



Species composition and geographic distribution of Fuegian Curculionidae (Coleoptera: Curculionoidea)

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Abstract

The objective of this paper is to provide an integrative approach to taxonomic composition and distributional information on the weevil fauna (Coleoptera: Curculionoidea) of the Tierra del Fuego archipelago. A total of 39 species belonging to 17 Curculionidae genera are recorded for the archipelago. Most of these belong to two subfamilies: Entiminae (13 species in four genera) and Cyclominae (23 species in 11 genera). *Caneorhinus gravidus* (Burmeister) is here established as a **new junior synonym** of *Caneorhinus lineatus* (Blanchard). The Fuegian weevil fauna is considered to represent an impoverished condition in comparison to that from continental southern South America. The Tierra del Fuego archipelago has no endemic genera of Curculionidae and only three species seem to be endemic to it (*Antarctobius rugirostris* Champion, *Cylydrorhinus lateralis* [Berg], and *Cylydrorhinus fulvipes* [Guérin-Méneville]). However, these three species have scarce records and more information is required to confirm their status as Fuegian endemics. No species present in Tierra del Fuego extend their distribution beyond the Andean subregion. The Fuegian weevil fauna exhibits a great linkages to that from continental southernmost South America. Synonymic lists and distributional maps are provided for each species known to occur on the islands. Identification keys and photographs of weevil taxa recorded for Tierra del Fuego are also presented.

Key words: Andean region, Curculionidae, southern South America, species checklist, Tierra del Fuego, weevil fauna

Introduction

Weevils (Coleoptera: Curculionidae) are the most diverse family of known organisms, with around 51,000 described species (Oberprieler *et al.* 2007) that are found on all continents and insular habitats, except Antarctica. The Tierra del Fuego archipelago is located south of Magellan Strait, in the southernmost part of South America. Its latitudinal range spans from 52° 25' to 56° South and its longitudinal range from 63° 47' to 74° 45' West. This archipelago has a total surface of approximately 66,000 km²; 70% of this area is occupied by Isla Grande (48,000 km²). Other main islands of the archipelago are: Isla Hoste, Isla Santa Inés, Isla Navarino, Isla Dawson, and Isla de los Estados (Fig. 1). Nearly 200 rocky islets represent the remaining surface of the archipelago.

The biota of Tierra del Fuego has been classified as bioregionally outstanding regarding biodiversity conservation (Dinerstein *et al.* 1995). Its conservation status has been considered as vulnerable, and species introductions and intensive forestry are recognized as the main factors affecting Fuegian biodiversity (Dinerstein *et al.* 1995). The main physiographic characteristic of Tierra del Fuego is the presence of the Andean cordillera, which determines the occurrence of evident topographic and climatic gradients along short distances. Mean annual precipitations range from 4000 mm in the westernmost part of the archipelago to 200 mm in the eastern areas (Tuhkanen *et al.* 1990). Mean temperatures during the coldest month (usually July) exhibit the same west-east gradient, varying from 4° C in the west to -4° C in the east (Tuhkanen *et al.* 1990). During the warmest month (usually January), the gradient is inverted, with mean temperatures varying between 9° C in the west to 11° C in the east (Tuhkanen *et al.* 1990). The plant communities reflect these gradients, changing from very humid Magellanic moorlands and forests in the west to a semi-arid steppe in the east (Niemellä 1990).

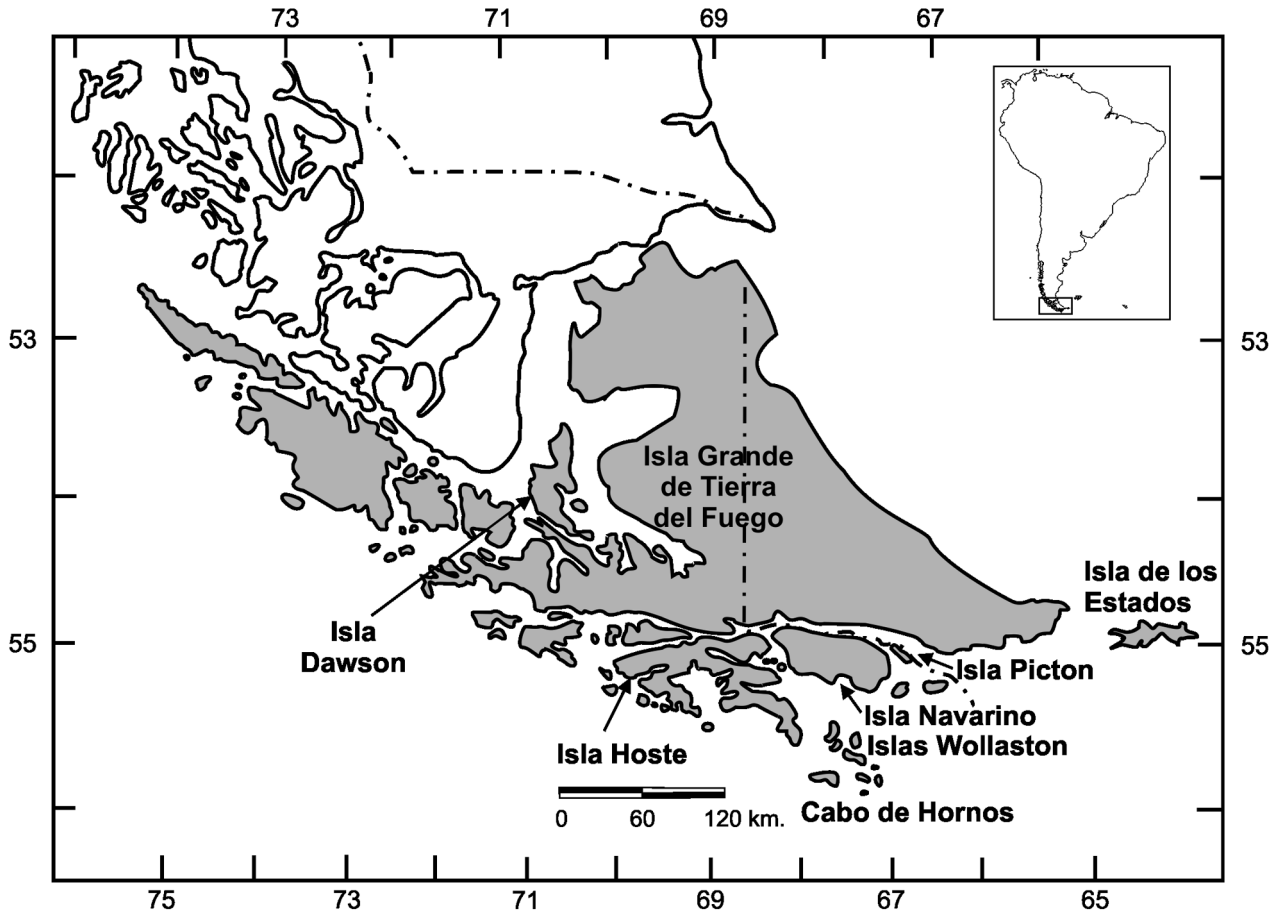


FIGURE 1. Map of southernmost South America showing Tierra del Fuego archipelago (grey), main islands are indicated.

Regarding geology, the Tertiary orogenic uplift of the South American Andes, which occurred between Upper Miocene-Pliocene to Pleistocene (Axelrod *et al.* 1991), has produced the current climatic conditions in Patagonia and shaped the South American austral area, setting the scene for Pleistocene glaciations. Most of Tierra del Fuego was covered by glacial ices several times, resulting in the complex present-day coastal lines (see Fig. 2). Progressive aridity characterized this area from the Miocene to the present (Ortiz-Jaureguizar & Cladera 2006). Thus, *Nothofagus* forests were restricted to western coastal refuges and to mountains which remained with colder and more humid climates. Meanwhile, the northern and eastern parts of the archipelago were covered by steppe environments.

Biogeographically, Tierra del Fuego is a complex area, especially in relation to its limited extension. It belongs to the Andean region, being its southernmost area. According to the biogeographic scheme presented by Morrone (2006), and concordant with previous schemes (*e.g.*, Kuschel 1960; Cabrera & Willink 1973), three biogeographic provinces which belong to two different biogeographic subregions are represented in the archipelago (Fig. 2): the Magellanic Forest and Magellanic Moorland provinces (Subantarctic subregion), and the Central Patagonian province (Patagonian subregion). The Magellanic Forest province (Kuschel 1960; Cabrera & Willink 1973; Morrone 2001, 2006) extends from 47° to 55° South (Fig. 2). Its flora is represented by pluvial temperate forests. Magellanic forests are considered an impoverished version of the Valdivian forests located far north (Pisano 1977), exhibiting less stratification and biological diversity (Pisano 1977). For example, Magellanic forests host only three of the ten species of *Nothofagus* (Fagales: Nothofagaceae) present in the Valdivian forests. The Magellanic Moorland (Kuschel 1960; Cabrera & Willink 1973; Morrone 2006) is restricted to outer archipelagos and capes south of 48° South (Fig. 2). It extends farther west and south than the Magellanic Forest province. According with Tuhkanen *et al.* (1990), this province is characterized by mean annual precipitations ranging from 1500-4500 mm. Its climate is clearly oceanic and influenced by strong and continuous winds from the west. The vegetation is dominated by cushion plants, while *Nothofagus* and *Drymis* (Magnoliaceae) adopt an shrubby habitus. Most shrubs are covered

by bryophytes, lichens, and epiphytic ferns. The Magellanic Moorland develops on very swampy soils that originated during the last post-pleistocenic glacial advances (Pisano 1977). During the Pleistocene glaciations, their typical species extended northwards to the subantarctic Chilean areas which were covered by glaciers (Villagrán 1993).

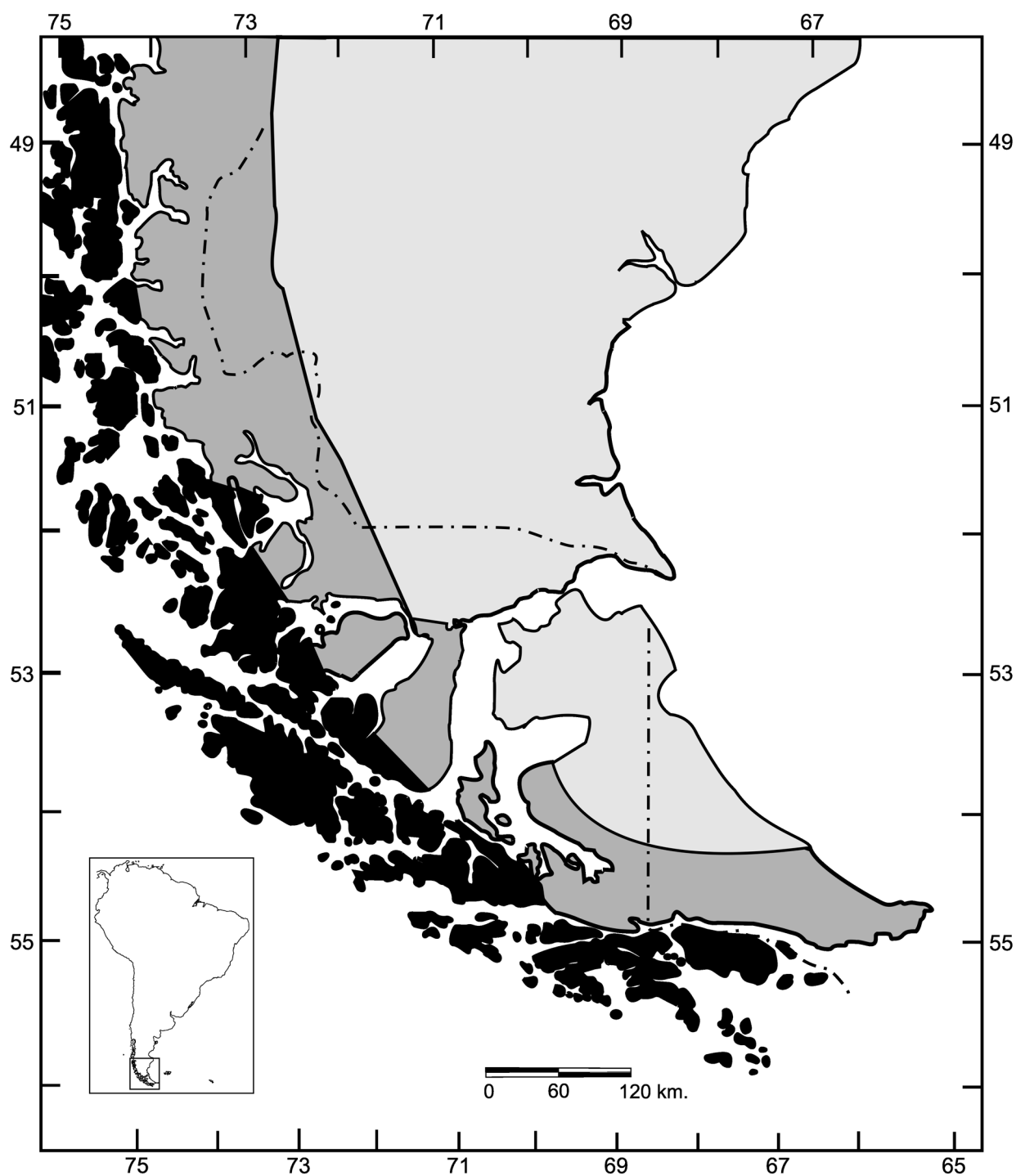


FIGURE 2. Map of southern South America showing biogeographical provinces in Tierra del Fuego and neighbor areas. Subantarctic subregion: Magellanic Moorland (black) and Magellanic Forest (dark grey). Patagonian subregion (light grey).

The Central Patagonian province is restricted in Tierra del Fuego to the northeastern part of Isla Grande, covering about 40% of its surface (Tuhkanen *et al.* 1990). This province extends far north on the continental Patago-

nian areas (Fig. 2). The mean annual precipitation of this biogeographic province ranges from 200-600 mm, as a consequence of the rain-shadow generated by the Andean cordillera. Vegetation is represented by a grassland steppe dominated by *Festuca gracimilla* (Poaceae) (Cabrera & Willink 1973; Pisano 1977). The grassland steppe is replaced by a shrub steppe in coastal areas or on sandy soils.

Austral insect communities of Tierra del Fuego are scarcely known when compared with the Boreal ones (Lencinas *et al.* 2008). Several pertinent works on Curculionidae were published during the 19th and 20th century, including original descriptions of numerous species and many contributions to the systematic knowledge of the southern South American weevil fauna (e.g., Blanchard 1851, Fairmaire 1884, 1855, Germain 1895-1896, Champion 1918a, 1918b, 1918c, Hustache 1926, Kuschel 1950, 1952a, 1952b, 1955; see also Morrone & Roig-Juñent 1995 and literature cited therein). In 1995, Morrone & Roig-Juñent published a checklist of the weevil fauna of southern South America which included Patagonian and Subantarctic subregions. According to these authors, a total of 284 species of Curculionidae were recorded in southern South America, 70% of which are endemic to this area. Over the past 20 years additional advances were made regarding our phylogenetic knowledge of the southern South American weevil fauna (see Posadas 2008 and literature cited therein) Accordingly, the family Curculionidae includes almost 90% of all Curculionoidea species from southern South America, and the Cyclominae and Entiminae (Table 1) represent the most speciose subfamilies from this area (Posadas 2008).

TABLE 1. Subfamilies of Curculionidae recorded from Patagonia according to Morrone and Roig-Juñent (1995)

Subfamily	Endemic species	Non endemic species	Unknown status	Total	% end.
Entiminae	71	22	13	106	67
Cyclominae	74	24	1	99	74.5
Curculioninae	43	15	1	59	72.9
Cryptorhynchinae	10	3	-	13	76.9
Cossoninae	5	2	-	7	71.4

The weevil fauna of Tierra del Fuego is interesting because of their southern position. Lencinas *et al.* (2008) stated that the temperate forest entomofaunas from the northern and southern hemispheres are unequally known and that subantarctic South American temperate forests contain a largely unknown insect assemblages. Fairmaire (1885) published a list of Coleoptera of Tierra del Fuego containing five species of Curculionidae, based on specimens collected by Hyades and Hahn during their expedition on board of the ship *Romanche*. Also, Bruch (1921) published a list of Coleoptera of the archipelago based on specimens collected by Martín Doello-Jurado during an exploratory trip to Tierra del Fuego made in February 1921. This list recorded the presence of six Curculionidae species, two of them previously recorded in the list of Fairmaire (1885). Morrone & Roig-Juñent (1995) published their Patagonian weevil checklist which includes Tierra del Fuego, however they defined species distributions according to biogeographic provinces which are not restricted to the archipelago (see above), and thus imprecise with regards to locality resolution. Thus, many species listed by Morrone & Roig-Juñent (1995) for the Magellanic Moorland and Magellanic Forest provinces have not been recorded in Tierra del Fuego.

