

FIGURE 28. Distribution of Diminutiva Group species.

***Aglaothorax acrolophitus* Cole, Weissman, and Lightfoot, sp. nov.**

Fig. 28 (distribution), Fig. 32 (male and female habitus, calling song, male and female terminalia, karyotype), Plate 6 (male terminalia), Plate 9 (female subgenital plate), Plate 13 (male titlators), Plate 15 (male calling song).

**Common name.** Mountaineer Shieldback.

**History of recognition.** None.

**Type material.** HOLOTYPE MALE: **USA, California, Kern County**, Tehachapi, Water Canyon Road, 0.15 miles south of intersection with Highland, 35.30774N, 118.02174W, 1463 m, 28-VIII-1983, DB Weissman, S83-115, R83-293, T83-45, 97 [stridulatory file tooth count], 3.7 [stridulatory file length, mm], excised tegmen in gelcap below specimen, deposited in CAS, Entomology type #20378. PARATYPES: (n=39) **USA, CA, Kern Co.**, Tehachapi, Water Canyon Rd., 0.15 miles S of intersection with Highline Rd., 35.307739, -118.021738, 1463 m, 28-VIII-1983, d B Weissman, CAS, 1♂; **Los Angeles Co.**, Agua Dulce Canyon, Agua Dulce Canyon Road, 2 miles south of Agua dulce, 34.4729, -118.3311, 679 m, 17-VI-2003, JA Cole, AMNH, 1♂, 1♀; same data except LACM, 5♂, 5♀; Arroyo Seco, Gabrielino Recreation Trail, end of Windsor, 34.2065, -118.1670, 355 m, 4-IX-2021, JA Cole, JF Eguizabal, LACM, 1♂; Chilao Campground, Angeles National Forest, 25 miles NE of La Canada Flintridge

on SR2 (Angeles Crest Highway), 34.3262, -118.004, 1615 m, 27-IX-1999, JA Cole, JF Eguizabal, LACM, 2♂; same data except 7-VIII-2013, JA Cole, LACM, 2♂; devil's Punchbowl County Park, 34.4138, -117.8587, 1470 m, 17-VIII-1982, d B Weissman, LACM, 1♂; end of Stonehill Way, Canyon Country, 34.4246, -118.4532, 294 m, 26-27-V-2013, JA Cole, LACM, 3♂; Forest Road 7N01 and San Francisquito Canyon Road, 34.6431, -118.3783, 1080 m, 30-31-VII-2017, JA Cole, LACM, 1♀; Placerita Nature Center, 34.382775, -118.465917, 21-XII-1982, PH Sullivan, CAS, 1♂; Templin Highway off I-5, 34.6165, -118.7439, 700 m, 29-30-VI-2006, JA Cole, JF Eguizabal, LACM, 1♀; **Ventura Co.**, McGill Campground, Los Padres National Forest, 34.81505, -119.10014, 2271 m, 8-9-VIII-2017, JA Cole, LACM, 4♂; Squaw Flat Road at trailhead to Sespe Creek, 8 miles north of Fillmore on Goodenough Road, 34.4826, -118.9179, 799 m, 11-VII-2021, JA Cole, AMNH, 1♂; same data except LACM, 3♂, 2♀; same data except 3-4-VII-2012, JA Cole, LACM, 4♂;

**Measurements.** (mm, ♂n=13, ♀n=11) Hind femur ♂11.80–14.17, ♀13.25–17.05, pronotum total length ♂6.50–9.04, ♀5.95–8.30, prozona length ♂2.75–4.04, ♀2.73–4.91, metazona dorsal length ♂3.60–5.55, ♀3.10–4.54, pronotum constriction width ♂2.40–3.00, ♀2.60–3.80, metazona dorsal width ♂4.89–6.16, ♀4.40–5.90, head width ♂3.44–4.20, ♀3.77–4.75, ovipositor length ♀9.95–13.37.

**Distribution.** Northern Transverse Ranges of California. Populations span a considerable west-east distance from the San Emigdio Mountains in the west to the Tecachapi Mountains in the east and apparently north into the southern Sierra Nevada.

**Habitat.** Chaparral and mixed woodland. Prefers thick tangles of vegetation. On Manzanita, *Ceanothus* spp., Chaparral Yucca (*Hesperoyucca whipplei* (Torr.) A. Baker), and Peruvian Pepper Tree (*Schinus molle* L.). May occur in exurban developments that encroach upon native habitat e.g. in Canyon Country, Los Angeles County, California.

**Seasonal occurrence.** Adult activity from spring (26-V-2013, JA Cole, LACM) into winter (21-XII-1972, PH Sullivan, CAS). Nymphs were common 17-VI-2003 (JA Cole, LACM).

**Stridulatory file.** (n=13) length 2.70–3.70 mm, 76–98 teeth, tooth density  $29.5 \pm 3.2$  (23.8–35.9) teeth/mm.

**Song.** (n=30) Common small *Aglaothorax* song type with a slow pulse train rate. Pulse trains  $60 \pm 20$  ms are produced at a rate of  $5.25 \pm 0.70$  s<sup>-1</sup>. Mean peak frequency is  $14.08 \pm 1.31$  kHz. Variable length echemes contain a large number of pulse trains, on average  $31 \pm 16$  (range 8–78) pulse trains. The echeme repetition rate is 6 min<sup>-1</sup>.

