with 1–2 triangular to digitate processes arising from various locations along lobe, usually dorsally but sometimes ventrally. Vinculum (sternum

IX) irregular, narrow, ventral band loosely connected to base of tegumen by slender to thickened, membranous fold; anterior margin of vinculum with pair of short, triangular lobes. Valvae short,  $\sim 0.35$ – $0.55\times$  length of tegumen, generally triangular laterally; basal half of costal margin of valva with pair of diverse processes; a much larger basal process, slender at base then enlarging to irregularly shaped distal half bearing apical pectinifer consisting of row of  $\sim 19$ – $35$  short spines and, in 2 species, short, subapical tubular spur; a more distal costal process arising midway along costal margin, consisting of slender tube of uniform diameter with length  $\sim 0.2$ – $0.65$  that of valva; apex of tube with 2–12 setae of variable size. Transstilla a thickened, strongly arched sclerite connecting bases of valvae. Juxta irregular in form, usually a curved, thin, ligulate sclerite firmly connecting aedeagus to vinculum. Aedeagus more broadly cylindrical at base, gradually narrowing and curving to slender apex; cornuti absent. Female genitalia: Oviscapt elongate, telescoping. Posterior apophysis very long; length  $\sim 2$ – $3\times$  that of anterior apophysis. Ostium relatively simple, located near anterior margin of sternum VIII. Segment VII unspecialized, moderately sclerotized. Ductus bursae with moderately well developed, thickened antrum  $\sim 0.25$ – $0.3\times$  length of anterior apophysis; ductus then becoming very slender, elongate; corpus bursae abruptly expanding at junction with ductus bursae, approximately oval, membranous, without signa; ductus seminalis variable in size, greatly dilated to slender in diameter; junction either at apical or subapical end of corpus bursae.

*Etymology.*—The generic name is derived from the Latin *fallax* (false, deceitful) and *valva* (leaf of a folding door), in reference to the hyper-development of the tegumen in the male genitalia to form

prominent valviform lobes. It is feminine in gender.

Discussion.—The generic and subfamily relationships of this aberrant genus are uncertain. Few genera of Lepidoptera are known whose males have evolved specializations of tergum IX approaching those developed within *Falsivalva*. Males of the North American *Corythophora aurea* Braun (Lyonetiidae) possess prominent, well separated lobes from tergum IX that equal the length of the slender, elongate valvae (Davis and Landry in prep.). The paired lobes of the uncus in some species of the Asian tineid genus *Tineovortex* are less developed but may nearly equal the length of the elongate valvae (Huang et al. 2007). The forewing pattern of *Falsivalva* superficially resembles that of the South African *Cosmeombra doxochares* (Meyrick), known only from a female which was figured by Janse (1968). However, the female genitalia of *doxochares* differs significantly in possessing extremely shortened oviscapt and apophyses, with a more heavily sclerotized seventh segment.

In addition to the extremely modified, valviform tegumen, males of *Falsivalva* are characterized by the development of a peculiar stalked process from the base of the costal margin of the valvae which bears a pectinifer at its apex. Few tineid genera are known to possess a pectinifer on the valvae. Of those that do, the relatively short, triangular valvae of the widespread genus *Pelecystola* resemble those of *Falsivalva* the most. As in males of the latter, the valva of *Pelecystola* possesses a slender, stalked process from the extreme base of the costal margin which bears an apical pectinifer (Gozmány and Vári 1973). The male genitalia of *Pelecystola* differ from that of *Falsivalva* in possessing a more typical tegumen in the form of a dorsal, undivided ring, a well developed uncus, and valvae with divided apices.

KEY TO THE SPECIES OF *FALSIVALVA*  
(Based on male genitalia)

1. Tegumenal lobes of tergum IX with both basal and medial processes from dorsal margin of lobe (Figs. 15, 21) . . . . . 2
  - Tegumenal lobes lacking basal processes . . . . . 3
2. Distal half of tegumenal lobes slender (Fig. 15), broadest near apex  $\sim 0.12 \times$  length of distal half (measured from base of medial process) . . . . . *F. prensoria* (Meyrick)
  - Distal half of tegumenal lobes broader (Fig. 21), broadest near apex  $\sim 0.37 \times$  length of distal half . . . . . *F. paraprensoria*, n. sp.
3. Distal half of tegumenal lobes slender, gradually tapering to apex (Fig. 25), dorsal medial process well developed; subapical process absent . . . . . *F. nephophila*, n. sp.
  - Distal half of tegumenal lobes expanding to broad, truncate apex bearing prominent digitate, subapical process ventrally (Fig. 29); medial process absent . . . . . *F. clavata*, n. sp.

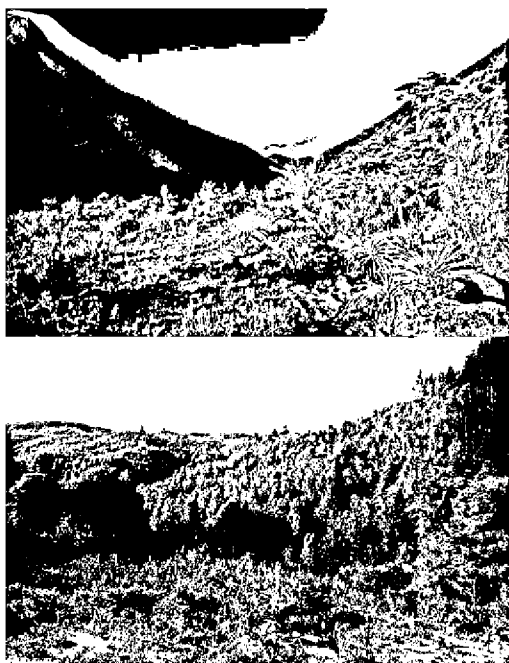
*Falsivalva prensoria* (Meyrick)  
(Figs. 1, 5, 6, 10–19)

*Tinea prensoria* Meyrick 1931: 412.—  
Clarke 1970: 103.—Davis 1984: 23.