Phylogenetic and taxonomic advances on the Patagonian and subantarctic weevil fauna during the last 20 years, and the lack of a checklist which concentrates the information regarding Fuegian weevils, have made such a list necessary. Thus, the objective of this paper is to provide a comprehensive checklist of this limited weevil fauna, providing complete distributional data for each species, photographs and identification keys.

Material and methods

The materials examined were provided by the following collections: American Museum of Natural History, New York, USA (AMNH); Natural History Museum, London, United Kingdom (BMNH); Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Buenos Aires, Argentina (MACN); Museo de La Plata, La Plata, Argentina (MLP); Museo de Historia Natural de Santiago, Santiago, Chile (MHNS); Smithsonian Institution, Washington, USA (USNM); Museo de Zoología Alfonso L. Herrera de la Universidad Nacional Autónoma de México, México DF, México (MZFC); and Centro Austral de Investigaciones Científicas, Ushuaia, Argentina (CADIC). Temporal

and geographic distributions of taxa were determined based on label data and literature. Aspects of plant associations were established based on personal observations in the field, specimen labels, and relevant literature. Synonymic lists are provided for species and generic level names, including literature related to descriptions or revisions.

Results

A total of 39 species belonging to 17 Curculionidae genera were recorded for the archipelago (Table 2). Most of them belong to two subfamilies: Entiminae (13 species in four genera) and Cyclominae (23 species in 11 genera).

Morrone & Roig-Juñent (1995) included the Fuegian-Patagonian province, which is restricted to Tierra del Fuego archipelago, as part of the distribution of *Cylydrorhinus carinicolis* and *Listroderes costirostris*. However, their presence on the archipelago could not be confirmed by either published records or collection specimens. In the case of *C. carinicolis*, Bruch (1921) mentioned its presence in Punta Arenas and Río Grande, with the latter locality being situated on the Isla Grande of Tierra del Fuego. However, Bruch assigned specimens to the *caudiculatus* variety which was established as a synonym of *Cylydrorhinus caudiculatus* by Kuschel (1986). In the case of *L. costirostris*, no records of this species on the Tierra del Fuego archipelago are mentioned in the revision of *costirostris* species group of the genus *Listroderes* (Morrone 1993a).

Through the information available on labels of examined material and literature, it was possible to extract temporal and geographic distribution information for 2444 specimens and 36 of the 39 species recorded for the archipelago. The data available cover collections made from 1879 to 2008. None of the species recorded for Tierra del Fuego have distributions ranging beyond the Andean subregion *sensu* Morrone (2006). Three species have been recorded only on the Tierra del Fuego archipelago: *Antarctobius rugirostris*, *Cylydrorhinus lateralis*, and *Cylydrorhinus fulvipes*. It is important to note that these three species have scarce records: two records for *A. rugirostris*, the last one in 1959; four records for *C. lateralis*, the last one in 1883; and four records for *C. fulvipes*, the last one in 1982.

Regarding species present in Tierra del Fuego that were collected outside of the archipelago and with adequate locality information (1417 specimens), 56% of the available records correspond to southernmost continental South America (including the Magellanic Forest province and the austral area of the Patagonian subregion); 41% correspond to the Valdivian Forest, 2% to the Islas Malvinas (= Falkland Islands), and 1% to the Central Chile subregion.

Figure 3 shows the number of specimens collected per decade, considering only those specimens collected in the Tierra del Fuego archipelago (769 specimens). Consistently, the number of specimens collected is low with a mean of 59 specimens per decade, except for the 1950s and 1970s and the first decade of 21st century when the number of collected specimens notably increased. Figure 4 shows the number of specimens collected per month considering only those collected in Tierra del Fuego (655 specimens with month data). Higher numbers of specimens were collected during southern hemisphere summer, between January and February (i.e., 65% of the specimens collected in the archipelago).

When species and genus diversity (Fig. 5) are analyzed according to month of collection for the entire taxon distribution range (i.e., considering both localities in the archipelago and those outside of it), the highest diversity is present in February (with 28 species and 14 genera recorded, representing 68% of the total species-level diversity and 77% of the total genus-level diversity for the archipelago).

Two subfamilies represented 99% of the specimens of Curculionidae collected in Tierra del Fuego: Cyclominae (88% of specimens) and Entiminae (11%). Other subfamilies (i.e., Cryptorhynchinae and Curculioninae) represented only the 1% of the captures (Fig. 6A). Interestingly, when considering the subfamily-level distribution of specimens collected outside the archipelago (Fig. 6B), the Cyclominae represent 38% of the records, Entiminae represent 34%, and other subfamilies represented 28% of the records. This illustrated the unique taxonomic composition of the Tierra del Fuego weevil fauna.

Figure 7 shows the records for each genus considering only those specimens collected in the archipelago. *Telurus*, with its two species, is the most abundantly recorded genus, followed by *Puranius*. It is interesting to note that for both genera (*Telurus* and *Puranius*), a single species represents more than 95% of the specimens. In the case of *Telurus*, 262 of the 268 specimens collected on Tierra del Fuego belong to *T. caudiculatus*. In the case of *Puranius*, 126 of the 131 specimens collected on Tierra del Fuego belong to *P. nigrinus*.

TABLE 2. Species of Curculionidae recorded in Tierra del Fuego. Acronyms: Suba= Subandean province; Fueg= Fuegian Patagonian province; Mage= Magellanic Forest province; Moor= Magellanic Moorland province; Cent= Central Patagonian province; Malv= Insular province (Islas Malvinas= Falkland Islands); Vald= Valdivian province (following Morrone & Roig-Juñent 1995)

Subfamily	Species	Distribution						
		Suba	Fueg	Mage	Moor	Cent	Malv	Vald
Entiminae	<i>Anomophtalmus insolitus</i>	*	*					
	<i>Caneorhinus lineatus</i>	*	*	*				
	<i>C. tessellatus</i>			*				
	<i>Cylydrorhinus angulatus</i>	*	*			*		
	<i>C. caudiculatus</i>		*	*			*	*
	<i>C. clathratus</i>	*	*			*		
	<i>C. fulvipes</i>		*	*				
	<i>C. lateralis</i>	*	*					
	<i>C. sordidus</i>	*		*				
	<i>C. vittatus</i>			*				
	<i>Cylydrorhinus</i> sp. 1		*					
	<i>Cylydrorhinus</i> sp. 2		*					
	<i>Dasydema hirtella</i>				*			*
	Cyclominae	<i>Aegorhinus delfini</i>			*			
<i>A. vitulus</i>				*				
<i>Alastoropolus strumosus</i>				*				*
<i>Antarctobius germaini</i>				*	*			
<i>A. hyadesii</i>				*	*			
<i>A. lacunosus</i>			*	*				
<i>A. rugirostris</i>				*	*			
<i>A. yefacel</i>				*				
<i>Falklandiellus suffodens</i>				*			*	
<i>Falklandiopsis magellanica</i>				*				
<i>Falklandius antarcticus</i>			*	*		*	*	
<i>Germainiellus dentipennis</i>				*				*
<i>G. fulvicornis</i>			*	*				
<i>G. laevirostris</i>				*				
<i>G. lugens</i>				*				*
<i>G. rugipennis</i>				*				
<i>Haversiella albolimbata</i>					*		*	
<i>Listroderes delaigui</i>		*	*	*				*
<i>Puranius australis</i>					*			*
<i>P. fasciculiger</i>				*				*
<i>P. nigrinus</i>	*		*					
<i>Telurus caudiculatus</i>			*	*			*	
<i>T. dissimilis</i>			*	*				
Curculioninae	<i>Anthonomus ornatus</i>			*				*
	<i>A. signatipennis</i>			*				*
Cryptorrhynchinae	<i>Rhyephenes maillei</i>	*						

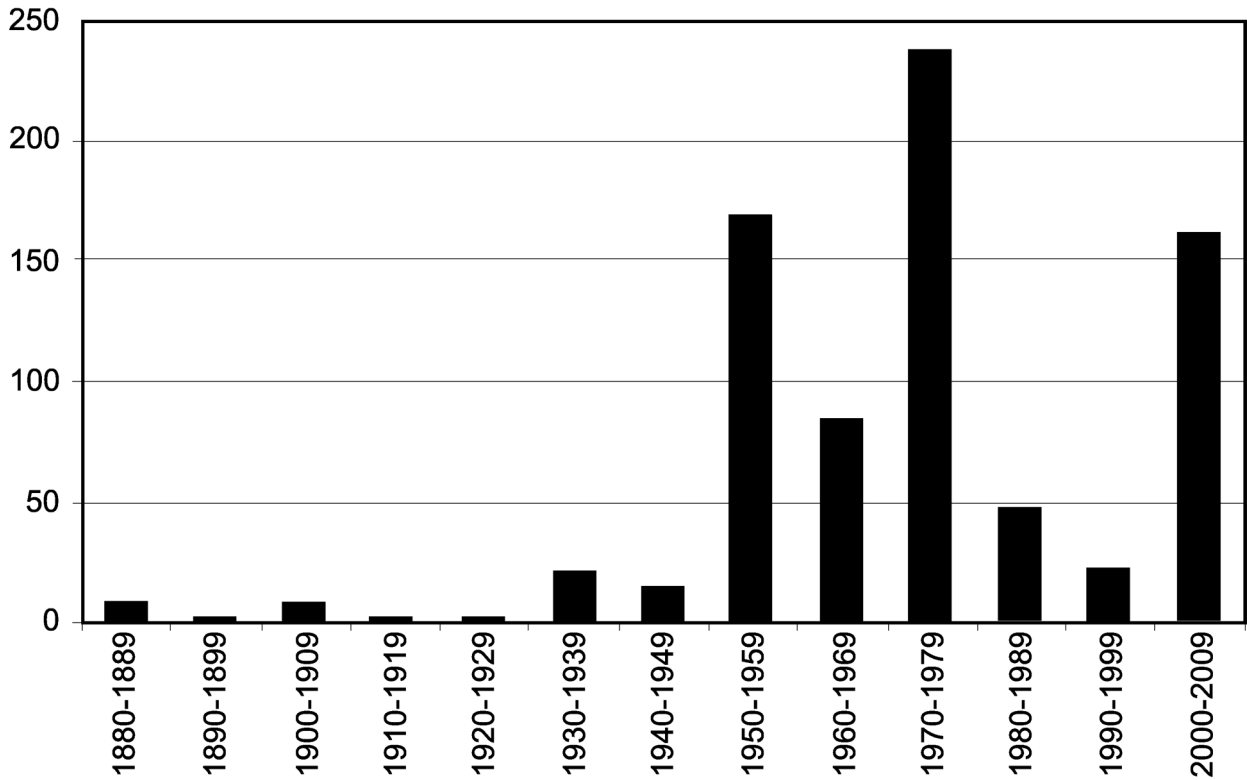


FIGURE 3. Number of specimens of Curculionidae collected per decade in Tierra del Fuego.

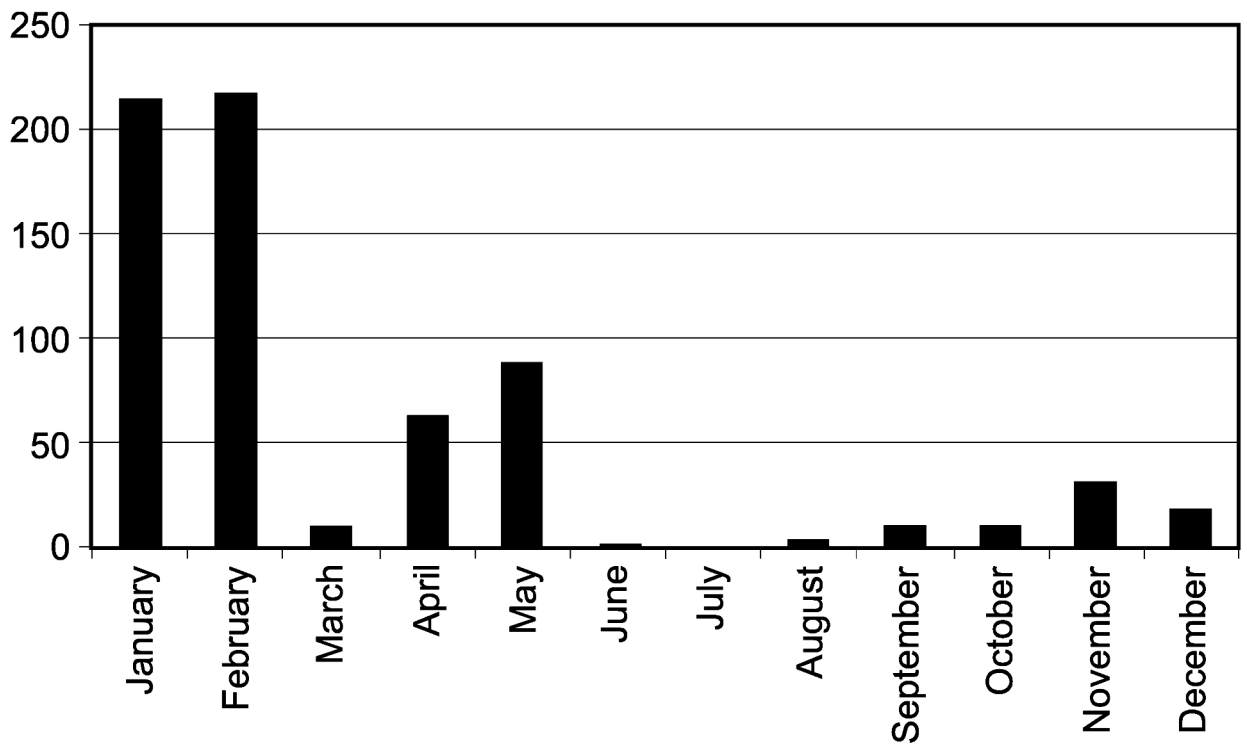


FIGURE 4. Number of specimens of Curculionidae collected per month in Tierra del Fuego archipelago.

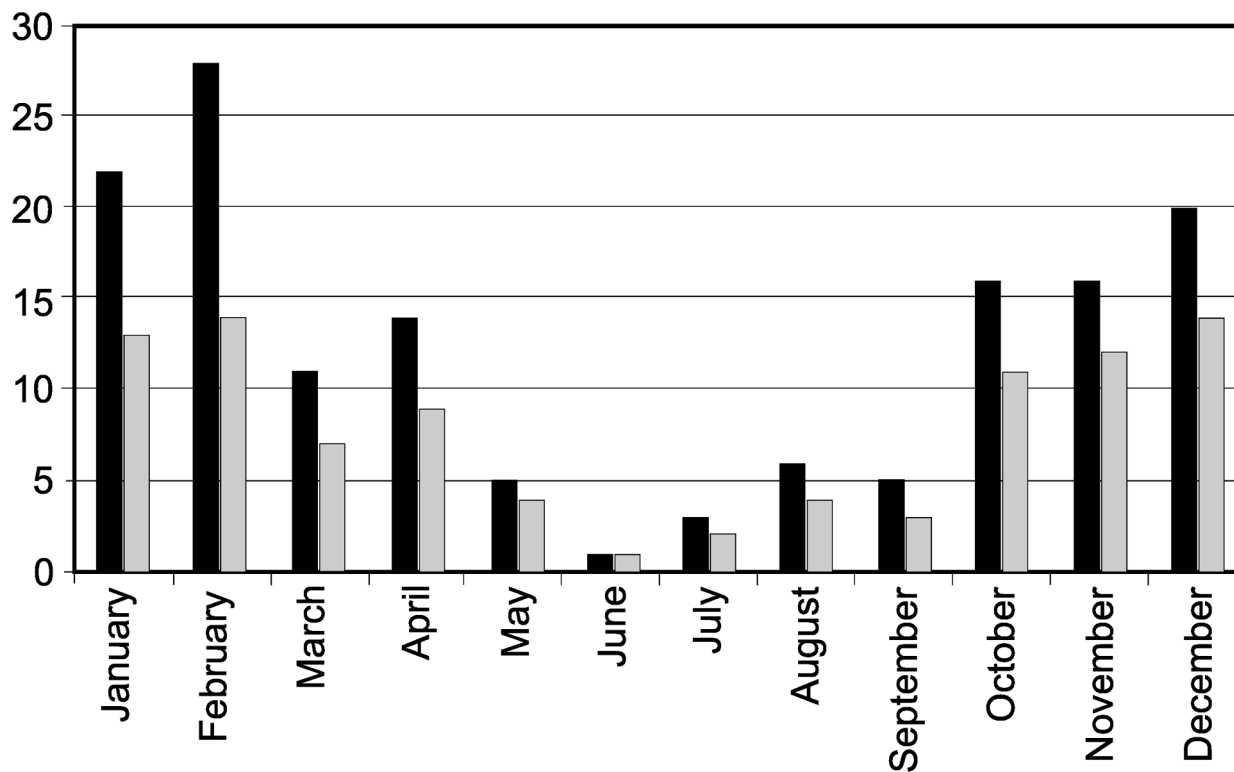


FIGURE 5. Number of species (black) and genera (grey) of Fuegian Curculionidae collected per month.

