

***Ammophila hevans* Menke, a New Species from
Southern South America with Taxonomic Notes on
Similar Species (Hymenoptera: Apoidea: Sphecidae)**

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ABSTRACT: *Ammophila hevans* Menke, new species, is described from Bolivia, Paraguay and Argentina. Taxonomic notes are provided for the following species of *Ammophila*: *rufipes* Guérin-Méneville, 1831; *laeviceps* Smith, 1873; *ruficollis* Reed, 1894; and *ruficosta* Spinola, 1851. New synonyms are: *Ammophila variolosa* Giner Marí, 1994 = *rufipes* Guérin-Méneville 1831; *chilensis* Reed, 1894 = *laeviceps* Smith, 1873. A lectotype is established for *Ammophila chilensis* Reed from Chile. The history of the acquisition of the Edwyn C. Reed collection in 1951 by the California Academy of Sciences is outlined.

KEY WORDS: Identification, key, *Ammophila*, South America

Ammophila in South America is represented by less than 10 described species, all but two of which belong in the *urnaria* species group as defined by Menke (1966). The two exceptions are members of the *nigricans* group (Menke, 1970): *A. centralis* Cameron and *A. gaumeri* Cameron which are Central American species that reach northwestern Venezuela (and probably northern Colombia, see Menke and Carpenter, 1985; Menke, 1996). In South America speciation in the *urnaria* group has occurred mainly along the Andes south of the Equator, and in Argentina and Chile where at least five species are known. Most of South America has a single *urnaria* group species, *Ammophila gracilis* Le Peletier de Saint-Fargeau, which is common throughout the low lands of the continent.

Several species have been described from the southern part of South America, and the Andean Region: *Ammophila ruficosta* Spinola (Argentina, Bolivia and Chile), *A. laeviceps* Smith (Chile, Argentina), *A. rufipes* Guérin-Méneville (Andes of Peru), *A. platensis* Brèthes (Argentina), and *A. lampei* Strand (Peru and northern Chile). The first three species have largely red legs. *A. platensis* and *lampei* are black-legged wasps, like the widespread South American *A. gracilis*. The status of two other published names awaits further study: *A. arechavaletai* Brèthes (Argentina), and *A. suavis* Burmeister (Argentina). These two non-Andean species were listed as possible synonyms of *A. gracilis* by Bohart and Menke (1976).

Recently Frank Parker sent me a large collection of *Ammophila* that he and Mike Irwin collected in Bolivia primarily using Malaise traps. Among the material was a red-legged species with large areas of the thorax also red. Aside from this striking color pattern, the sculpture and vestiture of the head and thorax differ from the described red-legged *Ammophila* known in South America. This new species is described here. Other possibly new Andean species await further study and description.

In order to compare the new species with other red-legged Andean taxa, I have included treatments of *A. rufipes*, *laeviceps*, *ruficosta*, and *ruficollis* Reed. A provisional key to the red-legged species is also provided.

I take pleasure in dedicating this small paper to the memory of Howard Evans. Howard was one of the great observers of wasp behavior and biology as documented by his many published papers and books, although he also produced impressive works on the taxonomy of wasps as well. Some of Howard's early influential work in behavior dealt with the genus *Ammophila*.

Sources of Material

I have studied material belonging to a number of institutions for this research: American Museum of Natural History, New York (AMNH); California Academy of Sciences, San Francisco (CAS); California Insect Survey, Berkeley (CIS); Hungarian Natural History Museum, Budapest, Hungary (BUDAPEST); Instituto Miguel Lillo, Tucuman, Argentina (LILLO); the Martin Cooper Collection, Lyme Regis, England (COOPER); Musée Zoologique, Gembloux, Belgium (GEMBLOUX); Museo Civico de Storia Naturale, Genoa, Italy (GENOA); Museo Regionale di Scienze Naturali, Torino, Italy (TORINO); Museo de Zoologia, Barcelona, Spain (MZB); Museum of Comparative Zoology, Cambridge (MCZ); National Museum of Natural History, Washington D. C. (USNM); and The Natural History Museum, London, England (BMNH). I have also used my personal collection housed at the *Ammophila* Research Institute, Bisbee, Arizona (ASM).

Ammophila hevans Menke, new species

HOLOTYPE FEMALE: *Length*: 19 mm.

Color: Largely reddish brown except as follows: head black, but clypeal disk to free margin reddish brown; scape, pedicel reddish brown and flagellomere I with vague reddish brown areas basally; basal half of mandible amber; labrum amber. Scutum, scutellum and metanotum black. Petiole sternum black above, petiole tergum with dorsal black stripe. Hind trochanter and femur darkened above. Wings slightly infusate, veins dark brown. Gaster reddish.