Adult (Fig. 6).—Forewing length 6.0–8.0 mm.

*Head*: Dark brown to fuscous. Antenna dark brown to fuscous dorsally, slightly lighter brown ventrally; scape cream ventrally. Maxillary palpus brown dorsally, light grayish brown and cream ventrally. Labial palpus mostly grayish brown ventrally, creamy light brown dorsally; lateral and apicolateral margins of segment 2 with  $\sim 7$ –23 slender bristles.

*Thorax*: Pro- and mesonota dark bronzy fuscous, edged with white along posterior margin; tegulae mostly dark bronzy fuscous basally, white apically; metanotum mostly bare, with medial pair of small, brown tufts. Forewing creamy-white, with small dark brown striae interspersed throughout creamy-white area; large, irregular, dark bronzy fuscous area along basal half of costa, becoming broadest near middle of wing; series of 4 smaller, dark fuscous spots



Figs. 1–2. Habitats of *Falsivalva*. 1, Rio Teno, ca 40 km E Curicó, Curico Province, Chile (*F. prensoria*). 2, El Pantanillo, 17 km SE Constitución, 350 m, Talca Province, Chile (*F. paraprensoria*).

along outer half of costal margin to apex, with subapical spot largest; light grayish brown to golden-brown suffusion over distal third of wing and similar but smaller suffusion over cubital area near indistinct tornus. Hind wing and fringe grayish brown. Fore- and midlegs mostly dark bronzy fuscous dorsally, light brown to cream ventrally; apices of tibiae and tarsomeres with cream; mid-tibiae with cream band at middle; hind legs with similar pattern as fore- and midlegs but paler, more brown.

**Abdomen:** Grayish brown dorsally and laterally, paler brown to cream ventrally. Male genitalia (Figs. 13–17): Tegumenal lobes elongate, nearly  $3.5\times$  length of valva, with 2 dorsal processes; basal process short, triangular; medial distal process elongate, with base sharply curved, moderately angulate; distal half of tegumenal lobe slender, only slightly



Figs. 3–4. Habitats of *Falsivalva*. 3, Cloud cover over Altos de Talinay, Fray Jorgé National Park, ca 70 km W Ovalle, Limari Province, Chile. 4, Light trap (see arrow) site inside forest along crest of Altos de Talinay (Fig. 3), Fray Jorgé National Park (*F. nephophila*).

broadening toward apex. Vinculum very short, broad, with pair of short, triangular lobes from anterior margin. Valva as described for genus; basal process with apical lobe relatively elongate; pectinifer bearing  $\sim 31\text{--}34$  spines; subapical spur of basal lobe reduced; distal process very slender, elongate,  $\sim 0.5\times$  length of valva. Aedoeagus as illustrated (fig. 18) and described for genus. Female genitalia (Figs. 19): Length of posterior apophysis  $\sim 3\times$  that of anterior apophysis. Antrum  $\sim 0.3\times$  length of anterior apophysis; remainder of ductus bursae very slender,  $\sim 2\times$  length of anterior apophysis; joining anterior end of ductus seminalis at caudal end of corpus bursae. Corpus bursae oval,  $\sim$ half length of posterior apophysis. Ductus seminalis greatly dilated for most its length; over

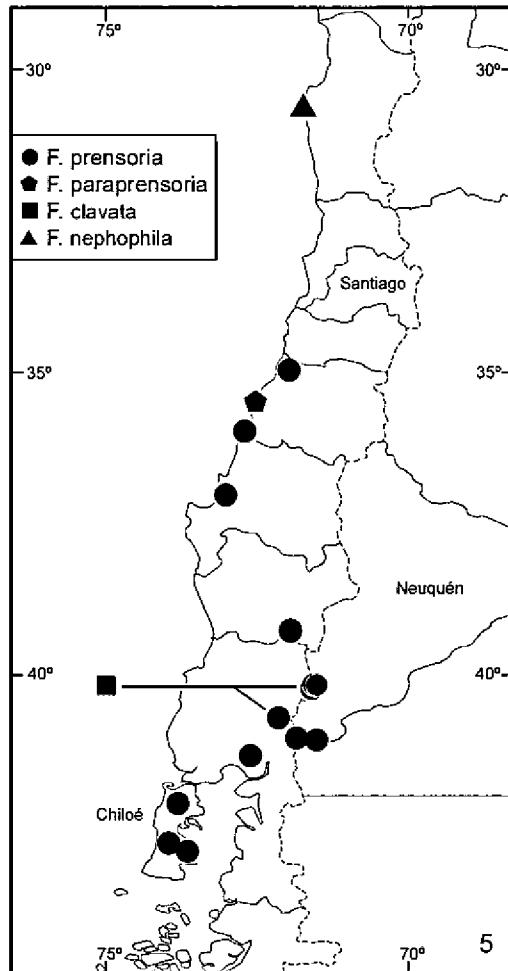


Fig. 5. Distribution of *Falsivalva* in Chile and Argentina.