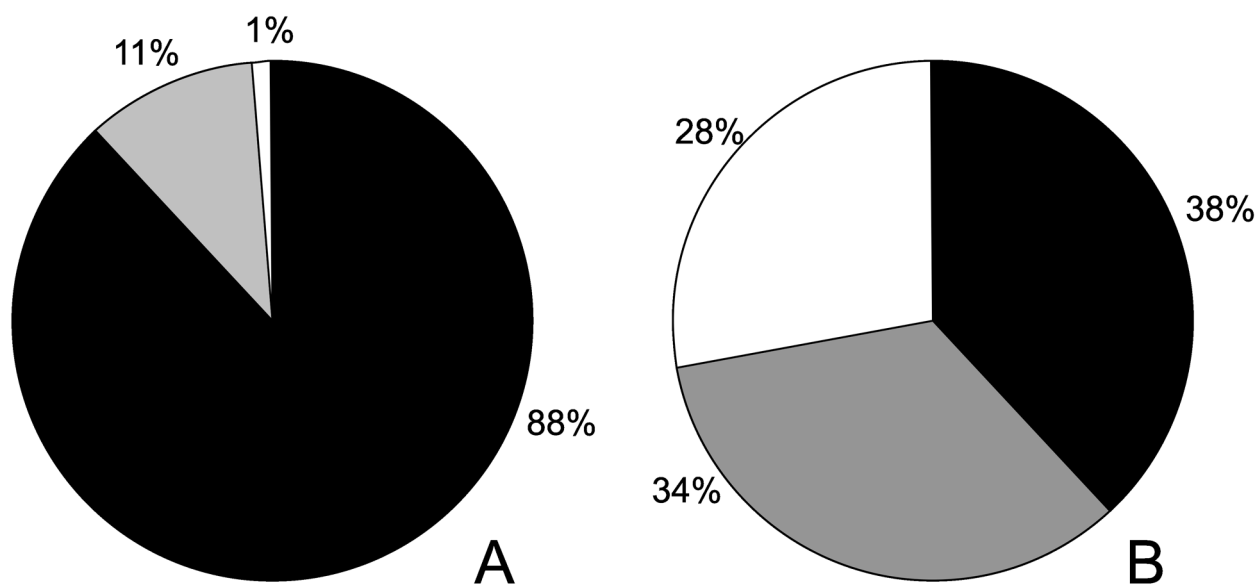


FIGURE 6. Number of records of Curculionidae according to subfamilies. A. Considering only those records from Tierra del Fuego archipelago. B. Considering those specimens of species which belong to Fuegian weevil fauna which was collected outside the archipelago. Black: Cyclominae. Grey: Entiminae. White: other subfamilies.

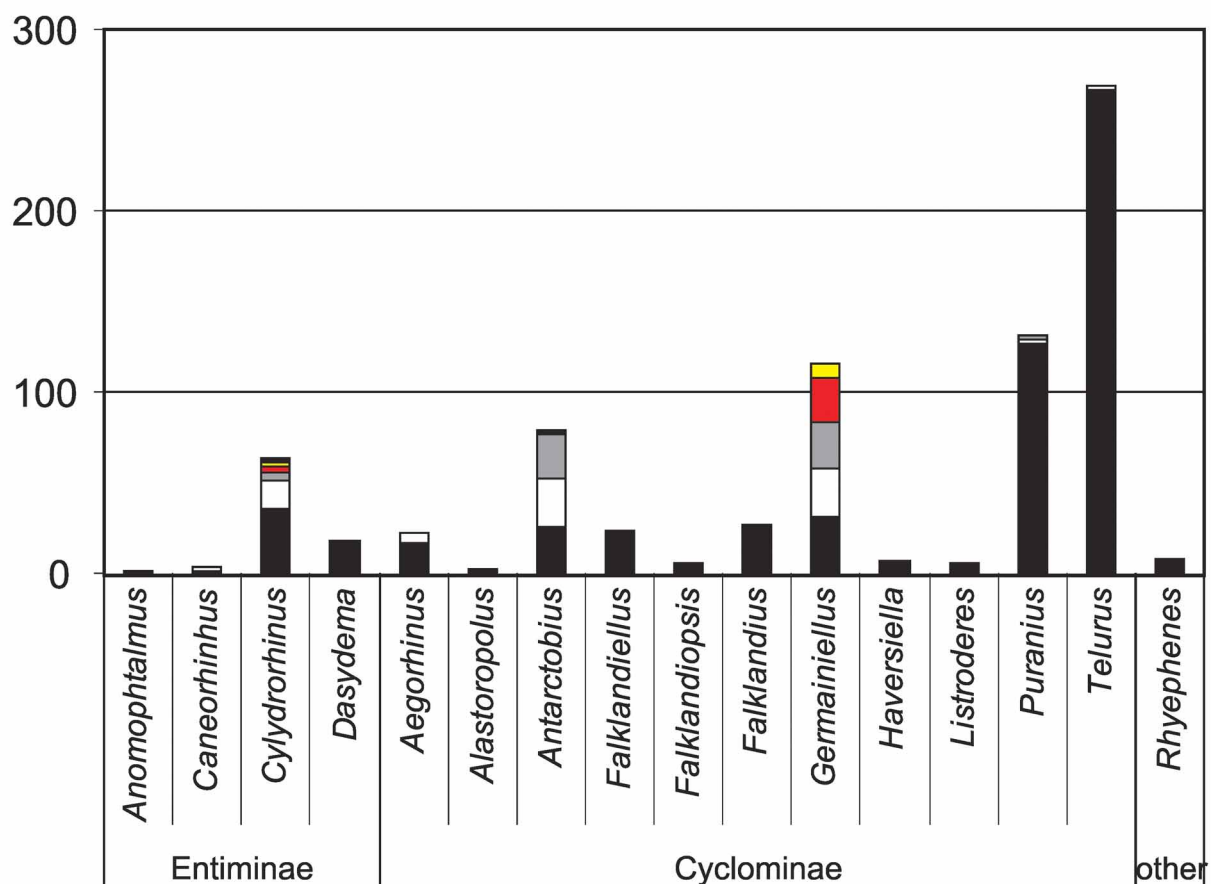


FIGURE 7. Number of specimens of Curculionidae collected per genus, considering only those records from Tierra del Fuego archipelago. Colors indicate different species within each genus.

Regarding geographic distribution, Table 3 shows the number of specimens, genera, and species collected on each island. Isla Grande de Tierra del Fuego and Isla Navarino account for the 85% of the specimens collected in the archipelago.

TABLE 3. Number of specimens, genera and species collected in each island of Tierra del Fuego archipelago.

Island	Specimens	Genera	Species
Isla de los Estados	88	2	3
Isla Grande de Tierra del Fuego	427	16	27
Isla Navarino	200	9	17
Isla Picton	13	7	9
Isla Hoste	5	2	2
Isla Dawson	3	2	2
Isla Wollaston	2	2	2
Cabo de Hornos	1	1	1

Subfamily Entiminae

Anomophtalmus Fairmaire

Anomophtalmus Fairmaire 1884: 498 (type species: *A. insolitus* Fairmaire, by indication, monotypy).

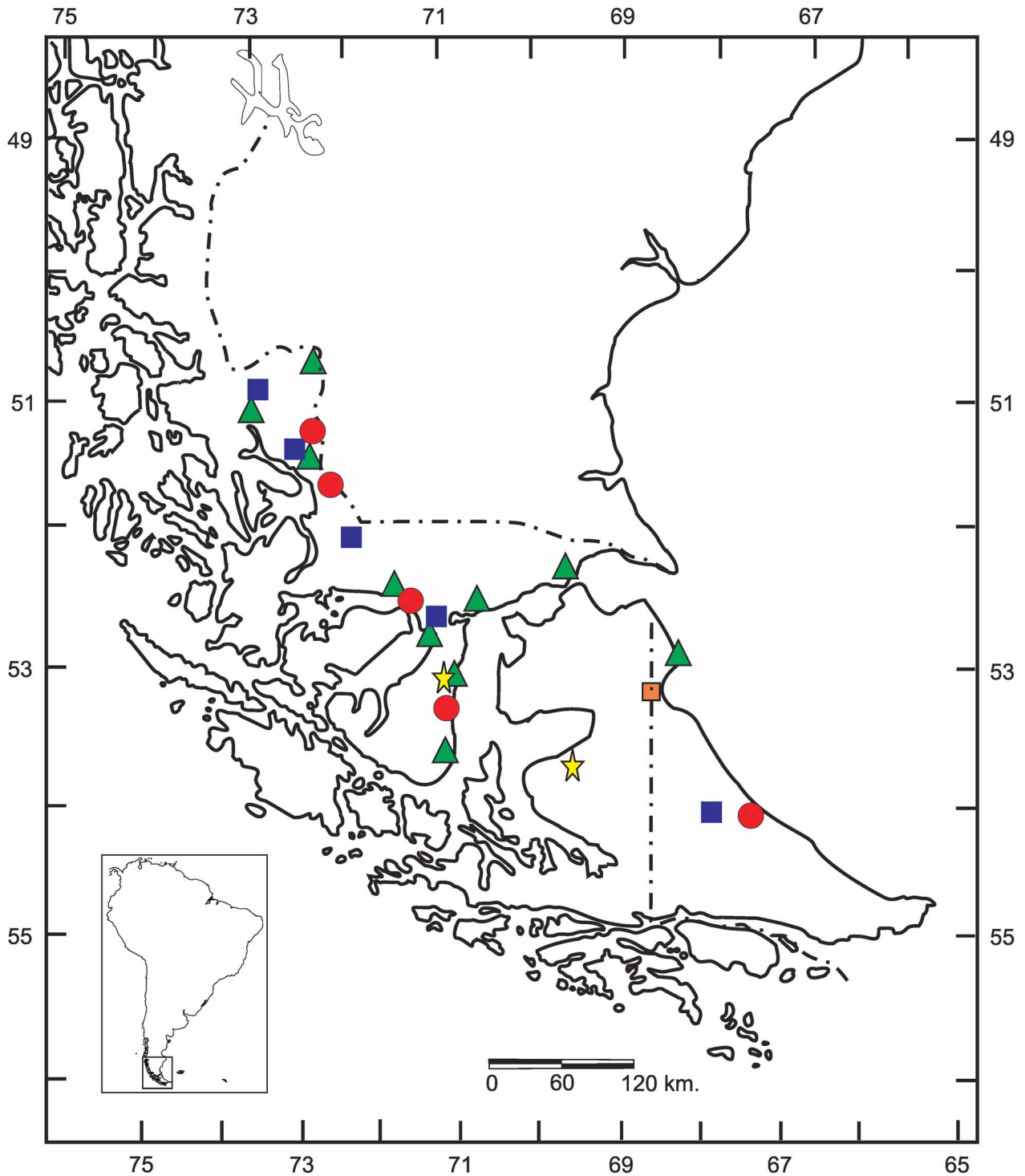


FIGURE 8. Geographic distribution of *Anomophtalmus insolitus* (red circles), *Caneorhinus tessellatus* (blue squares), *Cylydrorhinus angulatus* (green triangles), *Cylydrorhinus clathratus* (yellow stars), and *Cylydrorhinus fulvipes* (orange squares).

***Anomophthalmus insolitus* Fairmaire**

Anomophthalmus insolitus Fairmaire 1884: 498.
= *Sysciophthalmus crawshayi* Champion 1918a: 35.

Geographic distribution as in figure 8.

Specimens examined. ARGENTINA: **Tierra del Fuego**, Estancia Viamonte, XII-6-1931, Reynolds col. (BMNH). CHILE: **Magallanes**, Estancia San José, XI-1-1977, Cerdá col. (6 specimens with same data, MHNS).

Temporal distribution: October to January.

***Caneorhinus* Kuschel**

Caneorhinus Kuschel 1952a: 121 (type species: *Cylydrorhinus lineatus* Blanchard by original designation).

***Caneorhinus lineatus* (Blanchard)**

(Fig. 9 A–B)

Cylydrorhinus lineatus Blanchard 1851: 355; Berg 1884: XCIX (*Adioristus*); Bruch 1915: 412 (*Cylindrorrhinus*); Kuschel 1952a: 121 (*Caneorhinus*).
= *Cylindrorrhinus confusaneus* Berg 1899: 61; Enderlein 1912: 79 (*Cylydrorhinus confusaneus*, lapsus); Kuschel 1952a: 121 (*Cylindrorrhinus*).
= *Caneorhinus gravidus* (Burmeister 1879) n. syn. Burmeister, 1879: 208 (*Cylydrorrhinus*); Kuschel 1952a: 121 (*Caneorhinus*).

C. gravidus (Burmeister) is here established as a **new junior synonym** of *C. lineatus* (Blanchard). Comparison of two *C. gravidus* syntypes (male and female) deposited at MACN with *C. confusaneus* holotype deposited at MLP did not provide morphological differences among specimens. Also, male genitalia of specimens determined as *C. lineatus* and *C. gravidus* were compared and did not allow the identification of separate species.

Geographic distribution as in figure 10.

Specimens examined. ARGENTINA: **Neuquén**, Chapelco 170 mts., III-7-1964, Schajovskoi col. (MLP); **Chubut**, Valle del Lago Blanco, (*Cylindrorrhinus gravidus*, Burmeister, 1879, two specimens with same data, one male, and one female, syntypes, MACN); Apeleg, XI-3-1956 (MLP); **Santa Cruz**, Lago Argentino; P. Bandera, III-1953 (3 specimens with same data, MACN); **Tierra del Fuego**, [Filaret I-1893 N° 1143 *C. confusaneus* (Berg) holotype, MLP]; CHILE: **Magallanes**, Ultima Esperanza, Tres Pasos, 100m, II-3-1990, Morrone col. (MLP); Cerro Guido, II-2-1957, Cekalovic col. (USNM); four additional specimens without data (MHNS).

Temporal distribution: November to March.

***Caneorhinus tessellatus* (Guérin-Méneville)**

(Fig. 9 C–D)

Cylydrorhinus tessellatus Guérin-Méneville 1839: 303; Kuschel 1952a: 121 (*Caneorhinus*).

Geographic distribution as in figure 8.

Specimens examined. ARGENTINA: **Tierra del Fuego**, Ruta C (20 km ruta 3) II-27-1997, Posadas & Ocampo col. (MLP). CHILE: **Magallanes**, Rubens, II-27-1969, Peña col. (MZFC); camino Natales, III-1969, Peña col. (MHNS); Cerro Guido, II-11-1957, Cekalovic col. (USNM); Chorillo Esperanza, II-25-1962, Cekalovic col. (USNM); Ea. Otway, I-22-1966, Flint & Cekalovic col. (USNM); I-12-1966, Flint & Cekalovic col. (USNM). Three additional specimens without data (MHNS).

Temporal distribution: December to March.