Vestiture: Erect setae absent except for pale fringes used in nest digging on gena, prosternum, mandible, and forefemur. Upper half of clypeus and frons along inner orbits with appressed silver setae, gena adjacent to outer orbit with narrow band of appressed silver setae. Pronotal lobe densely covered with appressed silver-gold setae. Scutum sparsely covered with dark appressed setae. Mesopleuron with patch of appressed silver-gold setae behind pronotal lobe, broad band of appressed silver-gold setae along mesopleural suture from mid coxal base to top of hypopleural area. Metapleuron with band of appressed silver-gold setae along metapleural sulcus which extends from base of hindcoxa almost to upper metapleural pit. Propodeal side with narrow band of similar setae adjacent to metapleural sulcus, the setae obliquely oriented; propodeal hindface with broad patch of appressed silver-gold setae from hindcoxa to propodeal dorsum (lateral to petiole socket). Coxae with sparse covering of appressed silver setae, except dense on hind coxal dorsum.

Structure: Inner orbits parallel although bowed outward slightly at midpoint. Clypeal disk markedly convex, the bulge densely micropunctate on upper two thirds, and also with few macropunctures that are two or more diameters apart, lower third of clypeal bulge almost impunctate, shiny. Clypeal lobe broad, its margin arcuate but indented slightly at middle, lobe delimited laterally by sharp tooth, ratio of lobe width to lower interocular distance 27:40. Labrum elongate, acuminate apically. Scutum weakly shiny anterodorsally,

with sparse, shallow macropunctures (2–4 diameters apart), laterally with transverse rugae that fade toward mid-dorsum, rear half of scutum with coarse transverse, arcuate rugae and impunctate there, scutum with pair of linear, shiny swellings near level of tegulae. Scutellum weakly shiny, longitudinally ridged, ridges diverging posterad, and interspersed with scattered macropunctures. Mesopleural venter anterad of midcoxa shiny, smooth, but becoming somewhat transversely rugose anterad, the ridges transverse, venter with scattered macropunctures (1–5 diameters apart). Lower metapleural area similarly punctate, weakly cross-ridged toward hindcoxa. Propodeal side with transverse, parallel, coarse rugae that become irregular anterad.

FEMALE VARIATION: Length 12.5–20 mm. Clypeus sometimes completely reddish brown, scape sometimes black, flagellomeres I–II sometimes reddish, pronotal collar with median black area near base of anterior slope, sometimes black next to scutum, propodeal dorsum sometimes black down the middle, petiole sternite sometimes all black. Two females extensively black on thorax: mesopleuron mostly black except circular reddish brown spot lateroventrally, upper metapleural area blackish, lower metapleural area blackish toward hindcoxa; pronotal side and lobe blackish in same specimen. Gastral terga II–IV each sometimes with large black spot or vague darkish spot. Lateral scutal ridging sometimes extending to midline, posterior rugae occasionally weak or evanescent. Mesopleural venter without transverse ridges in some females, in two specimens the rugosity coarser and nearly reaches the midcoxa.

MALE: Length: 12.5–17 mm.

Color: Black except as follows: tegula reddish brown; petiole tergum reddish except for black dorsal stripe; gastral segments I–II reddish although tergum II often black distally, gastral sternum III sometimes reddish basally; fore trochanter (usually), femur and tibia reddish; midleg similar but sometimes darkened along dorsal surface; hind femur and tibia reddish ventrally.

Vestiture: Head and thorax with pale erect setae. Frons and clypeus with dense appressed silver setae but clypeus usually narrowly asetose along lower part of midline to edge of clypeal notch; gena with appressed silver setae adjacent to outer orbit. Pronotal collar with scattered appressed silver setae, pronotal lobe covered with appressed silver setae; scutum with scattered appressed silver setae anteriorly. Mesopleuron with appressed silver setae adjacent to pronotal lobe, dense band of appressed silver setae along mesopleural suture from midcoxa to top of hypopleural area. Metapleuron with dense band of appressed silver setae along metapleural sulcus, the band extending from hindcoxa to almost half distance to superior metapleural pit. Propodeal hindface with patch of dense silver setae lateral to petiole socket. Dorsum of mid and hindcoxa with dense patch of appressed silver setae.