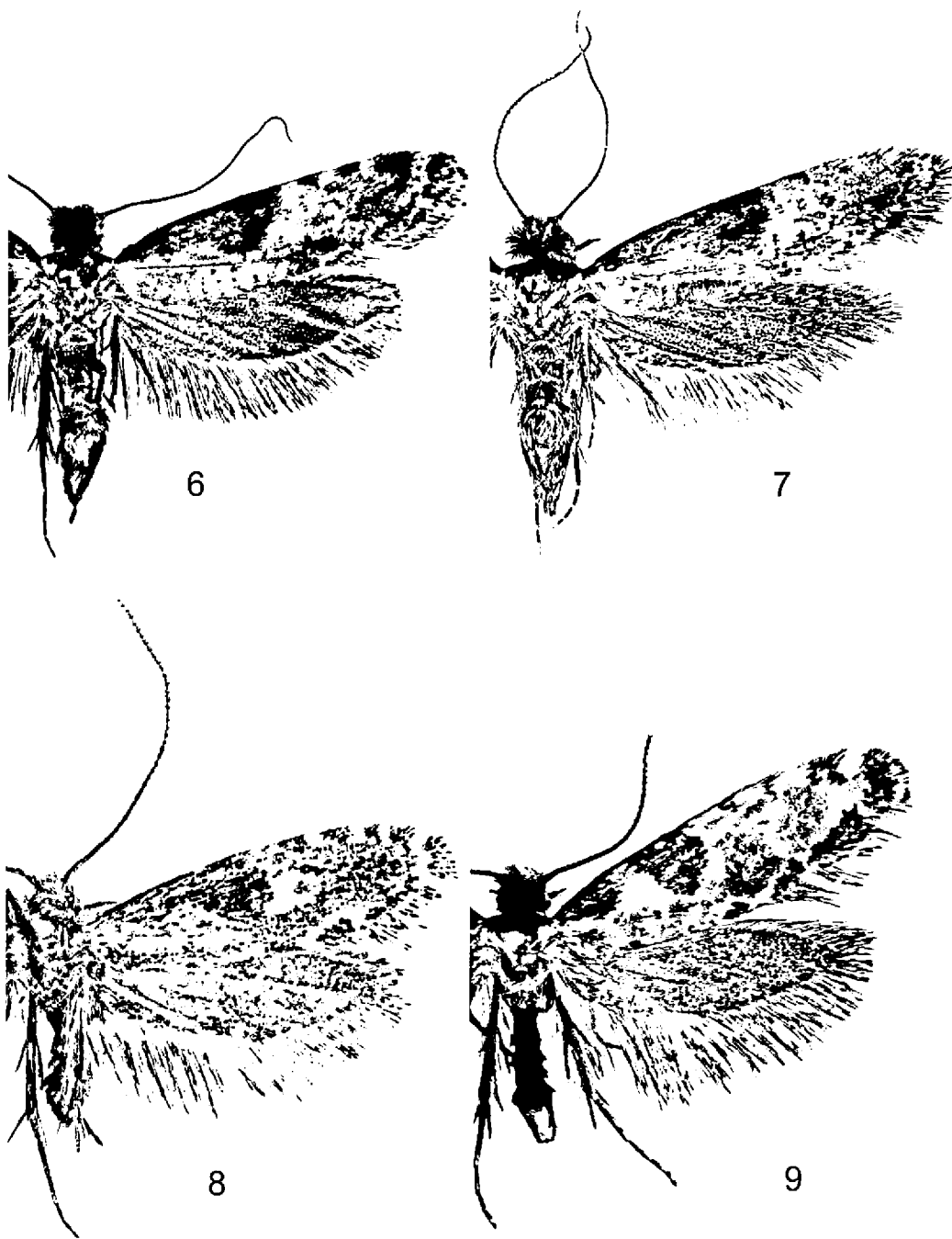
2× length of posterior apophysis, abruptly narrowing to slender tube near junction with vestibulum.

Lectotype.—♂ (present designation): CHILE: LLANQUIHUE: Casa Pangué, 4–10 Dec 1926, slide 6624 (BMNH). A lectotype has been designated to ensure the stability of the name.

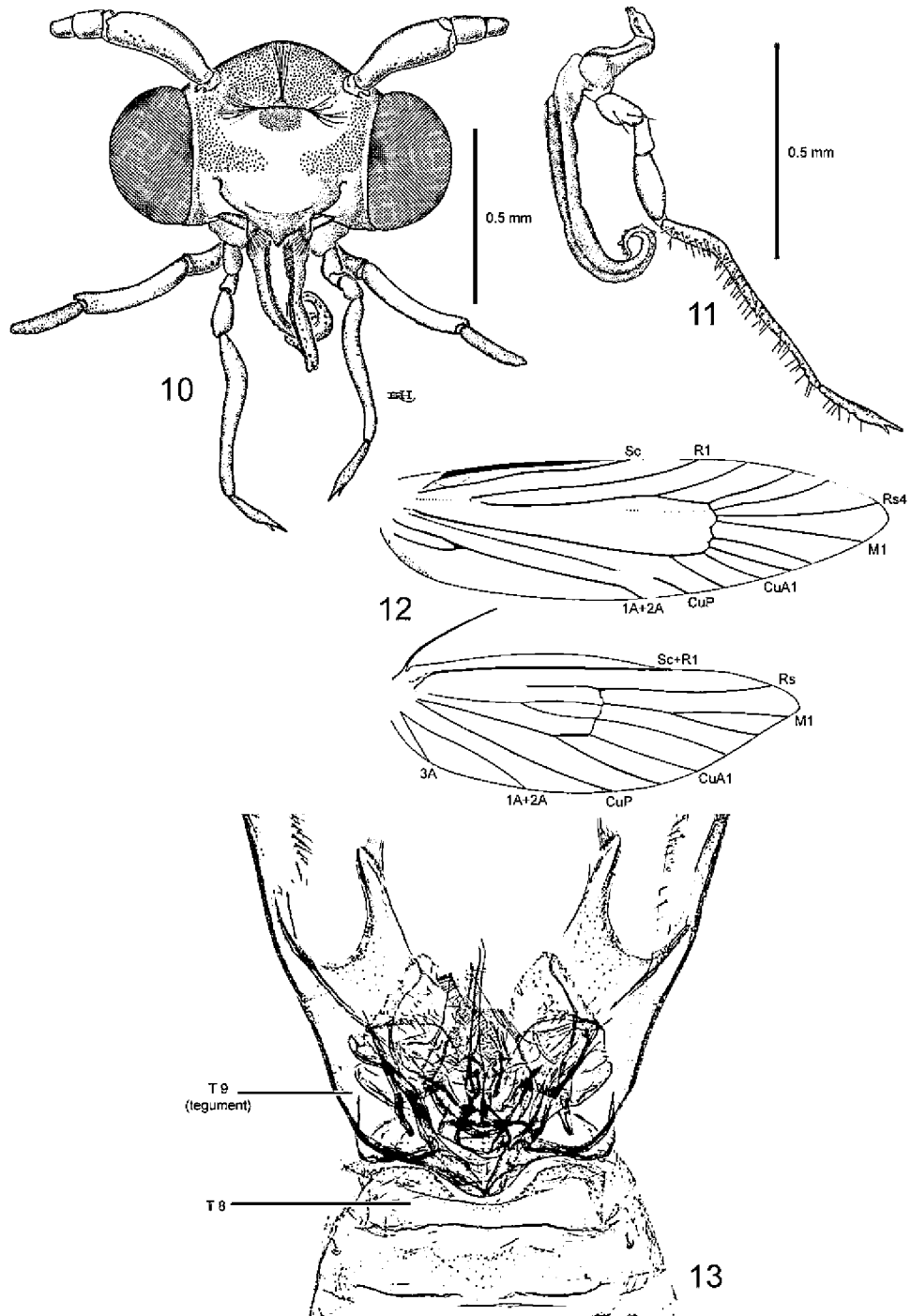
Material examined.—ARGENTINA: NEUQUÉN: 5 km E Hua-Hum, Lago Lacar: 4 ♂, 26–27 Dec 1981, Nielsen & Karsholt (ZMUC); Pucará, Lago Lacar, 650 m, 1 ♂, 1 ♀, 28–29 Nov 1981, 3 ♂, 2 ♀, 26–27 Dec 1981, Nielsen & Karsholt (ZMUC); Lago Lacar-Nonthue, 640 m,