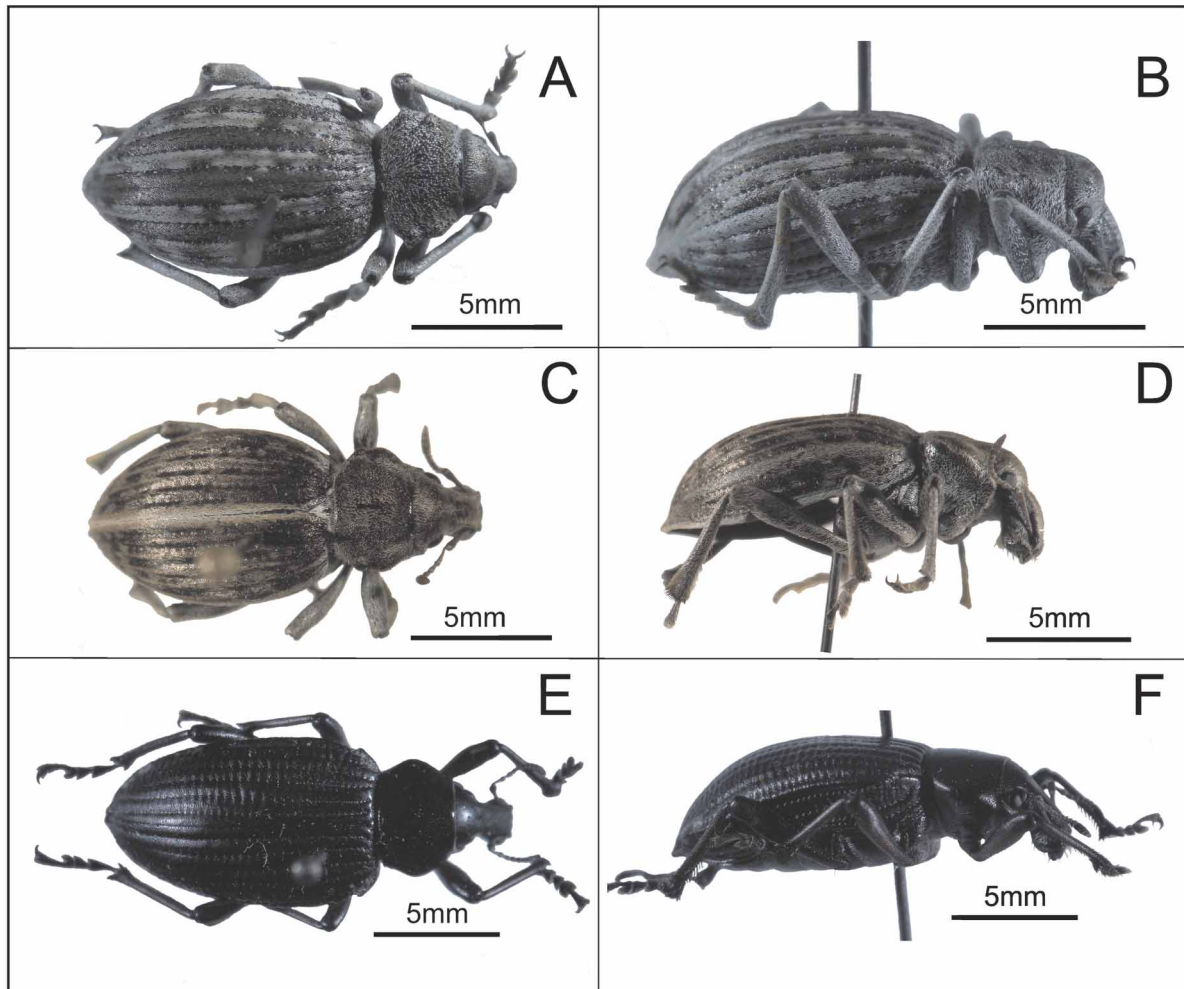


FIGURE 9. Dorsal and lateral views of: A–B *Caneorhinus lineatus*; C–D *Caneorhinus tessellatus*; and E–F *Cyldrorhinus angulatus*.

Cyldrorhinus Guérin-Méneville

- Cyldrorhinus* Guérin-Méneville 1830: 119 (type species: *Curculio lemniscatus* Quoy & Gaimard, by indication, monotypy).
 = *Otideres* Dejean 1835: 260 (*nomem nudum*).
 = *Adioristus* Waterhouse 1841: 124 (not available, type species not designated).
 = *Cylindrorhinus* Schoenherr 1842: 336 (lapsus).
 = *Scotoeborus* Schoenherr 1843: 97 (type species *S. murinus* Boheman by original designation).
 = *Otideres* Fairmaire & Germain 1860: 4 (type species: *O. denticulatus* Fairmaire & Germain, by indication, combined description).
 = *Cyldrorhinus* Lacordaire 1863: 343 (lapsus).
 = *Otidoderes* Lacordaire 1863: 343 (type species *O. inquinatus* Lacordaire [= *C. denticulatus* (Fairmaire & Germain)] by original designation).
 = *Cylindrorhinus* Gemminger & Harold 1871: 2358 (unjustified emendation).
 = *Amathynetes* Olliff 1891: 70 (type species *A. alticola* Olliff by original designation).
 = *Nahuelius* Germain 1895: 318 (type species *Scotoeborus nahuelius* Kuschel, by indication, monotypy).
 = *Paulsenius* Germain 1895: 318 (type species *P. frigidus* Germain by original designation).
 = *Nahuelis* Germain 1911: 211 (lapsus).
 = *Otidores* Germain 1911: 212 (lapsus).
 = *Cylindrorrhinus* Bruch 1915: 412 (lapsus).

- = *Otioderes* Bruch 1915: 413 (lapsus).
- = *Listroderes* Champion 1918b: 178 (misidentification).
- = *Protadioristus* Voss 1954: 421 (type species *A. crassirostris* Fairmaire & Germain [= *C. oblongus* Blanchard] by indication, monotypy; subgenus of *Adioristus*).
- = *Peradioristus* Voss 1954: 242 (not available, type species not designated; subgenus of *Adioristus*).
- = *Pseudadioristus* Voss 1954: 243 (type species *A. squamulatus* Hustache, by indication, monotypy; subgenus of *Adioristus*).

***Cyldrorhinus angulatus* Guérin-Méneville**

(Fig. 9 E–F)

- Cyldrorhinus angulatus* Guérin-Méneville 1841: 217; Fairmaire 1884: 502 (*Adioristus*); Fairmaire 1889: 130 (*Cylindrorhinus*).
- = *Adioristus rubripes* Philippi 1862: 410.
- = *Adioristus rugatus* Philippi 1862: 411.
- = *Cylindrorhinus scrobiculatus* Burmeister 1879: 203 (variety of *C. angulatus*).

Geographic distribution as in figure 8.

Specimens examined: ARGENTINA: **Tierra del Fuego**, Bahía San Sebastián, IV-21-1971, Flint & Hevel col. (4 specimens with same data, USNM); Bajada Agría, XII-16-1966 (USNM). CHILE: **Magallanes**, Laguna Amarga, XII-7-1966 (3 specimens with same data, USNM); 180 km S. Punta Arenas, XII-1966 (USNM); Cerro Castillo, XII-1966 (USNM); Monte Alto, XII-14-1960, Cekalovic col. (5 specimens with same data, USNM); Cabeza del Mar, I-12-1966, Flint & Cekalovic col. (52 specimens with same data, USNM); Ea. Otway, I-12-1966, Flint & Cekalovic col. (10 specimens with same data, USNM); Pta. Carrera, I-16-1966, Flint & Cekalovic (USNM); Río Verde, I-12-1966, Flint & Cekalovic col. (7 specimens with same data, USNM); Gregory Bay, USFC (13 specimens with same data, USNM).

Temporal distribution: December to April.

***Cyldrorhinus caudiculatus* (Fairmaire)**

(Fig. 11 A–B)

- Listroderes caudiculatus* Fairmaire 1884: 503; Kuschel 1950: 12 (*Paulsenius*, as variety of *carinicollis*); Kuschel 1986: 104 (*Cyldrorhinus*).
- = *Listroderes carinicollis* Germain 1895: 487 (preoccupied).
- = *Listroderes medianus* Schenckling & Marshall 1931: 6 (replacement name for *L. caudiculatus* Fairmaire); Kuschel 1950: 12 (*Paulsenius*).

Geographic distribution as in figure 10.

Specimens examined. ISLAS MALVINAS (=FALKLAND ISLANDS), East Falkland, Port Stanley, XII-9-1974, Coscarón col. (2 specimens with same data, AMNH). ARGENTINA: **Tierra del Fuego**, Ushuaia, II-24/25-1951, Torres & De Santis col. (8 specimens with same data, MLP); III-16-1979, Solomon col. (USNM). CHILE: **Magallanes**, Cerro Castillo, II-12-60, Cekalovic col. (USNM); Salto del Payne, I-20-55, Cekalovic col. (USNM); Chorrillo de la Piedra, II-5-61, Cekalovic col. (USNM); Ea. Otway, I-12-1966, Flint & Cekalovic col. (USNM); Magallanes Strait, Sandy Point (English translation for Punta Arenas) (7 specimens with same data, USNM); Punta Arenas, IV-13-1971, Flint & Hevel col. (3 specimens with same data, USNM); X-14-1950, Cekalovic col. (USNM); XII-19-1951 (USNM); 8 km W Punta Arenas, IV-15/16-1971, Flint & Hevel col. (2 specimens with same data, USNM); Río Tres Brazos, I-12-1966, Flint & Cekalovic col. (USNM); **Isla Navarino**, Puerto Williams, II-4-1957, Cekalovic col. (4 specimens with same data, USNM); Seno Grandi (55°S, 500ft), II-7-1959 (BMNH); **Isla Picton**, (grassland, 55°S, 300ft), II-1-1959 (BMNH).

Temporal distribution: October to April.

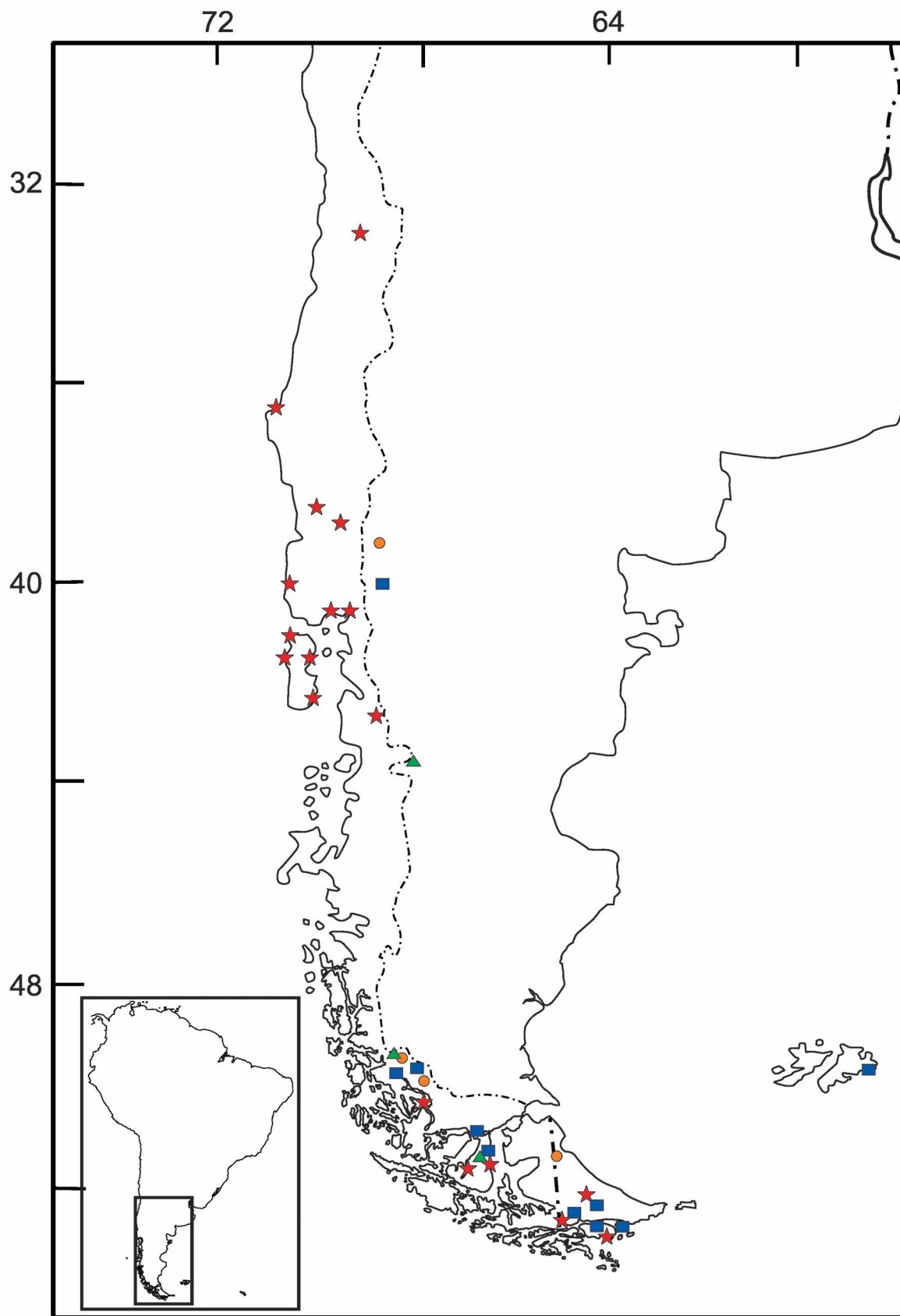


FIGURE 10. Geographic distribution of *Caneorhinus lineatus* (orange circles), *Cyldrorhinus caudiculatus* (blue squares), *Cyldrorhinus sordidus* (green triangles), and *Dasydema hirtella* (red stars).

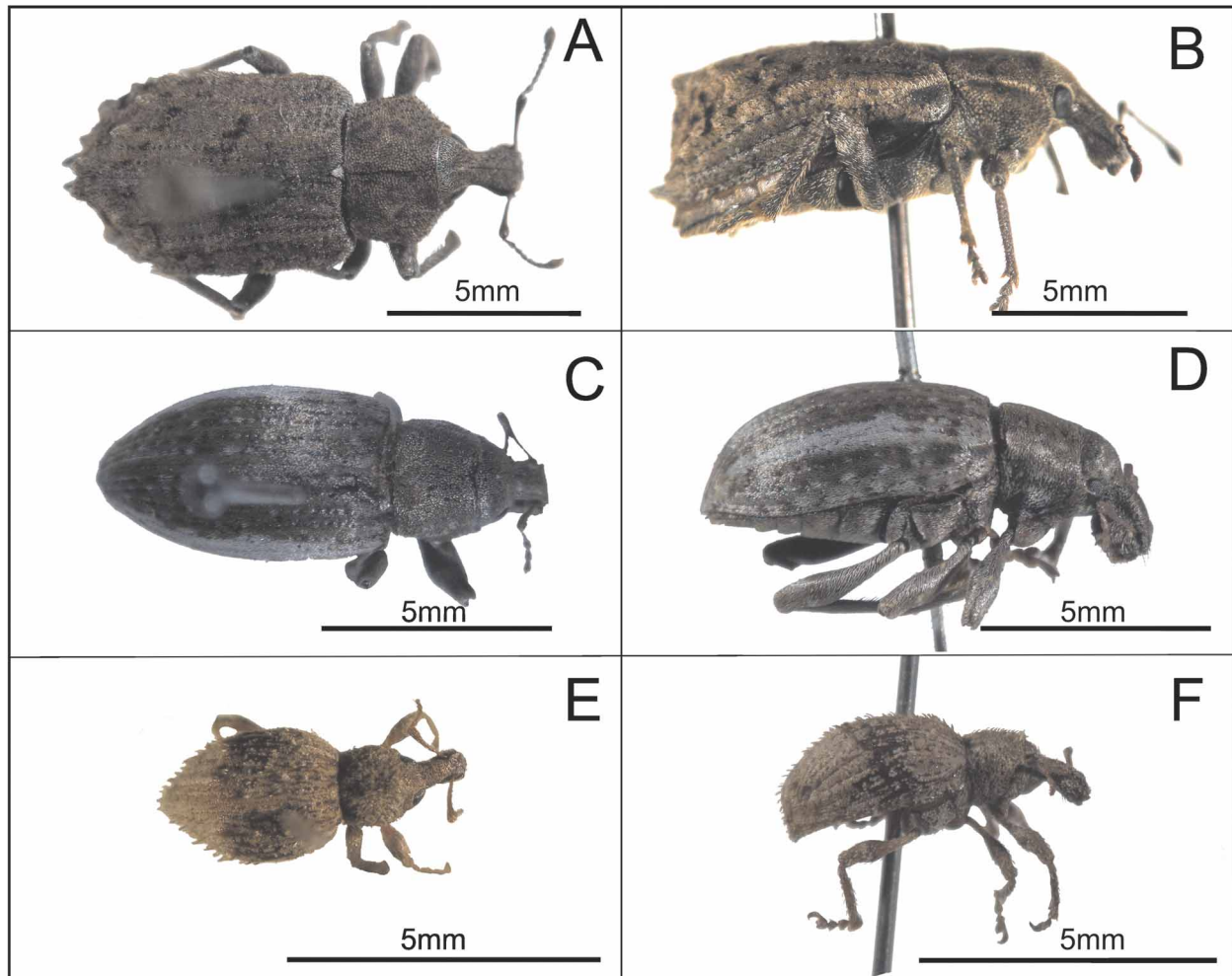


FIGURE 11. Dorsal and lateral views of: A–B *Cylydrorhinus caudiculatus*; C–D *Cylydrorhinus lateralis*; and E–F *Dasydema hirtella*.

Cylydrorhinus clathratus Blanchard

Cylydrorhinus clathratus Blanchard 1851: 356; Kuschel 1955: 289 (*Adioristus*).

Geographic distribution as in figure 8.

Specimens examined: CHILE: Magallanes, Punta Arenas, (3 specimens with same data, BMNH); X-14-1952, Cekalovic col. (9 specimens with same data, BMNH); forest S of Useless bay (English translation for Bahía Inútil), XII-1904, Crawshay col. (BMNH).