Structure: Clypeal disk elevated, flat in lateral profile but sometimes tumescent dorsad; clypeal surface sometimes sparsely setose near apical emargination exposing a shiny surface, clypeal free margin reflexed upward, apical notch narrow, deep (depth $0.20\text{--}0.25 \times$ width across teeth). Flagellomere I length = $0.83\text{--}0.94 \times$ least interocular distance. Labrum roundly quadrangular, apex sometimes obtusely acuminate. Scutal disk with coarse, somewhat irregular cross-riding and punctures between them, the ridges somewhat arcuate posterad, ridging absent from median triangular area behind collar and usually laterally; scutum with macropunctures laterally and on disk that are mostly 1 diameter apart or less, scutal surface somewhat shiny. Scutellum like that of female. Mesopleuron smooth, shiny, macropunctate, punctures 0.5 to 2 diameters apart, densest anterad, occasionally weak transverse ridging present anterad. Inferior metapleural area similar to mesopleuron but

occasionally with cross-ridging. Propodeal side usually closely macropunctate (punctures less than diameter apart) and vertically rugose, the ridging somewhat irregular, but occasionally side is only weakly rugose.

MELANISTIC FEMALES: I have one female from Bolivia: Santa Cruz Prov., Valle Grande, Mairana, January 1971 (ASM), and three females and one male from Argentina: Rio Negro, Rio Colorado, December 1930 (female, ASM); Cordoba, Alta Gracia, March 1959 (female, USNM); Cordoba, Cordoba, 19, November 1948 (male, LILLO); Catamarca, Dept. Belén, Barranca Larga, February 1937 (female, LILLO), in which the thorax is completely black (the Alta Gracia specimen has a small reddish spot laterally on the pronotum), and the hindleg is largely blackish (femur and tibia with reddish tints, but completely black in Catamarca female). Two additional Argentine females seen with a black thorax are labeled Buenos Aires: Jacinto Arana and Darregueira, respectively (GEMBLoux), but I suspect these are mislabeled. These melanistic females exhibit the same scutal cross-ridging, have the same swollen clypeus, lack erect thoracic setae, and have the same silver meso- and metapleural setal bands as *A. hevans*. I am certain they are simply black *A. hevans*, but I have not labeled them as paratypes. These melanistic specimens emphasize the need for a thorough study of color variation in this and other Andean Region *Ammophila*.

IDENTIFICATION: The extensively red legs in both sexes separates *A. hevans* from the widespread and common black-legged South American species, *A. gracilis*. The absence of erect setae on the female thorax is unique among the red-legged Andean *Ammophila*. The pattern of appressed setae on the meso- and metapleura, which is in the form of well defined bands along the mesopleural suture to the top of the hypoepimeral area, and a shorter one along the metapleural sulcus, are particularly diagnostic, especially useful in melanistic specimens. None of the other red-legged species of *Ammophila* in the Andean Region have such distinct bands of silver setae. In addition, the extensive reddish areas of the thorax in the female, and the transversely rugose scutum in both sexes are distinctive. The swollen clypeus of the female separates it from other red-legged species of the Andean Region. The rather narrow, deep clypeal notch of the male of *hevans* contrasts with the shallow and somewhat wider notch of *A. gracilis*.

Red maculation of the thorax occurs in other red-legged species such as *A. rufipes* and *laeviceps*, but this color is uncommon in *A. laeviceps* where it is usually confined to small areas of the pronotum and scutum. However, I have seen females from Peru (AMNH, ASM, CAS, COOPER, USNM) and Ecuador (AMNH), some of which are *A. rufipes*, and some of which appear to be undescribed. In these the red maculation is extensive on the thorax, just as in *A. hevans*. But they lack the silver pleural bands of *A. hevans*, and unlike *A. hevans* they have erect white thoracic setae.

TYPE MATERIAL: Holotype female **BOLIVIA:** Santa Cruz, 3 km N. Brazilio, 1750 feet, 18°6.82'S 63°10.51'W, 27 February–8 March 1999, taken in Malaise trap, M. Irwin and Frank Parker (CAS).