6 ♂, 1 ♀, 2 Dec 1983, slides USNM 33893, 33897, M. & P. Gentili (MACN, USNM); Lago Lacar-Yuco, 950 m, 1 ♂, 25 Nov 1983, M. & P. Gentili (USNM). RIO NEGRO: Colonia Suiza, San Carlos de Bariloche, 800 m, 1 ♀, 5–7 Jan 1982, 1 ♂, 21–22 Dec 1981, 1 ♂, 1 ♀, 23 Dec 1981, Nielsen & Karsholt (ZMUC); Colonia Suiza, San Carlos de Bariloche, 810 m, 1 ♂, 1 ♀, 2 Jan 1979, Misión Científica Danesa (ZMUC). CHILE: CAUTIN: 8 km S Pucón: 1 ♂, 1 ♀, 23 Dec 1982, R.L. Brown; Pucón Peninsula: 1 ♀, 19 Dec 1982, R.L. Brown (USNM). CHILOE: 1 km E Lago Tepuhueco, ca. 40 air km SW Castro, 100 m: 3 ♂, 23–25 Dec 1981, D.R. Davis (USNM); Hueque Trumao, 22 km N Quellón, Chiloe Island, 50 m, 1 ♂, 2 ♀, 26–27 Dec 1981, D.R. Davis (USNM); Puntra, ca. 30 airkm S Ancud, Chiloe Island, 50 m, 5 ♂, 2 ♀, 21–22 Dec 1982, slide USNM 22161, D.R. Davis (USNM). LLANQUIHUE: Casa Pangué: 1 ♂ (lectotype), 1 ♂ (paralectotype), 4–10 Dec 1926, 1 ♂ (paralectotype), Dec 1926 (BMNH). El Chingue, N Correntoso, S Volcán Calbuco, 300 m, 1 ♂, 20–25 Dec 1980, L.E. Peña (USNM). MALLECO: near Los Gringos Camp, Nahuelbuta National Park, 1,300 m, 2 ♂, 2 ♀, 6–11 Jan 1982, D.R. Davis (USNM). CURICO: Rio Teno, ca. 40 km E Curicó, 800 m, 6 ♂, 25–27 Nov 1981, D.R. Davis (IZUZ, USNM). ÑUBLE: Alto Tregualemu, ca. 20 km SE Chovellén, 500 m, 1 ♂, 4 ♀, 26–27 Jan 1979, slides USNM 16418, 21293, 21562, D. & M. Davis & B. Akerbergs (USNM), 1 ♂, 1–3 Dec 1982, D.R. Davis (USNM). OSORNO: 3 km W Aguas Calientes, Parque Nacional Puyehue, 600 m, 1 ♂, 12–20 Dec 1981, D.R. Davis (USNM).

Distribution (Figs. 1, 5).—This species ranges rather widely through both coastal and Andean habitats of the Northern Valdivian and Valdivian Forest provinces (Davis 1986) of southern Chile, from approximately 35°S in Maule Province