Temporal distribution: October to January.

According to Morrone & Roig-Juñent (1995), this species is present in the continental area of the Patagonian subregion. Based on specimens from BMNH and CADIC, the distributional area of *C. clathratus* is extended to Tierra del Fuego, recorded in the steppe areas.

Cylydrorhinus fulvipes (Guérin-Méneville)

Listroderes fulvipes Guérin-Méneville 1839: 304; Kuschel 1955: 289 (*Cylydrorhinus*).

= *Adioristus sulcatus* Fairmaire 1885: 60; Bruch 1921: 237 (*Cylydrorhinus*).

= *Adioristus fuegianus* Berg 1899: 63; Bruch 1921: 237 (*Cylydrorhinus* subspecies of *C. sulcatus*).

Geographic distribution as in figure 8.

Specimens examined: ARGENTINA, Tierra del Fuego, Filaret, X-1982 (4 specimens with same data, MLP).

Temporal distribution: October.

Cyldrorhinus lateralis (Berg)

(Fig. 11 C–D)

Scotoeborus lateralis Berg 1899: 64; Kuschel 1949: 31 (*Adioristus*); Kuschel 1986: 105 (*Cyldrorhinus*).

Geographic distribution as in figure 12.

Specimens examined: ARGENTINA, Tierra del Fuego, Filaret, I/III-1883, MLP (4 specimens with same data).

Temporal distribution: January to March.

Cyldrorhinus sordidus (Burmeister)

Cylindrorhinus sordidus Burmeister 1879: 206; Kuschel 1950: 12 (*Paulsenius*); Kuschel 1986: 106 (*Cyldrorhinus*).
= *Listroderes schythei* Germain 1895: 471.

Geographic distribution as in figure 10.

Specimens examined: ARGENTINA, Tierra del Fuego, Bruch (without more data, MACN). **Chubut**, Lago Fontana (under wood), Posadas & Donato col., II-20-1999, (MLP). **CHILE: Magallanes**, Punta Arenas (Straits of Magellan), Walker col., (BMNH); X-17-1950, Cekalovic col., (USNM); Cerro Guido, II-11-1957, Cekalovic col., (USNM).

Temporal distribution: October to February.

Cyldrorhinus vittatus (Guérin-Ménéville)

Listroderes vittatus Guérin-Ménéville 1839: 304; Kuschel 1952a: 125 (*Cylindrorhinus*); Wibmer & O'Brien 1986: 107 (*Cyldrorhinus*).

Geographic distribution as in figure 12.

Specimens examined: Amérique (without more data, USNM). ARGENTINA: Tierra del Fuego, Bahía Thetys, II-20-1951, Torres col., (MLP).

Dasydema Blanchard

Dasydema Blanchard 1851: 329 (type species: *Dasydema hirtella* Blanchard, by indication, monotypy).

Dasydema hirtella Blanchard

(Fig. 11 E–F)

Dasydema hirtella Blanchard 1851: 379.

Geographic distribution as in figure 10.

Specimens examined: ARGENTINA, Tierra del Fuego, Lago Chepelmuth (south border), II-26-1997, Posadas & Ocampo col. (MLP); PN Tierra del Fuego, Bahía Ensenada, II-26/28-1997, Posadas & Ocampo col. (MLP);

PN Tierra del Fuego, arroyo Los Castores, II-26/28-1997, Posadas & Ocampo col. (MLP). **CHILE, Santiago**, Santiago, I-1966 (AMNH); **Chacamo** (NW Nueva Imperial, 600-700 m), II-17/23-1981, Peña col. (2 specimens with same data, USNM). **Curicó**, Villarrica (MHNS); **Ñuble**, El Marchant, I-8-1978, Peña col. (AMNH); **Arauco**, Isla Mocha, Cerro Alemparte, I-15-1955, Cekalovic col. (MHNS); **Malleco**, Sierra Nevada, I-5-1962, Peña col. (USNM); **Llanquihue**, PN Alerce Andino, I-20-1990 (MLP); Puerto Varas (200m), II-25-1972, Bordón col. (6 specimens with same data, USNM); Horno Huinca, I-24-1969 (17 specimens with same data, USNM); 45 km E Achapin, Puerto Montt, II-20 (14 specimens with same data, USNM); **Cautín**, 30 km. NE Villarrica (36 specimens with same data, USNM), XII-16/31-1964 (25 specimens with same data, USNM); **Osorno**, Pucatrihue (Costa Osorno) II-1967 (14 specimens with same data, USNM); **Chiloé**, Dalcahue, II-1957 (45 specimens with same data, USNM); II-20-1957 (80 specimens with same data, USNM); Guabum, I-13-1980, Peña col. (AMNH); Chepú, XI-28/29-1981, Schuh & Platnick col., (AMNH); (42°S, 30 ft), X-13-1958 (35 specimens with same data, BMNH); San Pedro (42°S, 2200 ft), II-1-1958, (BMNH); **Aisen**, Palena (near to Chaiten), I-20-1990, Morrone col. (4 specimens with same data, MLP). **Magallanes**, Punta Arenas, XI-23-1961, Cekalovic col. (USNM); I-9/15-1966, Flint & Cekalovic col. (8 specimens with same data, USNM); Península Antonio Varas, II-5-1951, Cekalovic col. (USNM); El Ganso river (seno Otway, on *Nothofagus betuloides*) I-10-1962 (USNM); Los Robles, I-21-1961, Cekalovic col. (USNM). **Isla Navarino**, 1935, Bird col., (AMNH); Puerto Williams (55°S, 100ft), I-12-1959 (7 specimens with same data, BMNH); **Isla Picton** (*Nothofagus* forest, 55°S, 200ft), II-1-1959 (BMNH).

Temporal distribution: October to February.

Plant association: Collected on *Nothofagus* forest.

Subfamily Cyclominae

Aegorhinus Erichson

= *Psuchocephalus* Latreille 1828: 597 (type species: *Curculio leprosus* Olivier [*non* Gmelin] [= *C. vitulus*, Fabricius]).

Aegorhinus Erichson 1834: 261 (type species: *A. phaleratus* Erichson, by indication, monotypy).

= *Lophotus* Schoenherr 1834: 314 (type species: *L. eschscholtzi* Boheman [= *A. superciliosus* (Guérin-Méneville)] by original designation; preoccupied).

= *Lophodes* Dejean 1837: 284 (*nomem nudum*).

= *Eublepharus* Gay & Solier 1839: 11 (type species not designated, not available).

= *Ceropsis* Gay & Solier 1839: 19 (type species not designated, not available).

= *Sublepharus* Desbrochers 1910: 130 (*nomem nudum*).

= *Aegorrhinus* Bruch 1915: 416 (lapsus).

= *Euplepharus* Bruch 1915: 416 (lapsus).

= *Micropolus* Kuschel 1952b: 243 (type species: *Lophotus delfini* Germain, by original designation).

Aegorhinus delfini (Germain)

(Fig. 13 A–B)

Lophotus delfini Germain 1893: 1031; Desbrochers 1910: 130 (*Aterpus*); Marshall 1946: 94 (*Aegorhinus*); Kuschel 1952b: 243 (*Micropolus*); Morrone & Roig-Juñent 2000 (*Aegorhinus*).

= *Aegorhinus boniarde* Cekalovic 1970: 56.

Geographic distribution as in figure 12.

Specimens examined: **ARGENTINA: Tierra del Fuego**, PN Tierra del Fuego, Arroyo Los Castores, II-26/28-1997, Posadas & Ocampo col. (4 specimens with same data MLP); Ushuaia, Valle Andorra, XI-18-1984, Sobral col. (MLP).

Temporal distribution: November to February.

Plant association: Several specimens associated with *Nothofagus* forests or collected on *Nothofagus* and *Gunnera*.

It had been considered that the distribution of *A. delfini* includes Maule and the Magellanic forest biogeographical provinces (Morrone & Roig-Juñent 1995, 2000). However, Elgueta (2000) considered that *A. delfini* is endemic to the Magellanic forest and that its records from Maulean areas are incorrect.

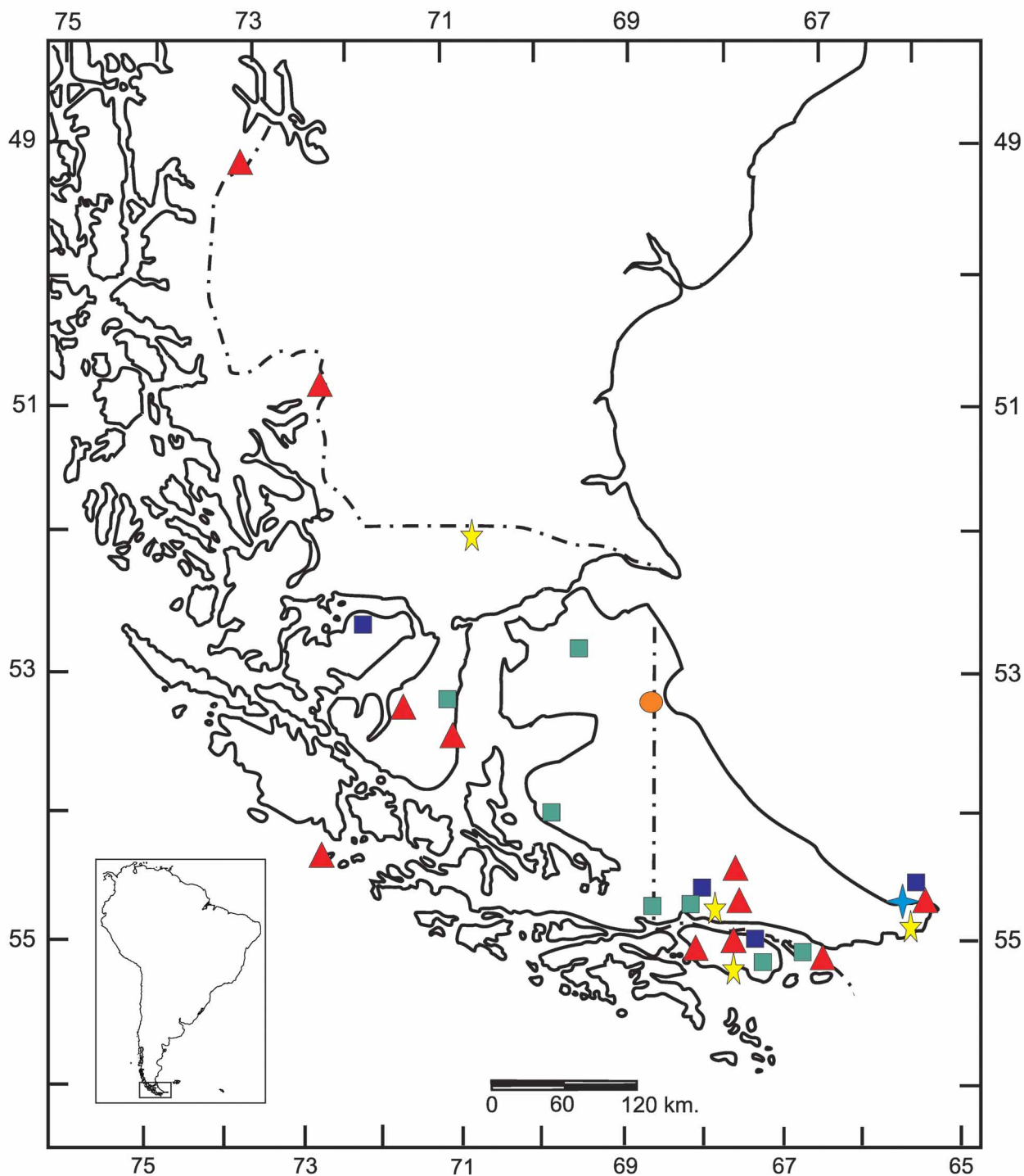


FIGURE 12. Geographic distribution of *Cylydrorhinus lateralis* (orange circles), *Cylydrorhinus vittatus* (light blue stars), *Aegorhinus delfini* (green squares), *Aegorhinus vitulus* (red triangles), *Antarctobius germaini* (yellow stars) and *Antarctobius hyadessi* (blue squares).

***Aegorhinus vitulus* (Fabricius)**

(Fig. 13 C–D)

Curculio vitulus Fabricius 1775: 152; Hope 1834: 16 (*Lophotus*); Blanchard 1851: 329 (*Eublepharus*); Marshall 1946: 94 (*Aegorhinus*).

= *Curculio leprosus* Olivier 1807: 395; Lacordaire 1863: 414 (*Lophotus*); Marshall 1946: 94 (*Aegorhinus*).

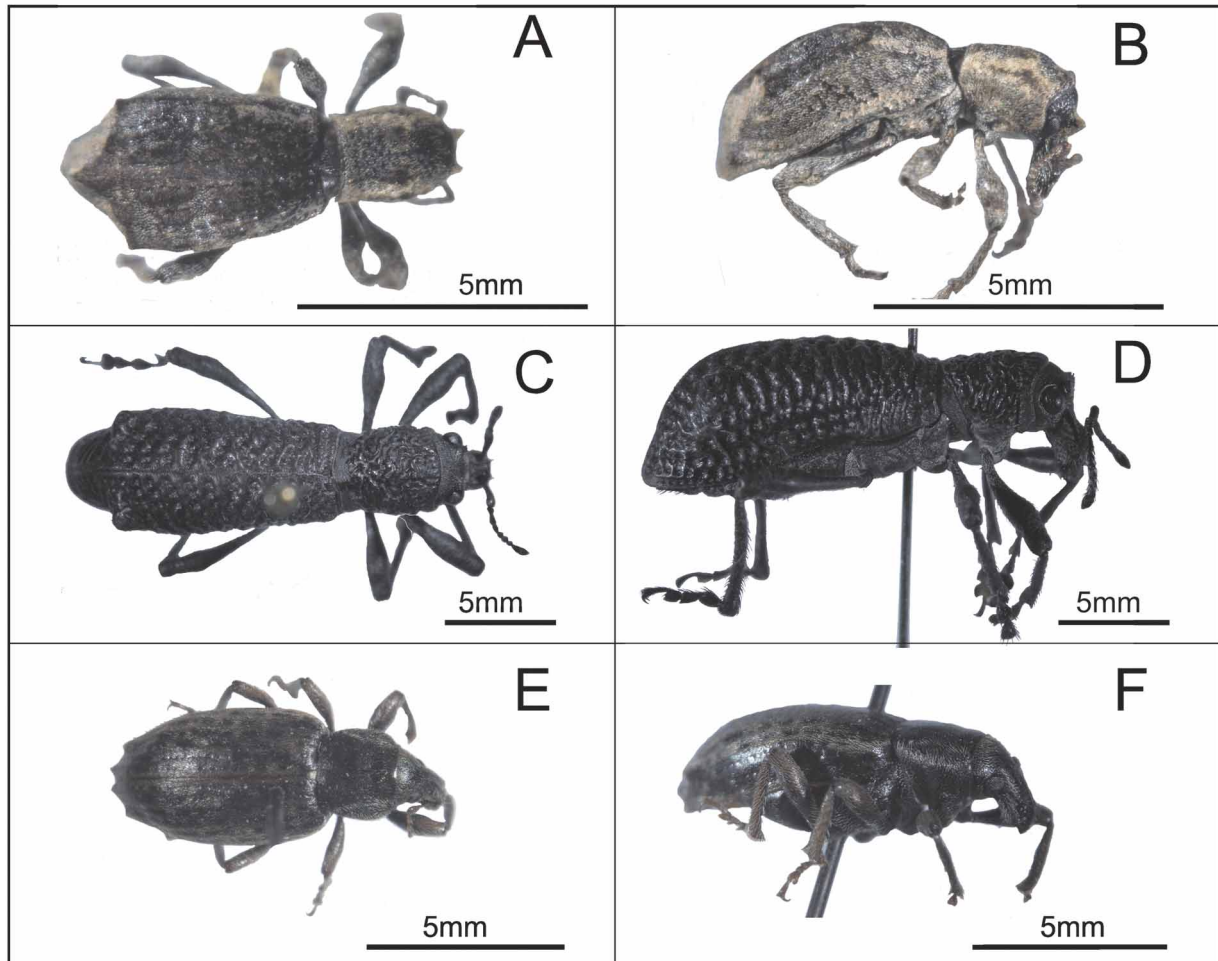


FIGURE 13. Dorsal and lateral views of: A–B *Aegorhinus delfini*; C–D *Aegorhinus vitulus*; and E–F *Antarctobius hyadessi*.

Geographic distribution as in figure 12.