PARATYPES (26 females, 11 males): 12 females 2 males, same data as holotype (ASM, CAS). **BOLIVIA:** Santa Cruz Prov., 11 km N. Boyuibe, 4 March 1999, 20°23.75'S 63°22.22'W, M. Irwin & F. Parker (one female, CAS); Santa Cruz Prov., 4 km N. Pedro Lorenzo, 26 February 1999, 17°55.30'S 14°82'W, M. Irwin & F. Parker (4 females, 5 males, ASM, CAS); Santa Cruz, Prov. Cordillera, San Antonio, January 1972, M. Fritz (4 females, 4 males, ASM, CAS); Santa Cruz Prov., Cordillera, Saipurú, 16 February 1971, Fritz & Martinez (one female, ASM); Santa Cruz Prov., Luis Calvo, Tiguipa, January 1972, M. Fritz (one female, ASM); Santa Cruz Prov., Santa Cruz, January 1972,

M. Fritz (one female, ASM). **ARGENTINA:** Salta Prov., Tartagal, no date, M. Fritz (one female, ASM). **PARAGUAY:** Chaco, 28 February 1956, Blumental (one female, CIS).

ETYMOLOGY: The species name is an arbitrary combination of letters which, coincidentally, represents the first initial and name of Howard Evans. Howard had a good sense of humor when it came to unusual insect names (see Evans, 1983, for example), and I am sure he would enjoy this epithet. It rhymes with my exclamation when I first looked at this wasp under a microscope, and realizing it was new, said "heavens, a new species!"

Ammophila rufipes Guérin-Ménéville

Ammophilus rufipes Guérin-Ménéville, 1831:Plate IX, fig. 9. Holotype female, no locality data on explanation of plate [Lima, Peru, as per 1838:262 text]. (GENOA).

Ammophila rufipes Guérin-Ménéville, 1838:262. Holotype female, Lima, Peru. (GENOA).

Ammophila variolosa Giner Marí, 1944:351. Lectotype male, Lima, Peru. Designated by Menke (1964), (MZB). New synonym.

After studying type material, I tentatively synonymized *A. variolosa* with *A. rufipes* (Menke, 1964). Subsequently I examined the female type of *A. rufipes*, and feel certain that *A. variolosa* is conspecific. This species is known from north coastal Peru (Pimentel, Carás, Lambayeque, Trujillo—ASM, COOPER), central coastal Peru (Lima, Chosica, Cañete, Callao—AMNH, ASM, USNM); Ecuador (Guayas, Playas, Santa Elena—COOPER), and it may occur in Chile as well. The Chilean species *A. laeviceps* Smith is very similar, but without studying a large body of material from many localities it is impossible to determine if they are conspecific. I have not seen material of *A. rufipes* from the southern half of Peru.

The female of *Ammophila rufipes* has red tegulae, legs (coxae and trochanters are often black), and petiole and gaster. Gastral terga III–V are often largely black. Female specimens from Pimentel and Trujillo in north coastal Peru have extensive red maculation on the thorax and sometimes only the scutum and sternal area are black. Appressed setae of the female face are sparse, usually tarnished silver but sometimes silvery. In some specimens these setae are only along the inner orbits, the clypeal disk being glabrous. The female clypeal disk is rather evenly, slightly to moderately convex, shiny or subshiny, and has scattered shallow punctures especially near the free margin. The pronotal collar rarely has a longitudinal sulcus at the middle, and the surface of the collar and scutum tend to be dull in the female. The female scutal disk varies from vaguely punctate, vaguely transversely ridged, to clearly punctate and strongly cross-ridged. The posterolateral troughs of the scutum are cross-ridged but sometimes vaguely so. In males the scutum is more strongly punctured and cross-ridged. The female mesopleuron is coarsely punctate, the punctures separated by one or two diameters, and there usually is some transverse rugation anterad. Sometimes the mesopleural punctures are shallow. The mesopleural punctation is denser in the male, punctures one diameter apart or less, and the rugosity is stronger. In both sexes the mesopleuron, metapleuron and propodeal side are sparsely covered with appressed silvery or tarnished-silver setae which are densest near mid and hindcoxae. In some females there is a fairly distinct band of appressed setae that extends along the mesopleural sulcus from the hindcoxa to the bottom of the hypopimeral area, the band attenuating there. The mesopleural disk appears glabrous in older material due to loss of setae. Erect setae are white in both sexes. The male face is densely covered with appressed silver setae. The male tegula varies from black to reddish. Male leg color is similar to that of the female but the femora often have black areas dorsally, especially the hind femur. The hind tibia often has black apicodorsally, and the tarsomeres are variably blackish, especially the terminal ones. The male petiole sternum is often black dorsally and the tergum has a dorsal black stripe. The

male gaster varies. Gastral tergum I may have an elongate dorsal black spot or not; II may have a dorsal black spot or not; the remaining segments are wholly black.

Ammophila laeviceps F. Smith

Ammophila laeviceps Smith, 1873:259. Holotype female, Santiago [Chile]. (BMNH).