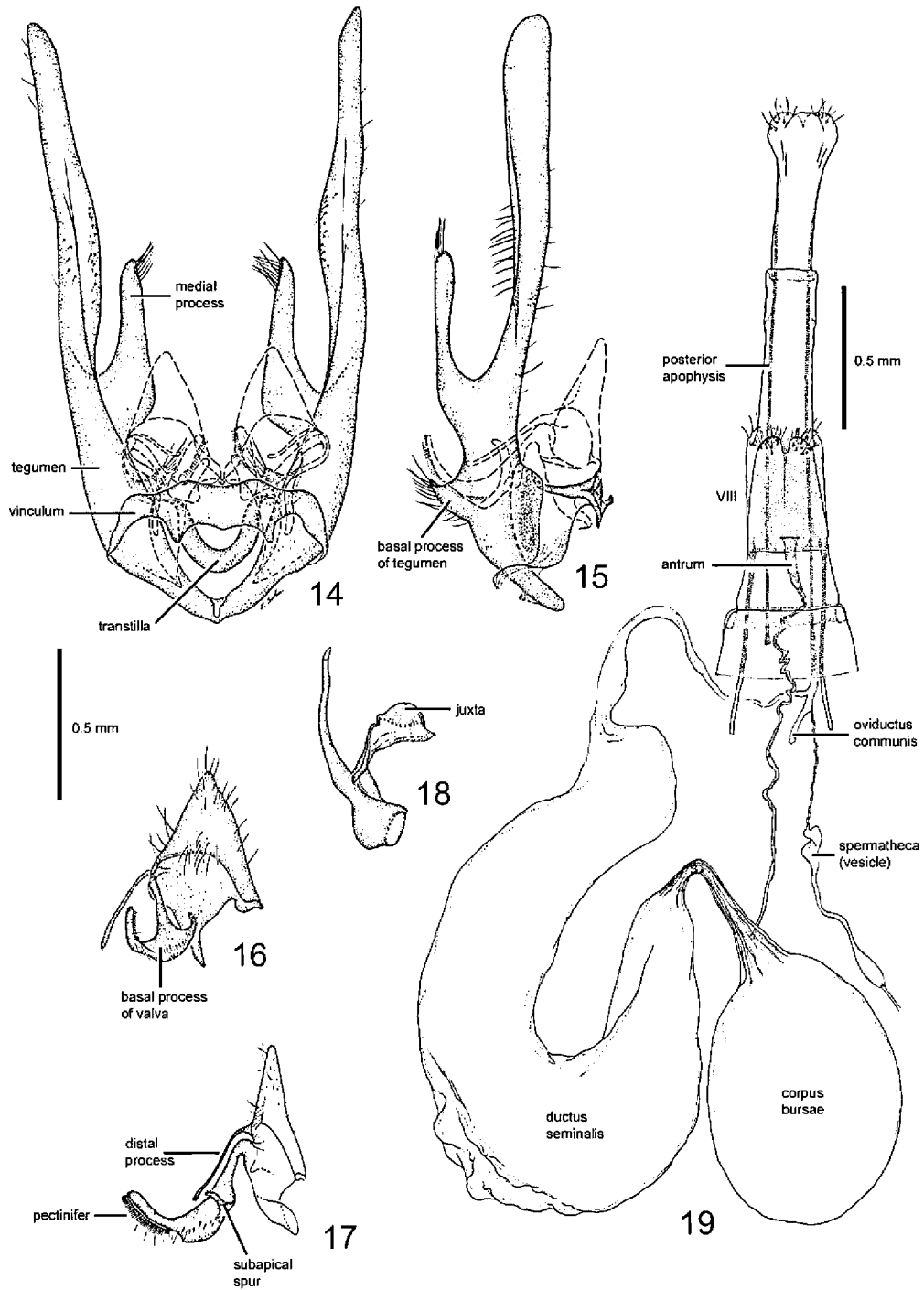


Figs. 6-9. Adults of *Falsivalva*. 6, *F. prensoria*, ♂ (7.1 mm). 7, *F. paraprensoria*, holotype ♂ (7.0 mm). 8, *F. nephophila*, holotype ♂ (4.5 mm). 9, *F. clavata*, holotype ♂ (4.8 mm). Forewing lengths shown in parentheses.



Figs. 10-13. *Falsivalva prensoria*, Adult morphology. 10, Head. 11, Maxilla. 12, Wing venation. 13, Male abdomen, dorsal view of tergum VIII and base of male genitalia.





Figs. 14-19. *Falsivalva prensoria*, genitalia. 14-18, Male. 14, Ventral view. 15, Lateral view. 16, Lateral view of valva. 17, Dorsal edge of valva. 18, Aedeagus. 19, Female, ventral view.

to about 45°S in Chiloé Island, east to Neuquén Province, Argentina.

Flight period.—Adults have been collected from late November to late January.

Discussion.—*Falsivalva prensoria* was the most common, widespread member of the genus encountered in either Chile or Argentina. The tegumenal lobes of the male tergum IX are diagnostic for the species in being proportionately the longest and most slender within the genus.

***Falsivalva paraprensoria* S. and D. Davis,  
new species**

(Figs. 2, 5, 7, 20–23)

Adult (Fig. 7).—Forewing length: 6.5–7.8 mm.

*Head*: Dark brown to fuscous. Antenna dark brown to fuscous dorsally, slightly lighter brown ventrally; scape with some cream ventrally. Maxillary palpus brown dorsally, light grayish brown and cream ventrally. Labial palpus mostly dark grayish brown ventrally, mostly cream with some light brown dorsally; ~4 long, fuscous bristles arising dorsolaterally and ~10–12 similar bristles clustered apically on segment 2.

*Thorax*: Pro- and mesonota dark bronzy fuscous, edged with white along posterior margin of fuscous area; tegulae mostly fuscous basally, white apically; metanotum mostly bare, with medial pair of small, brown tufts. Forewing pattern similar to *F. prensoria*; creamy-white, with small dark brown striae interspersed throughout creamy-white area; similarly shaped, large dark fuscous area along base of costal margin, broadest near middle of wing; 4 much smaller fuscous spots spaced along costa to apex; suffusion of light grayish brown to golden-brown over distal third of wing and smaller suffusion over cubital area near tornus. Hind wing and fringe grayish brown. Fore- and midlegs mostly dark brown and steel-gray dorsally, light

brown and cream ventrally; apices of tibiae and tarsomeres with cream; mid-tibiae with cream band at middle; hind legs with similar pattern as fore- and midlegs but slightly paler.