Specimens examined: ARGENTINA: Tierra del Fuego, Río Olivia, I-20-1997, Amado col. (MLP); Bahía Thetys, II-20-1951, Torres col. (4 specimens with same data, MLP); Lago Fagnano (on *Nothofagus*), I-1939 (MLP). CHILE: Magallanes, Isla Navarino, Seno Grandi (55°S, 20ft, *Nothofagus* forest), II-6-1959 (4 specimens with same data, BMNH); (BMNH); Puerto Williams (55°S, 1200ft), I-12-1959 (BMNH); Isla Picton (55°S, 25ft, *Nothofagus* forest), II-1-1959 (BMNH);

Temporal distribution: October to February.

Plant association: Several specimens associated with *Nothofagus* forests or collected on *Nothofagus*.

Alastoropolus Kuschel

Alastoropolus Kuschel 1950: 15 (type species: *Curculio strumosus* Olivier, by original designation).

Alastoropolus strumosus (Olivier)

Curculio strumosus Olivier 1807: 394; Lacordaire 1863: 414 (*Lophotus*); Marshall 1946: 94 (*Aegorhinus*); Kuschel 1952b: 217 (*Alastoropolus*).

= *Lophotus longipes* Waterhouse 1840: 330; Blanchard 1851: 329 (*Eublepharus*); Marshall 1946: 94 (*Aegorhinus*).

Geographic distribution as in figure 14.

Specimens examined: ARGENTINA: Tierra del Fuego, without more data, Bruch col. (2 specimens with same data MACN). CHILE: Llanquihue, Puerto Montt, 15-II-1971 (2 specimens with same data MHNS).

Temporal distribution: February.

Antarctobius Fairmaire

Antarctobius Fairmaire 1885: 58 (type species: *A. lacunosus* Fairmaire, subsequent designation by Morrone 1992a).

Antarctobius germaini (Kolbe)

= *Listroderes griseus* Germain 1896: 829 (preoccupied).

Listroderes germaini Kolbe 1907: 105 (replacement name for *L. griseus* Germain); Morrone 1992a: 12 (*Antarctobius*).

Geographic distribution as in figure 12.

Specimens examined: ARGENTINA: Tierra del Fuego, Bahía Thetys, II-20-1951, Torres col. (MLP); Ushuaia (costa) XI-5-1984, Sobral col. (MLP).

Temporal distribution: November to July.

Plant association: *Senecio allocophyllus* and *Senecio candidans* (Morrone 1992a)

Antarctobius hyadesii Fairmaire

(Fig. 13 E–F)

Antarctobius hyadesii Fairmaire 1885: 58; Enderlein 1907: 39 (*Listroderes*).

= *Listroderes laevigatus* Germain 1896: 801.

Geographic distribution as in figure 12.

Specimens examined: Tierra del Fuego, Bahía Thetys, II-20-1951, Torres col. (MLP).

CHILE, Magallanes, Isla Navarino, Puerto Williams (55°S, 1900ft), I-21-1959 (BMNH).

Temporal distribution: January to April.

Plant association: *Senecio allocophyllus* (Morrone 1992a)

Antarctobius lacunosus Fairmaire 1885

Antarctobius lacunosus Fairmaire 1885: 59; Enderlein 1907: 39 (*Listroderes*).

Geographic distribution as in figure 16.

Specimens examined: CHILE: Magallanes, Isla Navarino, Puerto Williams (55°S, from 1700ft to 2150ft), I-21-1959, (15 specimens with same data, BMNH); Isla Wellington, Puerto Edén (49° S, 2500 ft), XII-20-1958 (4 specimens with same data, BMNH); Península Muñoz Gamero (2000 ft, under stone), 27-XII-1958 (BMNH).

Temporal distribution: December to January.

Antarctobius rugirostris Champion, 1918.

Antarctobius rugirostris Champion 1918c: 53; Kuschel 1950: 14 (*Listroderes*).

= *Antarctobius rugicollis* Schenkling & Marshall 1931: 11.

Geographic distribution as in figure 16.

Specimens examined: CHILE: Magallanes, Isla Navarino, Puerto Williams (55°S, 150ft), I-21-1959 (BMNH).

Temporal distribution: January.

Antarctobius yefacel Morrone

Antarctobius yefacel Morrone 1992a: 10.

Geographic distribution as in figure 16.

Temporal distribution: September.

Morrone (1992a) described this species based on a single specimen collected by Bird, type locality: Isla Navarino.

Falklandiellus Kuschel

Falklandiellus Kuschel, 1950: 14 (type species: *Falklandius suffodens* Enderlein, by original designation).

Falklandiellus suffodens (Enderlein)

(Fig. 15 A–B)

Falklandius suffodens Enderlein 1907: 68; Kuschel 1950: 14 (*Falklandiellus*).
= *Falklandius inaequalis* Champion 1918b: 184; Kuschel 1950: 14 (*Falklandiellus*).

Geographic distribution as in figure 14.

Specimens examined: ARGENTINA: Tierra del Fuego, PN Tierra del Fuego, Los Castores stream, II-26/28-1997, Posadas & Ocampo col. (8 specimens with same data MLP).

Temporal distribution: October to February.

Falklandiopsis Morrone & Anderson

Falklandiopsis Morrone & Anderson 1995: 5 (type species: *Falklandius magellanicus* Morrone by original designation).

Falklandiopsis magellanica (Morrone)

Falklandius magellanicus Morrone 1992b: 166; Morrone & Anderson 1995: 5 (*Falklandiopsis magellanica*).

Geographic distribution as in figure 16.

Specimens examined: ARGENTINA: Tierra del Fuego, PN Tierra del Fuego, Los Castores stream, II-26/28-1997, Posadas & Ocampo col. (4 specimens with same data MLP). **CHILE: Magallanes, Isla Navarino**, Puerto Williams (55° S, 100 ft), I-12-1959 (BMNH).

Temporal distribution: December to February.

Falklandius Enderlein

Falklandius Enderlein 1907: 65 (type species: *F. branchyomma* Enderlein [= *F. antarcticus* (Stierlin)] by original designation).

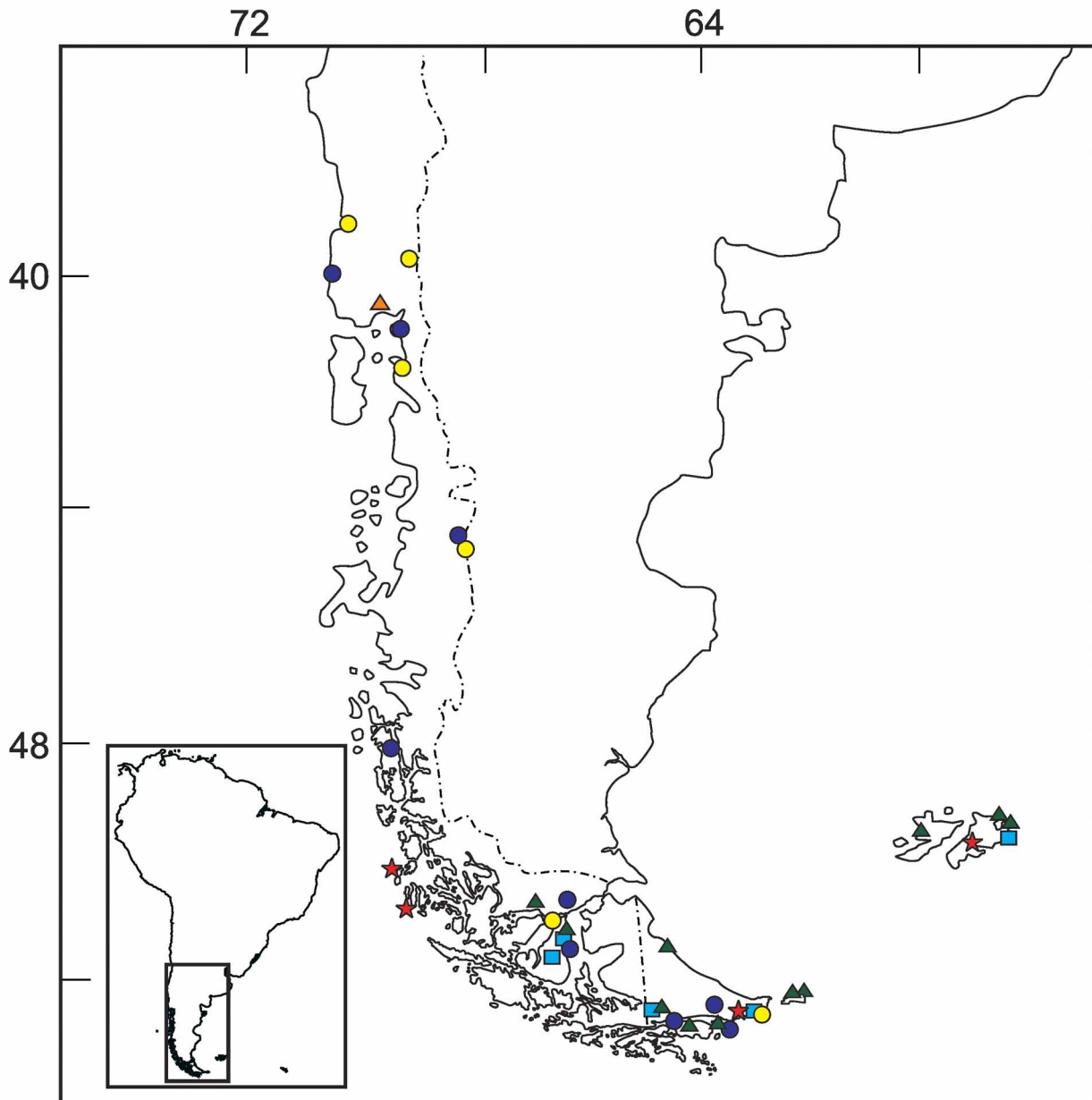


FIGURE 14. Geographic distribution of *Alastoropolus strumosus* (orange triangles), *Falklandiellus suffodens* (light blue squares), *Falklandius antarcticus* (dark green triangles), *Germainiellus dentipennis* (yellow circles), *Germainiellus lugens* (blue circles), and *Haversiella albolimbata* (red stars).

***Falklandius antarcticus* (Stierlin)**

(Fig. 15 C–D)

Otiorynchus antarcticus Stierlin 1903: 57; Kuschel 1950: 14 (*Falklandius*).

= *Falklandius brachyomma* Enderlein 1907: 66.

Geographic distribution as in figure 14.

Specimens examined: ISLAS MALVINAS (= FALKLAND ISLANDS): Beauchene Is., X-1980, Smith col. (BMNH). **ARGENTINA: Tierra del Fuego,** Río Grande, Estancia Viamonte, 1940, Reynolds col. (6 specimens with same data, BMNH). **CHILE: Magallanes, Isla Navarino,** Puerto Williams (55°S, 1600 ft, *Nothofagus* forest), I-22-1959 (7 specimens with same data BMNH).

Temporal distribution: October to June.

Plant association: Records of *F. antarcticus* have been made in fruits of *Myrteola numularia*, among and under decayed *Poa flabellata* (Morrone 1992b), in litter of *Nothofagus antarctica*, and in *Nothofagus* forest.

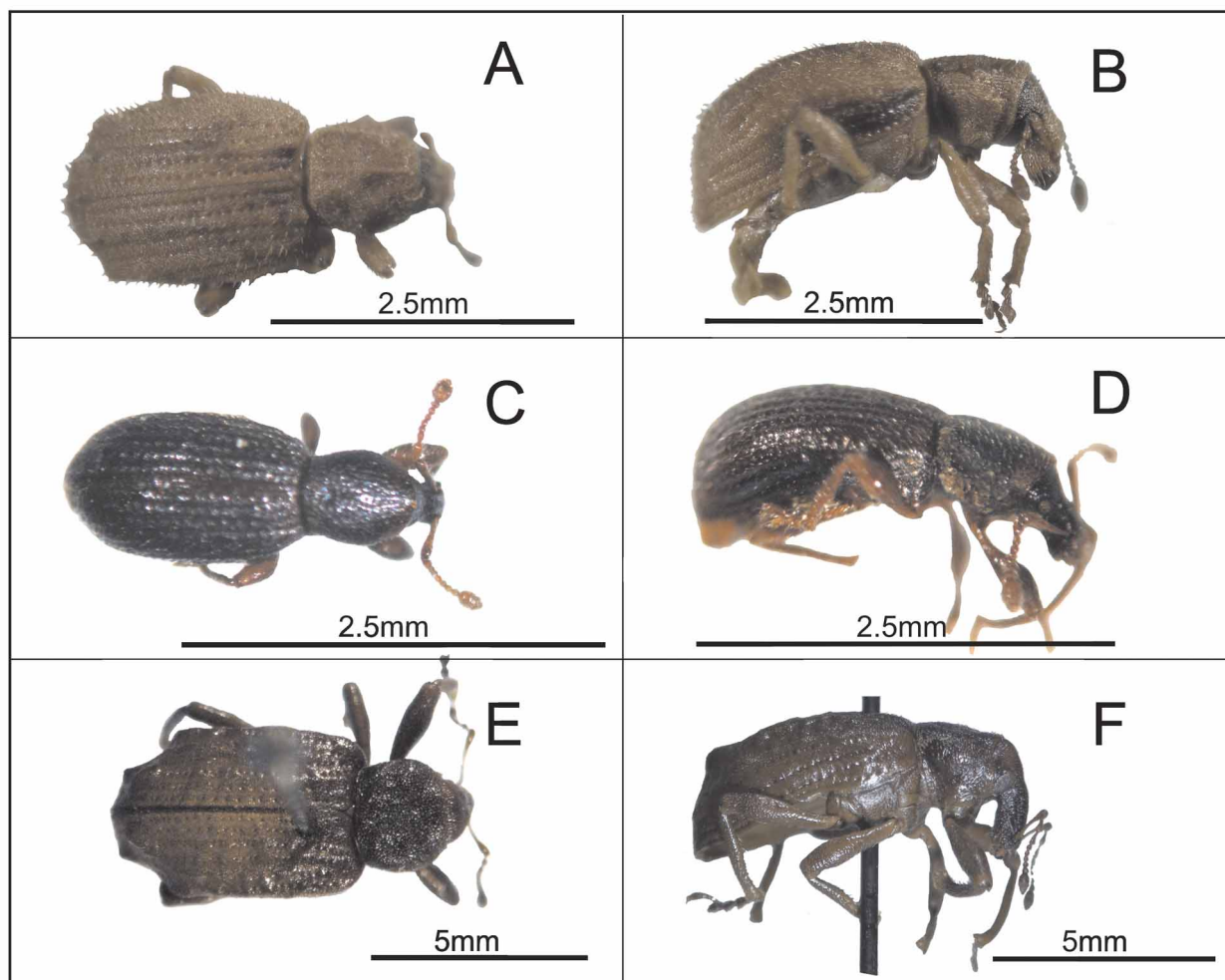


FIGURE 15. Dorsal and lateral views of: A–B *Falklandiellus suffodens*; C–D *Falklandius antarcticus*; and E–F *Germainiellus rugipennis*.

Germainiellus Morrone

Germainiellus Morrone 1993b: 125 (type species: *Listroderes dentipennis* Germain by original designation).

Germainiellus dentipennis (Germain)

Listroderes dentipennis Germain 1895: 589; Kuschel 1950: 14 (subgenus *Antarctobius*); Morrone 1993b: 137 (*Germainiellus*).

Geographic distribution as in figure 14.

Specimens examined: CHILE: Valdivia, Valdivia, I-12-1973, Correa col. (MHNS), Reed col. (without precise data, BMNH).

Temporal distribution: September to April.

***Germainiellus fulvicornis* (Germain)**

Listroderes fulvicornis Germain 1895: 571; Morrone 1993b: 131 (*Germainiellus*).
= *Listroderes fulvitaris* Hustache 1926: 194.

Geographic distribution as in figure 16.

Specimens examined: ARGENTINA: **Tierra del Fuego**, Ushuaia, II-24/25-1951, Torres & De Santis col. (MLP); CHILE: **Magallanes, Isla Picton** (grassland, 55°S, 300 ft), II-1-1959 (BMNH).

Temporal distribution: September to May.

Plant association: “under *Nothofagus*” (Morrone 1993b)

***Germainiellus laevirostris* (Germain)**

Listroderes laevirostris Germain 1895: 583; Kuschel 1950: 14 (*Listroderes* subgenus *Antarctobius*); Morrone 1993b: 135 (*Germainiellus*).
= *Listroderes quadrituberculatus* Champion 1918c: 51.

Geographic distribution as in figure 17.

Specimens examined: ARGENTINA: **Tierra del Fuego**, Bahía Aguirre, 24-X-1941, Gutierrez col. (MLP); CHILE: **Magallanes, Isla Wellington**, Puerto Edén (49°S, 3100 ft), 20-XII-1958; Península Muñoz Gamero (2000 ft), 27-XII-1958 (BMNH).