Ammophila leviceps Smith, Dalla Torre, 1897:403, emendation.

Ammophila chilensis Reed, 1894:621. Syntypes, unknown number of females and males, "mui comun en las provincias centrales", Chile. Lectotype female, Chile: no specific locality, present designation (CAS). New synonym.

I examined the holotype of *A. laeviceps* in 1964. The lectotype of *A. chilensis* is conspecific. According to Horn & Kahle (1936), Reed's Chilean insects went to the Museum of Comparative Zoology in 1930 via the Herbst Collection. I found a female in the MCZ collection that is labeled *Ammophila chilensis* in pencil, and type E. C. Reed on a second label, also in pencil. This specimen also has a Herbst collection label. Horn & Kahle illustrate a Reed label and state that his labels had red lines around the border. The labels on the MCZ specimen do not resemble Reed's label.

But there is another major repository for E. C. Reed material. Reed's private collection was purchased by the California Academy of Sciences in the 1951 (E. C. Van Dyke funds) from Reed's son, E. P. Reed, according to Ed Ross who, while in Valparaiso, negotiated the acquisition. Ross prepared the collection for transport to San Francisco on a Grace Line freighter while a guest in the Reed home (about one month). He says that usually only the first specimen of each species had a locality label. Over 23,000 insects from Reed's collection were accessioned. Four males and one female *Ammophila chilensis* have E. C. Reed Collection labels. Three males also have Herbst collection labels, but all the collecting dates are after 1894 and these can not be syntypes. The single female and the fourth male simply have a hand written ink labels "*Ammophila chilensis* Reed" which may be Reed's writing. I am interpreting these two specimens as Reed syntypes since they came from his personal collection. The female is identical to my homotype of *Ammophila laeviceps* Smith. I have selected and labeled it as lectotype for *A. chilensis* Reed. Most of the new species in Reed (1894) lack specific collecting localities. Instead Reed often simply gave generalized distribution as was the case for *A. chilensis*. Thus there is no specific type locality for Reed's species.

A third museum with Reed material is the National Museum of Natural History, Washington D.C. I found a male and two females labeled "Chile, E. C. Reed" that are *laeviceps*. One female has a long rectangular label upon which is handwritten in old ink "*Ammophila chilensis*". The label is similar to a supposed Reed label depicted in Horn & Kahle (1936) except it is edged with blue lines instead of red. The specimen is in much worse condition than the lectotype from CAS but is conspecific.

The female face is essentially devoid of appressed silver setae in the types of *laeviceps* and *chilensis*, a trait that appears not to be universal in the species. For example, in some populations the lower frons and clypeus have fairly dense appressed silver setae. The disk of the female clypeus varies from evenly convex (but not strongly so) to elevated and flattened (visibly so in lateral view). The surface is smooth, shiny and has scattered shallow punctures. The female pronotal collar often has a deep longitudinal impression at the middle (types of *A. laeviceps* and *chilensis* have this). Sculpture of the scutum and pleura is similar to that of *A. rufipes*. The female meso- and metapleura usually have the same appressed silver setation as described for *rufipes*, except in northern Chile. Females from the provinces of Antofagasta and Tarapacá (BUDAPEST) are devoid of appressed

silver setae here and on the face. The female petiole and gaster are often completely red, but in many specimens the terminal terga are black. Sometimes the black on the last three terga forms a narrow linear maculation. Without a large body of fresh material from all parts of Chile, it is impossible to know if the variation described is within one species, or represents two. But at least the types of *A. laeviceps* and *chilensis* are conspecific. I can find no striking differences between *A. laeviceps* and the Peruvian species, *A. rufipes* (the oldest name), and these taxa may be conspecific. But the current state of knowledge of these species is fragmentary and I do not want to risk creating false synonymy.

Ammophila laeviceps occurs over a large part of lowland Chile from about 40°S Osorno (ASM), northward to Antofagasta Prov. (BUDAPEST, USNM) and Azapa, Tarapacá Prov. (BUDAPEST), near the border with Peru. The species is also known from the province of Neuquén, Argentina (ASM, LILLO).

Ammophila ruficollis Reed (nec Morawitz, 1890)

Ammophila chilensis var. *ruficollis* Reed, 1894:622. [Unknown number of specimens, sex not stated, presumably from "provincias centrales" of Chile.]. Syntype female, labeled holotype #17202, Valparaiso, Chile (MCZ). Preoccupied by *Ammophila ruficollis* Morawitz, 1890.