*Abdomen*: Grayish brown dorsally and laterally; lighter brown to cream ventrally. Male genitalia (Figs. 20–23): Tegumenal lobe elongate, ~3.5× length of valva; with 2 dorsal processes; basal process short and triangular as in *F. prensoria*; distal process elongate, more smoothly curved at base than in *prensoria*; distal half of lobe broad with dorsal margin slightly sinuate. Vinculum similar to *F. prensoria*, very short and broad, with pair of short triangular lobes from anterior margin. Valva similar to *F. prensoria* except apical lobe of basal process shorter; apical pectinifer with 34–36 spines; subapical spur of basal process stouter than in *prensoria*; distal process slender, sinuate. Aedeagus as illustrated (fig. 23) and described for genus. Female genitalia: Similar to that of *F. prensoria*.

Distribution (Figs. 2, 5).—Known only from the type locality in western Talca Province, Chile.

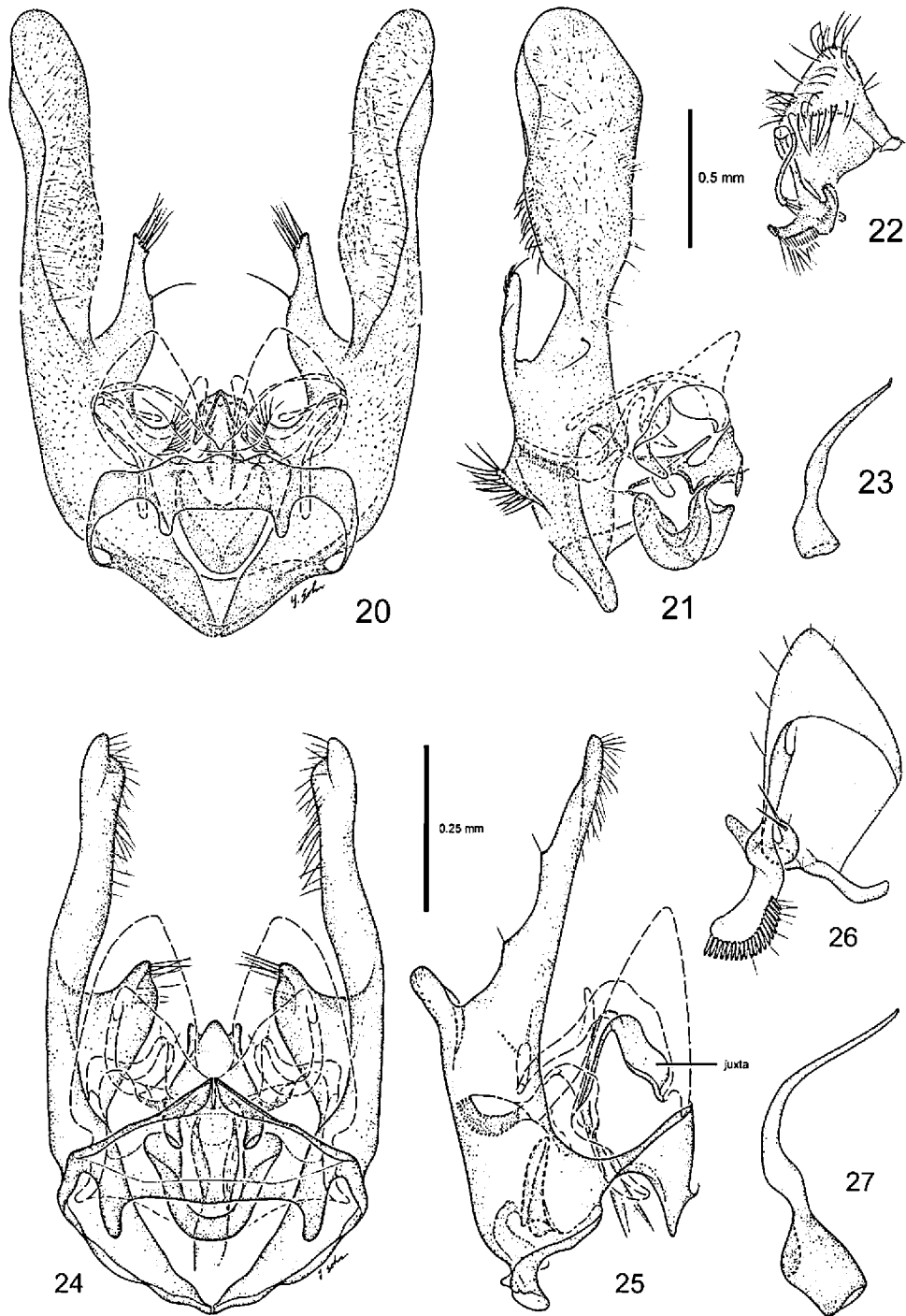
Holotype.—♂; CHILE: TALCA: El Pantanillo, 17 km SE Constitución, 350 m, 28 Nov 1981, D.R. Davis (USNM).

Paratypes.—Same data as holotype: 4 ♂, 1 ♀, slides USNM 33892, 33894, 33895 (USNM).

Flight period.—Adults have been collected in late November.

Etymology.—The specific epithet is derived from the Latin *para* (near) added to the specific epithet *prensoria* in reference to the close superficial resemblance of the two species.

Discussion.—Except for the distinctively different male genitalia, *F. paraprensoria* is nearly identical to *F. prensoria*. The tegumenal lobes (tergum IX) of the male genitalia differ from those of *prensoria* in being much broader. The



Figs. 20-27. Male genitalia. 20-23, *Falsivalva paraprensoria*. 20, Ventral view. 21, Lateral view. 22, Lateral view of valva. 23, Aedoeagus. 24-27, *F. nephophila*. 24, Ventral view. 25, Lateral view. 26, Lateral view of valva. 27, Aedoeagus.

type locality of *paraprensoria* consisted of a remnant Northern Valdivian forest (Fig. 2) concentrated along one side of a low mountain ridge which at the time of collection in 1981 was largely surrounded by cleared or disturbed land. The current condition of this habitat is unknown.