Temporal distribution: October to April.

Plant association: *Senecio smithii* (Morrone 1993b)

***Germainiellus lugens* (Germain)**

Listroderes lugens Germain 1895: 586; Kuschel 1950: 14 (*Listroderes* subgenus *Antarctobius*); Morrone 1993b: 136 (*Germainiellus*).

Geographic distribution as in figure 14.

Specimens examined: CHILE: **Magallanes, Isla Navarino**, Puerto Williams (55°S, 2000 ft), I-20-1959 (BMNH); Puerto Williams (55°S, 1700 ft, upper *Nothofagus* forest), I-19-1959 (3 specimens with same data, BMNH); **Isla Wellington**, Puerto Edén (49°S, 3100 ft), XII-20-1958 (3 specimens with same data, BMNH).

Temporal distribution: November to April.

***Germainiellus rugipennis* (Blanchard)**

(Fig. 15 E–F)

Listroderes rugipennis Blanchard 1851: 346; Kuschel 1950: 14 (*Listroderes* subgenus *Antarctobius*); Morrone 1993b: 133 (*Germainiellus*).
= *Elytrogonus varicosus* Blanchard 1853: 238; Gemminger & Harold 1871: 2361 (*Listroderes*); Kuschel 1949: 45 (*Amathynetes*).
= *Listroderes antarcticus* Germain 1895: 581.
= *Listroderes katerensis* Champion 1918c: 52.

Geographic distribution as in figure 17.

Specimens examined: ARGENTINA: **Tierra del Fuego**, PN Tierra del Fuego, Los Castores stream, II-28-1997, Posadas & Ocampo col. (3 specimens with same data, MLP); Bahía Aguirre, X-24-1941, Gutiérrez col. (MLP); CHILE: **Magallanes, Isla Navarino**, Puerto Williams, II-1-1957, Kuschel col. (MHNS); **Isla Picton**, Caleta Piedras, IV-10/14-1972, Peña & Barria col. (2 specimens with same data, MHNS).

Temporal distribution: August to April.

Plant Association: *Senecio smithii* (Morrone 1993b).

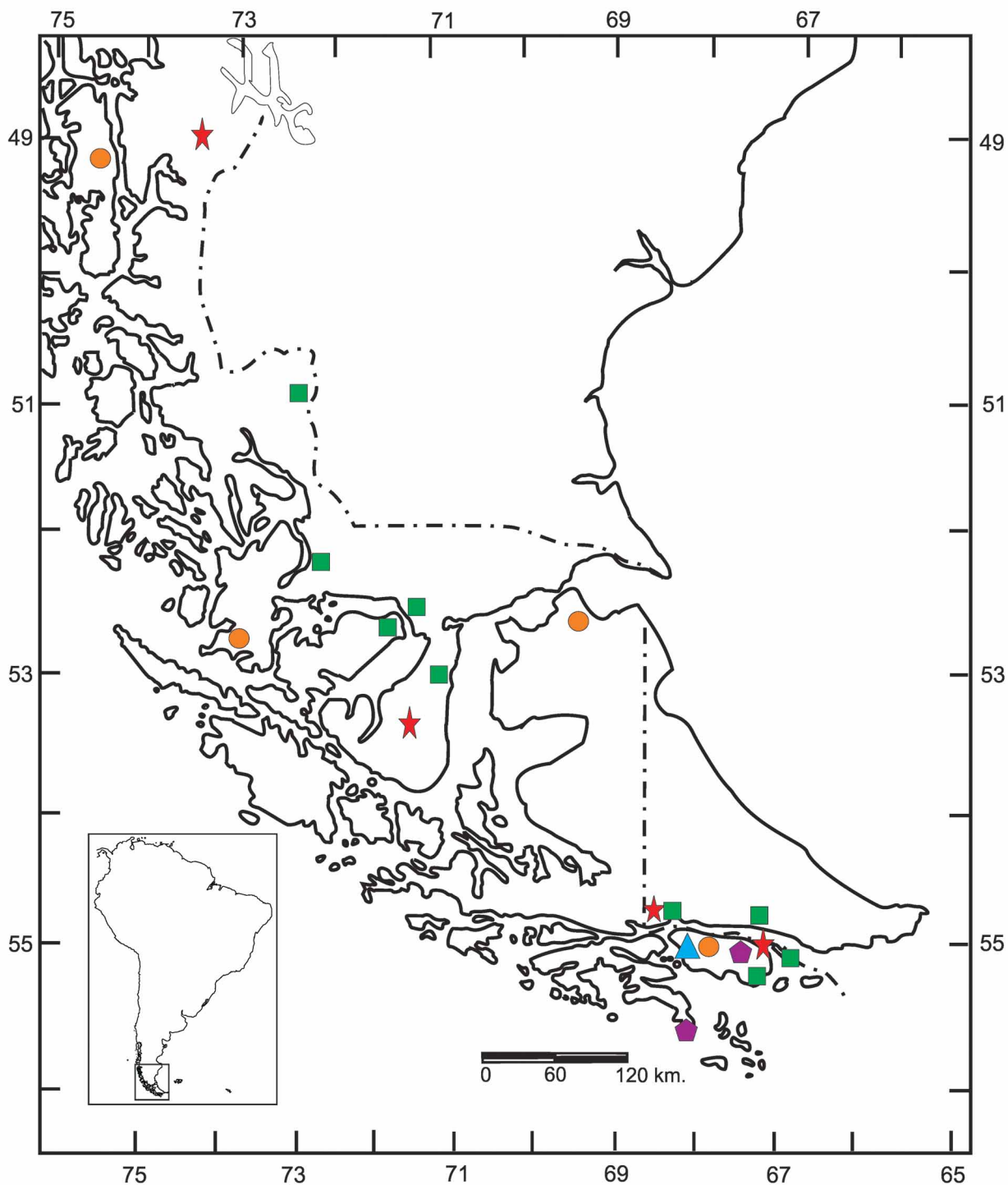


FIGURE 16. Geographic distribution of *Antarctobius lacunosus* (orange circles), *Antarctobius rugirostris* (purple pentagons), *Antarctobius yefacel* (light blue triangles), *Falklandiopsis magellanica* (red stars), and *Germainiellus fulvicornis* (green squares).

Haversiella Schweiger

= *Haversia* Champion 1918b: 185 (type species: *H. albolimbata* Champion by original designation; preoccupied).

Haversiella Schweiger 1958: 42 (replacement name for *Haversia* Champion).

Haversiella albolimbata (Champion)

Haversia albolimbata Champion 1918b: 185; Schweiger 1958: 42 (*Haversiella*).

Geographic distribution as in figure 14.

Specimens examined: CHILE: Magallanes, Isla Piazzzi, Lecky Retreat (25ft), XII-26-1958 (4 specimens with same data BMNH).

Temporal distribution: December to April.

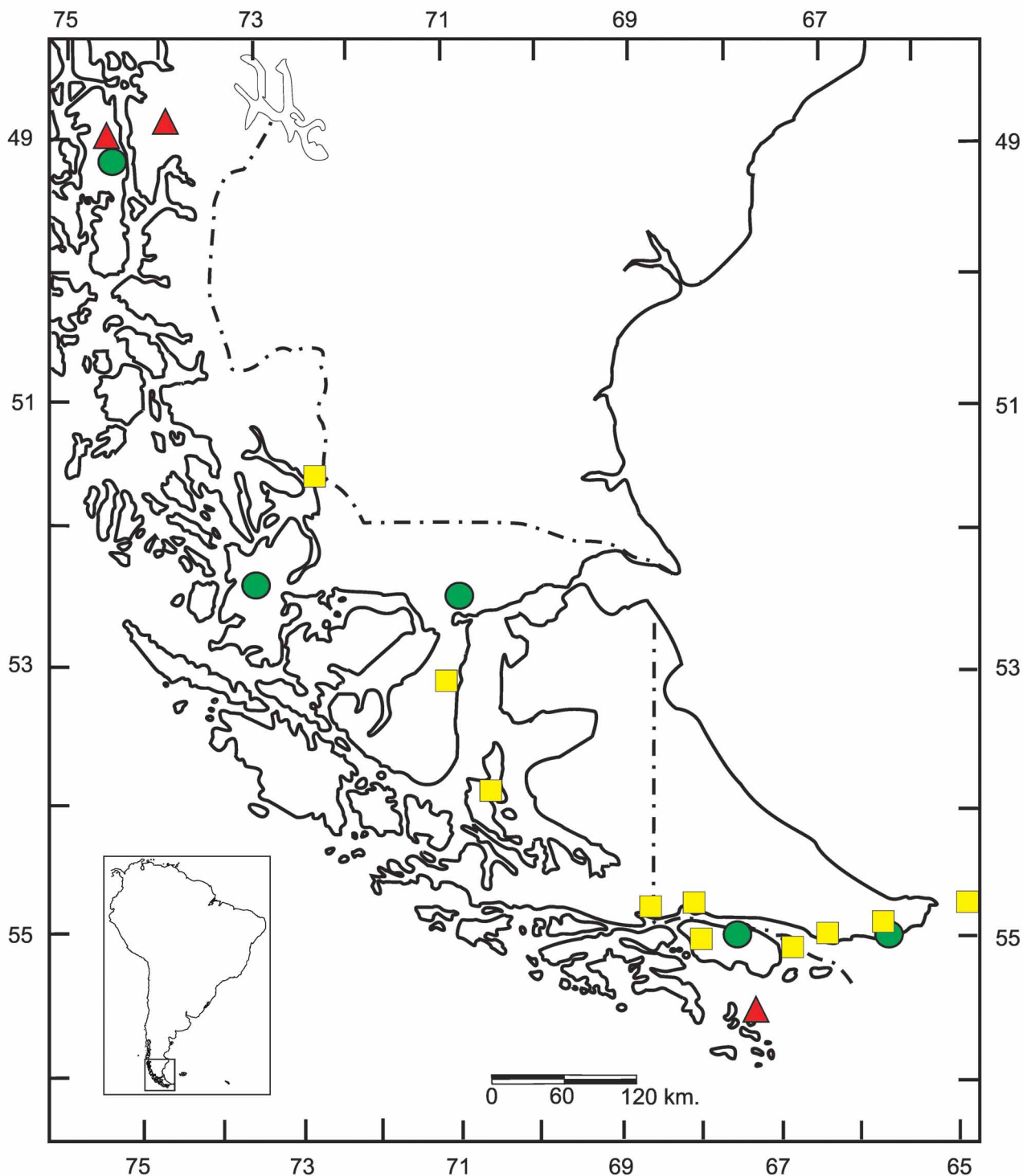


FIGURE 17. Geographic distribution of *Germainiellus laevirostris* (green circles), *Germainiellus rugipennis* (yellow squares), and *Telurus dissimilis* (red triangles).

***Listroderes* Schoenherr**

Listroderes Schoenherr 1826: 158 (type species: *L. costirostris* Schoenherr by original designation, combined description).
= *Listroderus* Bruch 1915: 414 (lapsus).

***Listroderes delaigui* Germain**

= *Listroderes magellanicus* Germain 1895: 62.
Listroderes delaigui Germain 1895: 63.
= *Desiantha praemorsa* Lea 1899: 139.
= *Listroderes praemorsus* Schenkling & Marshall 1931: 9.

Geographic distribution as in figure 18.

Specimens examined: ARGENTINA: Tierra del Fuego, Cabo Nombre, II-17-1983, LSS col. (4 specimens with same data, CADIC).

Plant Association: *Trifolium subterraneum* (Fabaceae) (Morrone 1993a).

***Puranius* Germain**

Puranius Germain 1895: 313 (type species: *P. inaequalis* Germain, subsequent designation by Morrone 1994).
= *Reichertia* Enderlein 1912: 31 (type species: *Listroderes exsculpticollis* Enderlein by original designation).

***Puranius australis* Germain**

Puranius australis Germain 1896: 747; Kuschel 1949: 45 (*Amathynetes*); Kuschel 1986: 116 (*Macrostyphlus*); Morrone 1994: 43 (*Puranius*).

Geographic distribution as in figure 18.

Specimens examined: ARGENTINA: Tierra del Fuego, Río Grande, Estancia Viamonte (BMNH).

Temporal distribution: July to March.

According to Morrone (1994), this species is distributed in the Coquimbo and Santiago provinces (Central Chile) and in the Valdivian province (Subantarctic). Based on specimens from BMNH, the distribution of this species is extended to the Patagonian-Fuegian (Patagonia) and Magellanic Forest provinces (Subantarctic).

***Puranius fasciculiger* (Blanchard)**

Listroderes fasciculiger Blanchard 1851: 342; Kuschel 1955: 290 (*Puranius*); Kuschel 1986: 117 (*Macrostyphlus*); Morrone 1994: 49 (*Puranius*).
= *Listroderes sobrinus* Germain 1896: 732.
= *Listroderes frigidus* Germain 1896: 734; Kuschel 1949: 45 (*Amathynetes*).
= *Amathynetes sobrinus* Kuschel 1949: 45; Kuschel 1955: 288 (*Puranius*).

Geographic distribution as in figure 18.

Specimens examined: ARGENTINA: Tierra del Fuego, Bahía Thetys, II-20-1951, Torres col. (2 specimens with same data, MLP).

Temporal distribution: July to February.

Plant association: *Senecio smithii* (Morrone 1994).

According to Morrone (1994), this species inhabits the Valdivian province (Subantarctic). Based on two specimens from MLP, its distribution is extended to the Magellanic Forest province (Subantarctic).

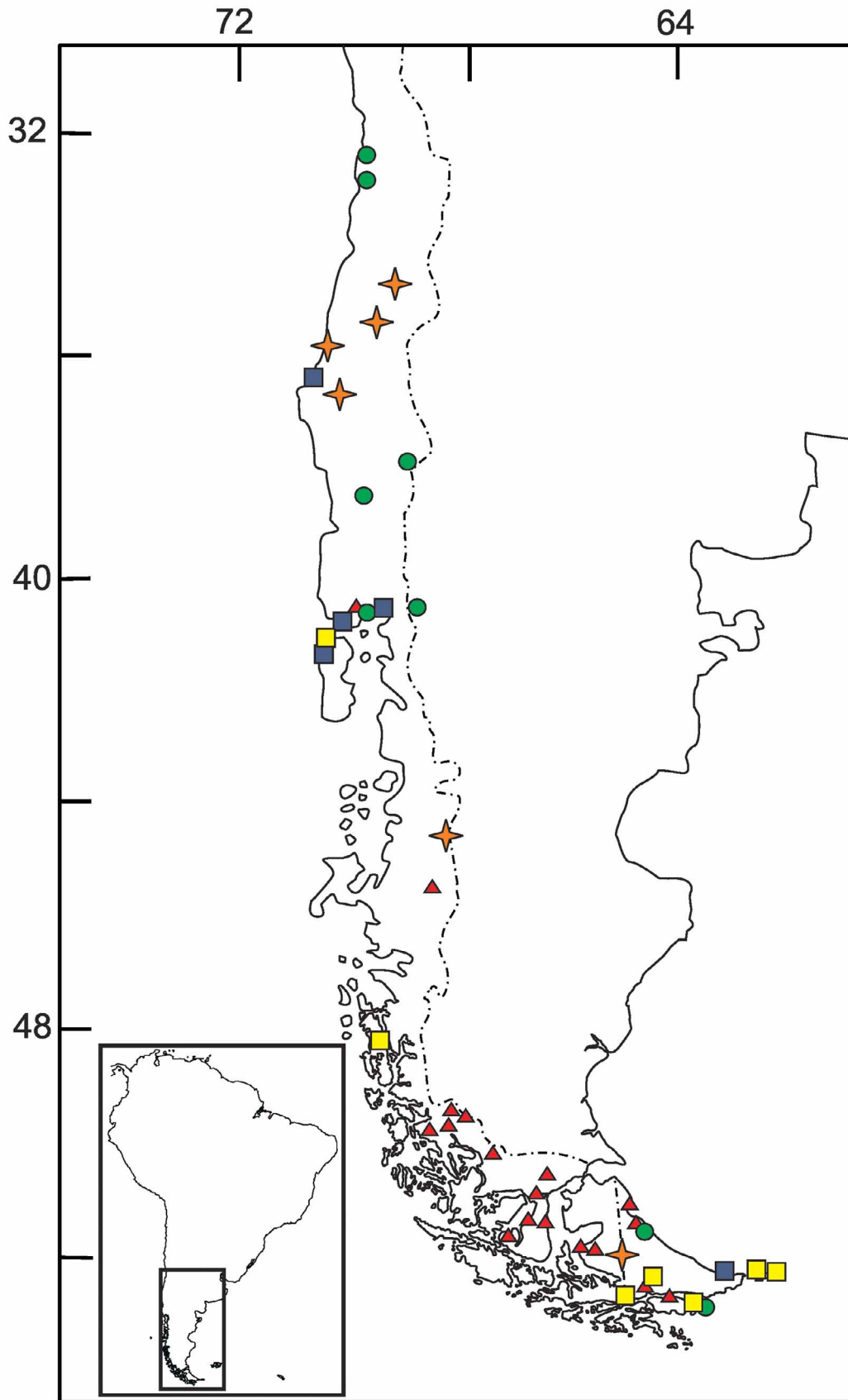


FIGURE 18. Geographic distribution of *Listroderes delaiguei* (orange stars), *Puranius australis* (green circles), *Puranius fasciculiger* (blue squares), *Puranius nigrinus* (red triangles), and *Telurus caudiculatus* (yellow squares).