In 1960 I examined a specimen of variety *ruficollis* labeled "holotype". Since Reed had several specimens, the "holotype" must be a syntype. The abdomen is missing from the specimen. The face is densely covered with appressed silver setae. The collar is red as are some parts of the rest of the thorax. The inner orbits of the female noticeably converge toward the clypeus, and the clypeal disk is elevated and somewhat flattened. But measurements of the interocular distances of the face do not show a significant difference from the same measurements in *A. laeviceps*. Also, some female specimens of *laeviceps* have the same elevated, flattened clypeal disk. The thoracic pleura and propodeal side are fairly uniformly covered by appressed silver setae. Even the scutum sometimes has the same setation. Whether this taxon is a valid species remains to be verified by further research. In any case, the name *ruficollis*, a junior homonym, is invalid.

Ammophila ruficosta Spinola

Ammophila ruficosta Spinola, 1851:394. Holotype female, "Provincias centrales" [Chile], (TORINO).

I studied the holotype of *A. ruficosta* in 1964. This striking species has red legs (coxae and trochanters black), and the petiole sternum and tergum as well as the basal half of gastral segment I are red. Gastral segment I is sometimes all red in females, and all black in some males. The rest of the gaster is blue black. The tegula is usually black (red in Mendoza). The head and thorax are densely covered with black, erect setae, although the male has white erect setae on the meso- and metathoracic pleura. No other species of *Ammophila* in South America has black erect setae. The female face is devoid of appressed silver setae, but the male has a dense covering of silver setae on the clypeus and lower frons. The thorax does not have any appressed silver setae, and the mesopleuron is coarsely, densely punctate, the punctures nearly contiguous. The wings are moderately infumate.

Although Spinola described *A. ruficosta* from Chile, all material I have studied is from high altitudes in Argentina and Bolivia. The following records are from material in my collection: **Argentina:** Mendoza Prov., Puente del Inca, ca. 8900 feet; Salta Prov., Alturas Amblayo; 3200–2600 meters; Salta Prov., Cuesta Obispo, 3600 meters; Salta Prov., Payogasta. **Bolivia:** Dept. Potosí, Alcala, 3300 meters; Dept. Oruro, Potosí, 3900 meters.

Provisional Key to Described Red-legged South American *Ammophila*
(I cannot provide reliable separation characters for *A. rufipes* and *laeviceps*)

1. Female 2.
– Male 5.
2. Erect setae of head and thorax black; Chile, Bolivia and Argentina above 8000 feet (2440 m) *ruficosta* Spinola
– Erect setae of head and thorax, if present, white 3.
3. Thorax without erect setae; meso- and metapleuron with well defined bands of appressed silver setae along metapleural suture and metapleural sulcus, rest of meso- and metapleura asetose; thorax often with extensive reddish areas; Bolivia, Paraguay, Argentina *hevans* Menke
– Thorax with white erect setae; thoracic pleura and propodeal side sparsely to densely covered with appressed silver setae, band of appressed silver setae sometimes present along lower end of mesopleural suture but not sharply delimited from silver setae on rest of pleuron; or thoracic pleura and propodeal side largely without appressed silver setae except for narrow band along mesopleural suture that attenuates toward hypopimeral area; thorax black or with reddish maculations; Andean Region from Ecuador to Chile, Argentina 4.
4. Specimens from Ecuador and Peru *rufipes* Spinola
– Specimens from Chile and Argentina *laeviceps* Smith
5. Erect setae of head and thoracic dorsum black; Chile, Bolivia and Argentina above 8000 feet (2440 m) *ruficosta* Spinola
– Erect setae of head and thorax white 6.
6. Meso- and metapleura with well defined bands of appressed silver setae along metapleural suture and metapleural sulcus, rest of meso- and metapleura asetose; Bolivia, Paraguay, Argentina *hevans* Menke
– Thoracic pleura and propodeal side sparsely to densely covered with appressed silver setae, vague band of appressed silver setae sometimes present along lower end of mesopleural suture but not sharply delimited from silver setae on rest of pleuron; Andean Region from Ecuador to Chile and Argentina 7.
7. Specimens from Ecuador and Peru *rufipes* Spinola
– Specimens from Chile and Argentina *laeviceps* Smith

Acknowledgments

Edward S. Ross of the California Academy of Sciences provided background on the Academy's acquisition of the Edwin C. Reed Collection.

I thank Wojciech Pulawski, California Academy of Sciences, and my wife, Nancy Menke, for reading and improving my manuscript.

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