***Falsivalva nephophila* S. and D. Davis,  
new species**

(Figs. 1, 2, 5, 8, 24–27)

Adult (Fig. 8).—Forewing length: 4.7 mm (single specimen).

*Head:* Cream to light brown. Antenna grayish brown dorsally, slightly lighter brown ventrally. Maxillary palpus cream to light grayish brown. Labial palpus mostly cream dorsally with some light brown; mostly light brown ventrally with some cream; 2 elongate brown bristles arising laterally and ~3 similar bristles clustered near apex of segment 2.

*Thorax:* Pro- and mesonota mostly bronzy fuscous, edged caudally with white to cream; tegulae fuscous basally, white apically; metanotum mostly bare, with medial pair of small, brown tufts. Forewing creamy-white, with light golden-brown and grayish brown areas mostly along posterior margin and apical area; large fuscous area along basal half of costal margin, becoming broadest near middle of wing; distal half of costal margin with 4 small, equally sized fuscous spots to apex, interrupted by white to cream; apical fringe fuscous interrupted with narrow, subapical band of white; remainder of termen mostly with narrow border of fuscous, occasionally interrupted with white; fringe a mixture of white, brown, and fuscous scales. Hind wing and fringe light grayish brown. Fore- and midlegs mostly brown and grayish brown dorsally, light brown and cream ventrally; apices of tibiae and tarsomeres with cream; midtibiae with cream band at middle; hind legs with

similar pattern as fore- and midlegs but paler.

*Abdomen:* Light grayish brown dorsally and laterally, paler, more cream ventrally. Male genitalia (Figs. 24–27): Tegumenal lobes elongate, ~ 2× length of valva, with single, triangular process arising midway from dorsal margin. Base of tegumenal lobe moderately broad, tapering in width from medial process to apex. Vinculum short and broad, with pair of short, widely spaced lobes from anterior margin. Valva as described for genus; basal process with apical lobe relatively elongate; pectinifer bearing ~19–20 spines; subapical spur of basal process relatively long and stout; distal, tubular process of valva elongate, ~ 0.65× length of valva, with 2 relatively stout apical spines. Aedoeagus as illustrated (fig. 27) and described for genus.

Female unknown.

*Distribution* (Figs. 3–5).—Known only from the type locality, located along the crest of the coastal mountains, the Altos de Talinay, in Fray Jorgé National Park, Chile.

*Holotype*.—♂; CHILE: LIMARI: Fray Jorgé National Park, ca 70 km W Ovalle, 1 ♂, 6–9 Nov 1981, slide USNM 22199, D. & M. Davis (USNM).

*Flight period*.—Early November (unique record).

*Etymology*.—The specific epithet is derived from the Greek *nepfos* (cloud) and *phila* (affection, fondness), in reference to the coastal cloud forest habitat where the species was discovered.

*Discussion*.—*Falsivalva nephophila* is the smallest and most northern in distribution of the four known species. The forewing pattern of *nephophila* resembles that of *prensoria* and *paraprensoria* in possessing a single large dark spot along the basal half of the costal margin. The tegumenal lobes of the male genitalia are characterized by the absence of a basal process and presence of a broad-based, triangular,

medial process arising dorsally near the middle of the lobe, with the distal half of the lobe gradually tapering to the apex.

This species is known from a single specimen collected in a restricted cloud forest zone (Figs. 3–5) scattered along the crest of the Altos de Talinay which borders the Pacific coast of Limari Province, Chile. Moisture from coastal fog supports small remnants of the Northern Valdivian Forests along the mountain crests (Davis 1986), now isolated by the lowland Coquimban Desert from the primary forests farther to the south.

***Falsivalva clavata* S. and D. Davis, new species**

(Figs. 5, 9, 28–33)

Adult (Fig. 9).—Forewing length: 4.2–5.0 mm.

*Head:* Frons mostly light brown to white, vertex darker brown. Antenna dark brown to fuscous dorsally, slightly lighter grayish brown ventrally. Maxillary palpus light grayish brown dorsally and ventrally. Labial palpus grayish brown and cream dorsally, mostly brown ventrally; segment 3 with more cream; 2–3 elongate, fuscous bristles laterally and 10–12 clustered near apex of segment 2.

*Thorax:* Pro- and mesonota dark brown and fuscous, edged with white along posterior margin of fuscous area; tegulae dark brown to fuscous basally, white apically; metanotum mostly bare, with medial pair of small, brown tufts. Forewing creamy-white with suffusion of light golden-brown to grayish brown mostly along posterior margin from base to apex; two dark brassy fuscous spots along costal margin, narrowly connected at costa, distal spot larger; 4 slender, fuscous costal strigulae slightly beyond middle of wing to apex; almost continuous outer margin of fuscous extending from termen to hind margin, interrupted by 3 small whitish spots. Hind wing and