***Puranius nigrinus* (Fairmaire)**

Listroderes nigrinus Fairmaire 1884: 503; Kuschel 1949: 45 (*Amathynetes*); Kuschel 1955: 288 (*Puranius*); Kuschel 1986: 117 (*Macrostyphlus*); Morrone 1994: 52 (*Puranius*).
 = *Listroderes obscurus* Germain 1896: 832; Kuschel 1955: 288 (*Puranius*).
 = *Listroderes nigrinus* Germain 1896: 801 (preoccupied).

Geographic distribution as in figure 18.

Specimens examined: ARGENTINA: Tierra del Fuego, Bahía San Sebastián, IV-21-1971, Flint & Hevel col. (USNM); Bahía San Sebastián, Punta de Arena, IV-20-1971, Flint & Hevel col. (12 specimens same data, USNM). CHILE: Magallanes, Última Esperanza, Cerro Castillo, II-10-1957, Cekalovic col. (4 specimens with same data, USNM).

Temporal distribution: August to April.

Plant association: Feeding on *Taraxacum officinale* (Asteraceae); on and under *Nothofagus* (Morrone 1994).

Telurus Kuschel 1955

Telurus Kuschel 1955: 288 (type species: *Antarctobius laticauda* Champion [= *T. dissimilis* (Fairmaire)] by original designation).

***Telurus caudiculatus* Morrone & Anderson**

Telurus caudiculatus Morrone & Anderson 1995: 8.

Geographic distribution as in figure 18.

Specimens examined: CHILE: Chiloé, Chepú (42°S, 100 ft) X-18-1958 (BMNH); Magallanes, Isla Wellington, Puerto Edén (49°S, 1600-3500 ft), XII-5-1958 (7 specimens with same data, BMNH); Isla Navarino, Cerro Macho (2200 ft), XII-1959 (BMNH); Puerto Williams (55°S, 1600 ft), I-22-1959 (BMNH); Puerto Williams (55°S, 2150 ft), I-22-1959 (BMNH); Puerto Williams (55°S, 1900 ft), I-22-1959 (BMNH); Puerto Williams (55°S, 2300 ft), I-22-1959 (64 specimens with same data, BMNH).

Temporal distribution: October to May.

Morrone & Roig-Juñent (1995) considered this species endemic to the Magellanic Moorland province (Subantarctic). Based on the distribution of specimens from BMNH, the distribution of this species is extended to the Valdivian and Magellanic Forest provinces (Subantarctic).

***Telurus dissimilis* (Fairmaire)**

Antarctobius dissimilis Fairmaire 1885: 60; Kolbe 1907: 105 (*Listroderes*); Kuschel 1986: 115 (*Telurus*).
 = *Antarctobius laticauda* Champion 1918c: 54; Kuschel 1950: 14 (*Listroderes*); Kuschel 1955: 290 (*Telurus*).

Geographic distribution as in figure 17.

Specimens examined: CHILE: Magallanes, Isla Wellington, Puerto Edén (49°S), XII-7-1958 (BMNH); Puerto Edén (100 ft-3200 ft, under stones) XII-7-1958 (41 specimens with same data, BMNH).

Temporal distribution: December to February.

Subfamilia Curculioninae***Anthonomus* Germar**

Anthonomus Germar 1817: 340 (type species: *Curculio avarus* Fabricius, subsequent designation by Dieckman 1968).

- = *Anthonomocyllus* Dietz 1891: 191 (type species: *Anthonomus elegans* LeConte 1876 [*A. costulatus* Suffrian 1871] by original designation).
- = *Anthonomorphus* Dietz 1891: 194 (type species: *Anthonomus fulvus* LeConte 1876 by original designation).
- = *Trichobaropsis* Dietz 1891: 196 (type species: *Anthonomus texanus* Dietz by original designation).
- = *Trichobarapsis* Dietz 1891: 196 (lapsus).
- = *Leptarthrus* Dietz 1891: 197 (type species: *Anthonomus julichi* Dietz, subsequent designation by Burke 1982; preoccupied).
- = *Cnemocyllus* Dietz 1891: 239 (not available, type species not designated).
- = *Paranthonomomus* Dietz 1891: 239 (type species: *Anthonomus profundus* LeConte 1876 by original designation).
- = *Anthonomochaeta* Dietz 1891: 246 (type species: *Anthonomus heterogenus* Dietz 1891, by indication, monotypy).
- = *Anthonomomorphus* Sharp 1892: 142 (lapsus).
- = *Sexarthrus* Blatchley 1916: 311 (type species: *Anthonomus subfasciatus* LeConte, subsequent designation by Blatchley 1930).
- = *Arthleptrus* Burke 1982: 105 (replacement name for *Leptarthrus* Dietz).

***Anthonomus ornatus* Blanchard**

Anthonomus ornatus Blanchard 1851: 387.

= *Anthonomus biplagiatus* Fairmaire 1884: 503 (preoccupied).

= *Anthonomus redtenbacheri* Blackwelder 1947: 839 (replacement name for *A. biplagiatus* Fairmaire).

According to Clark & Burke (1989), this species is distributed from the Santiago Province (Central Chile) to the Magellanic Forest province (Subantarctic), presenting some localities in Tierra del Fuego (see map on Clark & Burke 1989 pp: 45, fig. 42).

***Anthonomus signatipennis* Blanchard**

Anthonomus signatipennis Blanchard 1851: 387.

According to Clark & Burke (1989), the distribution of *A. signatipennis* is similar to that of *A. ornatus* (see map on Clark & Burke 1989 pp: 45, fig. 42). Both species are widely sympatric, and collected for the same dates, localities and host plant (*Berberis buxifolia*).

Subfamilia Cryptorrhynchinae

***Rhyephenes* Schoenherr**

Rhyephenes Schoenherr 1837: 312 (type species: *R. oncas* Gyllenhal [= *R. humeralis* (Guérin-Méneville)] by original designation).

= *Physothorus* Gay & Solier 1839: 22 (type species: *P. maillei* Gay & Solier by original designation).

***Rhyephenes maillei* (Gay & Solier)**

Physothorus maillei Gay & Solier 1839: 24; Solier, 1839: L (*Rhyephenes*).

= *Physothorus laevirostris* Gay & Solier 1839: 25; Solier 1839: L (*Rhyephenes*).

= *Rhyephenes immaculatus* Blanchard 1851: pl. 14.

= *Rhyephenes sulcatus* Philippi 1899: 86.

= *Rhyephenes philippii* Fiedler 1942: 279.

Specimens examined: ARGENTINA: Tierra del Fuego, without more data, 1900, Bruch col. (6 specimens with same data, MACN). **Santa Cruz**, Valle Túnel (3 specimens with same data, MLP).

Temporal distribution: August to May.

According to Morrone (1996), the distribution of *R. maillei* ranges from Santiago Province (Central Chile) to the Magellanic Forest province (Subantarctic). See distribution map in Morrone (1996, pp: 17, fig. 53).

Discussion

The Fuegian weevil fauna may be regarded as an impoverished version of its continental southern South America counterpart, in the same way that the Valdivian Magellanic forest is defined as an impoverished version of the Valdivian forest located far north (Pisano 1977). The Fuegian weevil fauna contains 13 species of Entiminae, in contrast with the 106 species recorded for southern South America (see Tables 1 and 2). Similarly, there are only 23 species of Cyclominae, two of Curculioninae and one of Cryptorhynchinae, in contrast with the 99, 59 and 13 species recorded, respectively, for southern South America according to Morrone & Roig-Juñent (1995, see also Tables 1 and 2). This relative impoverishment could be related to more extreme climatic conditions than those that prevail farther north, and the consequent impoverishment of the flora (regarding both species diversity and stratification), and furthermore to glacial cycles during the Pleistocene. During this time the archipelago was almost completely covered by ice sheets on several occasions. Also, during Pleistocene glaciations, the Magellanic Moorland extended northwards and eastwards to the Subantarctic Chilean areas which were covered by glaciers (Villagrán 1993).

The results show that higher numbers of specimens were collected in January and February, and that the highest diversity was achieved in February, consistent with results of Lencinas *et al.* (2008) for the insect diversity of the Magellanic forest. According to Lencinas (2005), such higher abundance and richness at the end of the growing season can be related to the more benign climatic conditions and the greater understory plant availability in the summer.

None of the Fuegian Curculionidae species extend their distribution beyond the Andean subregion. Also, the Fuegian weevils exhibit low endemism, with only three species and no genera known exclusively from the archipelago. As mentioned above, these three species have scarce records and are considered rare, so it is possible that even these three taxa are not truly endemics.

The high numbers of specimens collected on the Isla Grande of Tierra del Fuego and on Isla Navarino (85% of the specimens collected in the archipelago) could be related to a bias in the sampling of the different islands in the archipelago, due to easier access and greater human populations present on these two islands. However, it is important to note that Isla Grande accounts for 70% of the area of the archipelago and has the greatest diversity of habitats.

When compared with the Malvinian weevil fauna, the Fuegian weevils show a higher diversity and lower levels of endemism (see Posadas 2008). This difference could be interpreted as related to the lesser area occupied by the Islas Malvinas (=Falkland Islands) and their greater distance from the South American continent. Also, Islas Malvinas are biogeographically simpler, belonging to a unique biogeographic province, than Tierra del Fuego, since the latter includes three distinct biogeographic provinces with remarkable physiognomic differences.

Key to Curculionidae subfamilies recorded from Tierra del Fuego

- | | | |
|---|---|------------------|
| 1 | Short and broad rostrum (except <i>Haversiella</i>) | 2 |
| - | Long and slender rostrum | 3 |
| 2 | Mandible with scar | Entiminae |
| - | Mandible lacking scar | Cyclominae |
| 3 | Rostral channel limited by prosternum and reaching meso and metasternum, in which the rostrum is located when resting | Cryptorhynchinae |
| - | Rostral channel absent | Curculioninae |

Key to Entiminae genera recorded from Tierra del Fuego

- | | | |
|---|--|-----------------------|
| 1 | Eye normally placed; frons without projections | 2 |
| - | Eyes dorsally covered by conspicuous frontal projections | <i>Anomophthalmus</i> |
| 2 | Median sized to large weevils (more than 8mm length); funicular article 2 shorter or equal to funicular article 1; meso and metatibiae with one or two spurs | 3 |
| - | Small weevils (3 to 5mm length); funicular article 2 longer than funicular article 1; tibiae lacking spurs | <i>Dasydema</i> |
| 3 | Frons flat, continuing the rostrum line; antennal scape exceeding anterior margin of eye when resting in scrobe; flat eyes | |

- *Cylydrorhinus*
- Frons strongly convex, clearly separated from rostrum; antennal scape not reaching anterior margin of eye when resting in scrobe; convex eyes. *Caneorhinus*

Key to *Caneorhinus* species recorded from Tierra del Fuego

- 1 Dorsal carinae of scrobe straight; vestiture composed only by seta-like scales; elytral intervals 1, 7 and 10 whitish *C. tessellatus*
- Dorsal carinae of scrobe converging with median rostral carinae at rostrum base; vestiture composed by ovate, elongate and seta-like scales; elytral intervals 2, 4, 6 and 10 whitish *C. lineatus*

Key to *Cylydrorhinus* species recorded from Tierra del Fuego

- 1 Rostral median carina present 2
- Rostral median carina absent 6
- 2 Integument black, widely exposed; vestiture with isolated patches of white seta-like scales *C. angulatus*
- Integument completely covered by seta-like, subcircular or lanceolated scales. 3
- 3 Vestiture composed by costate subcircular scales 4
- Vestiture composed by seta-like or lanceolated scales 5
- 4 Elytral intervals 3, 5 and 7 convex; elytra lacking tubercles on declivital and apical areas. *C. sordidus*
- Elytral intervals 3, 5 and 7 flat; elytra showing declivital and apical tubercles *C. caudiculatus*
- 5 Vestiture composed by lanceolated and seta-like scales *C. clathratus*
- Vestiture composed by seta-like scales; elytral intervals 6 and 7 whitish. *C. lateralis*
- 6 Frons with fovea; integument scarcely covered by white seta-like scales *C. fulvipes*
- Frons smooth; integument covered by white and cooper-colour seta-like scales. *C. vittatus*

Key to Cyclominae genera recorded from Tierra del Fuego

- 1 Eyes with postocular sulcus; apex of prothorax with two prominent tubercles 2
- Eyes lacking postocular sulcus; apex of prothorax lacking tubercles. 3
- 2 Postocular lobes strongly developed. *Aegorhinus*
- Postocular lobes slightly developed *Alastoropolus* (*A. strumosus*, monotypic)
- 3 Female elytral apex not protrudent 4
- Female elytral apex strongly protrudent *Telurus*
- 4 Funicular article 2 monilliform or subelipsoidal 5
- Funicular article 2 conical 7
- 5 Eyes and scrobes dorsally located 6
- Eyes and scrobes, laterally located *Falklandiellus* (*F. suffodens*, monotypic)
- 6 Antennal scape reaching (but not exceeding) hind margin of eye; metepisternal suture present *Falklandiopsis* (*F. magellanica*, monotypic)
- Antennal scape exceeding hind margin of eyes; metepisternal suture absent *Falklandius* (*F. antarcticus*)
- 7 Rostrum short; antennae apical or subapically inserted; antennal scape reaching hind margin of eye; tibiae with spurs; head, prothorax and elytra lacking white lateral stripe. 8
- Rostrum short and slender; antennae inserted at midpoint of rostrum; scape not reaching hind margin of eyes; tibiae lacking spurs; head, prothorax and elytra with a whitish stripe *Haversiella* (*H. albolimbata*, monotypic)
- 8 Postocular lobes absent *Antarctobius*
- Postocular lobes present 9
- 9 Ventral carinae of scrobe lacking teeth 10
- Ventral carinae of scrobe with teeth *Listroderes* (*L. delaiguei*)
- 10 Small to medium sized weevils (body length: 1.9 to 6.5mm); vestiture with setae and subcircular scales *Puranius*
- Medium to large sized weevils (body length: 6 to 8.5mm); vestiture with setae and seta-like scales *Germainiellus*

Key to the species of *Aegorhinus* recorded from Tierra del Fuego

- 1 Body length 7 to 10mm; mandible with 1 or 2 setae; elytra completely covered by scales; metatibial apex simple ... *A. delfini*
- Body length up to 15mm; mandible with 6 or more setae; elytra lacking scales; metatibial apex with enclosed corbels. *A. vitulus*

Key to *Antarctobius* species recorded from Tierra del Fuego

- 1 Vestiture composed by seta-like scales 2
 - Vestiture composed by subcircular scales. *A. germani*
 2 Antennal scape reaching hind margin of eye 3
 - Antennal scape not reaching hind margin of eye *A. rugirostris*
 3 Body length up to 7.5mm; pro and mesotibiae with one spur each, metatibiae with two spurs 4
 - Body length less than 6.1mm; pro, meso, and metatibiae with one spur each *A. yefacel*
 4 Rostrum lacking carinae; anteapical tubercles of elytra conical; elytral intervals slightly convex *A. lacunosus*
 - Rostrum with carinae; anteapical tubercle of elytra absent; elytral intervals flat *A. hyadesii*

Key to *Germainiellus* species recorded from Tierra del Fuego

- 1 Elytral intervals flat *G. fulvicornis*
 - Elytral intervals convex 2
 2 Surface of pronotum sculptured 4
 - Surface of pronotum smooth 3
 3. Elytral interval 3 with a rounded tubercle on its posterior area *G. lugens*
 - Elytral interval 3 with a conical tubercle on its posterior area *G. rugipennis*
 4 Metatibiae with two spurs; postocular lobes well developed *G. dentipennis*
 - Metatibiae with one spur; postocular lobes slightly developed *G. laevirostris*

Key to *Puranius* species recorded from Tierra del Fuego

- 1 Vestiture composed by subcircular scales 2
 - Vestiture composed by seta-like scales *P. australis*
 2 Frons with depression; elytral interval 3 prominent at base *P. fasciculiger*
 - Frons with fovea; elytral interval 3 flat at base *P. nigrinus*

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