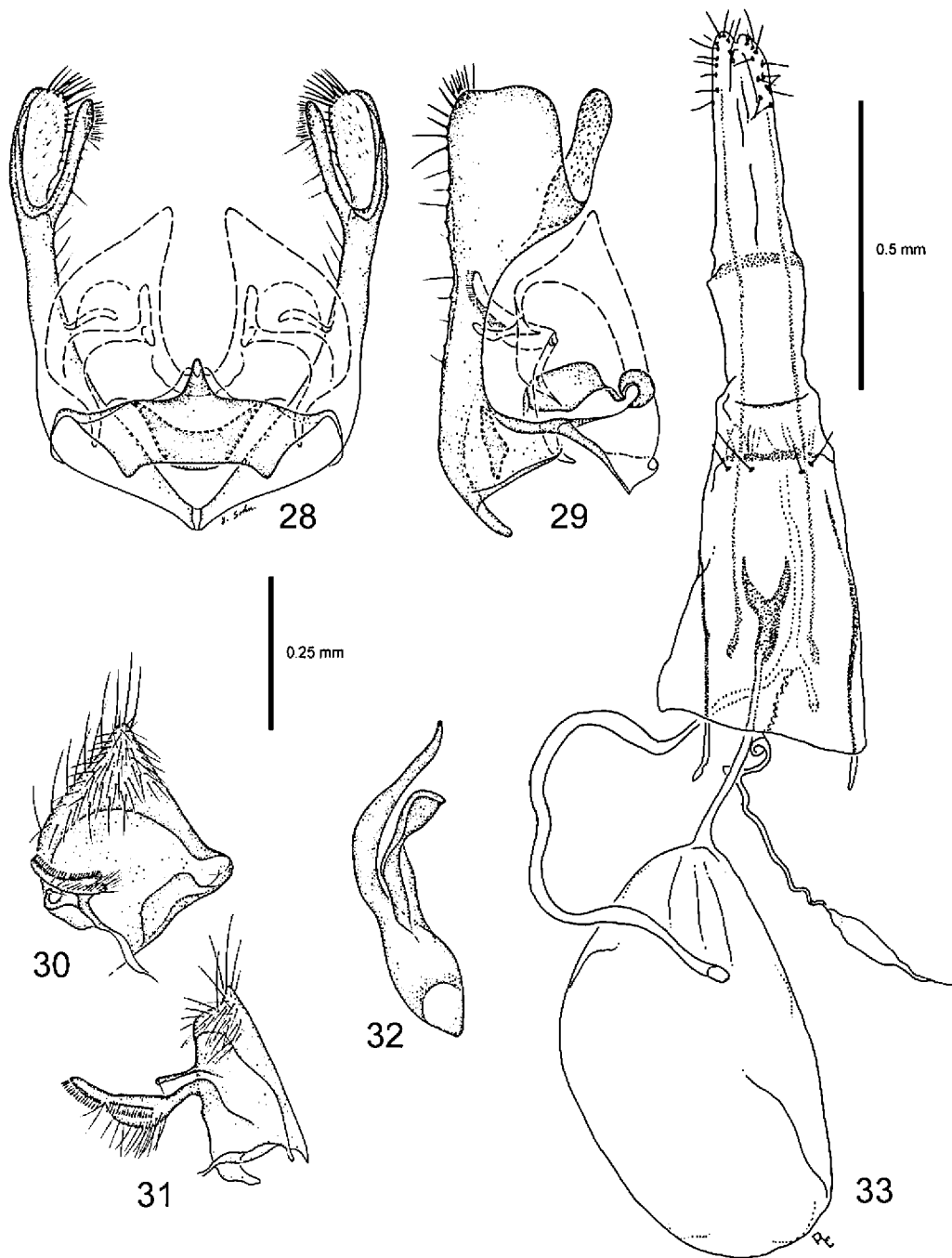
fringe grayish brown. Fore- and midlegs mostly fuscous to grayish brown dorsally, light brown to cream ventrally; apices of tibiae and tarsomeres with cream; midtibiae with cream band at middle; hind legs with similar pattern as fore- and midlegs but paler.

*Abdomen:* Grayish brown dorsally and laterally, color slightly lighter ventrally with pale gray and cream. Male genitalia (Figs. 28–32): Tegumenal lobes moderately long,  $\sim 1.8\times$  length of valva; dorsal margin without basal and medial processes; apex of tegumenal lobe broadly truncate, with subapical digitate process arising from ventral margin. Vinculum very short and broad, with pair of short, triangular lobes from anterior margin. Valva as described for genus; apex of basal process elongate, bearing pectinifer of  $\sim 27$ – $30$  spines; subapical spur of basal process absent. Distal process of valva relatively short, slender,  $\sim 0.2\times$  length of valva. Aedoeagus as illustrated (fig. 32) and described for genus. Female genitalia (Fig. 33): Ductus bursae slender, relatively short,  $\sim 0.35\times$  length of posterior apophysis, with corpus bursae abruptly expanding into oval pouch  $\sim 2\times$  length of anterior apophysis. Ductus seminalis slender throughout its length, joining corpus bursae subapically near caudal end.

*Distribution* (Fig. 5).—Known from elevations of approximately 350–650 m in the Valdivian Forest region of the southern Andes along the borders of Neuquén Province, Argentina and Osorno Province, Chile.

*Holotype*.—♂; CHILE: OSORNO: Anticura, Parque Nacional Puyehue, 350 m, 15 Dec 1981, Nielsen & Karsholt (ZMUC).

*Paratypes*.—ARGENTINA: NEUQUÉN; Pucará, Lago Lacar, 650 m, 2 ♂, 26–27 Dec 1981, Nielsen & Karsholt (ZMUC). CHILE: OSORNO: Anticura, Parque Nacional Puyehue, 350 m, 1 ♂, 1 ♀, 17 Dec 1981, slides USNM 22160,



Figs. 28–33. *Falsivalva clavata*, genitalia. 28–32, Male. 28, Ventral view. 29, Lateral view. 30, Lateral view of valva. 31, Dorsal edge of valva. 32, Aedoeagus. 33, Female, ventral view.

DRD 3595, 1 ♂, 18 Dec 1981, Nielsen & Karsholt (USNM, ZMUC).

Flight period.—Adults have been collected during the latter half of December.

Etymology.—The specific epithet is derived from the Latin *clavata* (clubbed, clavate) in reference to the clavate enlargement at the apex of each tegumenal lobe.

Discussion.—The forewings of *F. clavata* are somewhat characteristic in possessing more pale golden brown suffusion than in the other species of *Falsivalva* and in the dark spot at the base of the costa being mostly divided. The clavate tegumenal lobes of the male genitalia are distinct in being broadest at the relative truncate apex and in possessing a subapical, digitate process from the ventral margin.

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