**Karyotype.** (n=4)  $2n \text{♂} = 24$  (22t+Xty t), holotype T83-45 (S83-115).

**Recognition.** Morphology, geography. Male supra-anal plate heart-shaped, paraproct with apical internal tooth, and titillators long and strongly bowed, excluding the Morsei Group that possesses in most species a subapical internal tooth on the male paraproct arm, a rounded or square supra-anal plate, and short titillator arms. Male *A. constrictans* also have a heart-shaped supra-anal plate but have short titillator arms. Male *A. oreibates* have titillator arms with less lateral curvature and a basal constriction. Female subgenital plate with long digitiform processes unlike the short, triangular processes of Morsei Group species and *A. constrictans*. The *A. acrolophitus* female subgenital plate lateral processes are stout at the base and taper to a blunt apex unlike the sharp, slender processes of female *A. dactyla*. The inner margins of the female subgenital plate processes met in a rounded angle in *A. acrolophitus* but at a right angle in *A. diminutiva*. Males of *A. dactyla* and both males and females of *A. poecilnotum* may be morphologically indistinguishable but are geographically separated in the Santa Monica and Santa Ynez Mountains, respectively.

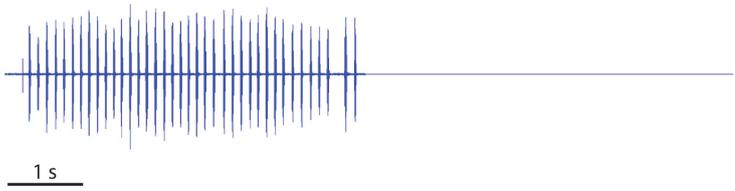
**Etymology.** *Gr. acrolophitus* a mountaineer. Inspired by the wide distribution across the Transverse Ranges of California.

**Notes.** Populations that belong to this species are distributed across a wide geographic range (Fig. 27). This is the only small *Aglaothorax* that enters the Sierra Nevada Mountains, where *Neduba* spp. replace *Aglaothorax* in chaparral and mixed woodland habitats (Cole *et al.* 2021). Adult activity and nymphal development may overlap by several weeks. At Agua Dulce Canyon, Los Angeles County, nymphs and adults were common feeding on the stalks and fruits of chaparral yucca. A parasitoid *Ormia* fly emerged 8-VI-2013 from a male collected from a northern Los Angeles County exurban habitat in Canyon Country on 26-27-V-2013. The introgression of *A. acrolophitus* mtDNA into both *A. conistylus* and *A. morsei* has occurred along regions of sympatry in the San Gabriel Mountains. In areas of overlap *A. acrolophitus* was apparently rare. JAC collected large series of *A. morsei* for female preference testing several times at Arroyo Seco, Gabrieleño Recreation Trail, Los Angeles County, California. On only one occasion, 3-IX-2021, was a male of *A. acrolophitus* captured.

male HOLOTYPE USA. CA: Kern Co.  
S83-115, R83-293, T83-45



calling song PARATOPOTYPE USA. CA: Kern Co. 21.0°C R83-292



karyotype HOLOTYPE USA. CA: Kern Co. S83-115, T83-45



male terminalia HOLOTYPE USA. CA: Kern Co. S83-115  
R V



female PARATYPE USA. CA: Los Angeles Co.  
JCR000002592



titillators PARATYPE USA. CA:  
Ventura Co. JAC000002576



female subgenital plate PARATYPE  
CA: Los Angeles Co. JAC000002587



male PARATYPE USA. CA: Los Angeles Co.  
JCR000002940



FIGURE 32. *A. acrolophitus* male and female habitus, calling song, male and female terminalia, and karyotype. Idiogram shows karyotype  $2n_{\text{♂}}=24$ .

**Material examined.** (n=7) **All USA, CA, Kern Co.,** Water Canyon Road, 1.4 miles below entrance to Tehachapi Mountain Park, 35.08258, -118.49486, 1571 m, 20-VII-2015, JA Cole, dB Weissman, JAC, 1♂; **Los Angeles Co.,** Clear Creek, San Gabriel Mountains, 34.288893, -117.646722, 1113 m, 15-VII-1970, RH Crandall, LACM, 1♂; county road N4, 3 miles east of Big Rock Springs, 34.4264, -117.8078, 1407 m, 7-VII-2004, JA Cole, LACM, 1♂; same data except 8-VII-2004, JA Cole, LACM, 1♂; Devil's Punchbowl County Park, 34.4138, -117.8587, 1470 m, 3-4-VIII-1974, PH Sullivan, CAS, 1♀; Templin Highway and FR6N53, 34.5858, -118.7142, 899 m, 16-VI-2012, JA Cole, 1♂ sound record; **Ventura Co.,** Pine Mountain Summit, 34.634152, -119.28817, 2027 m, 4-IX-1983, no collector, LACM, 1♂. **QUESTIONABLE PLACEMENT:** (n=8) **USA, CA, Los Angeles Co.,** Altadena, 34.189728, -118.131182, 1080 m, 29-VI-1989, RH Crandall, taken by sphecid, LACM, 1♀; Arroyo Seco, Gabrielino Recreation Trail, end of Windsor, 34.2065, -118.16700, 355 m, 17-IV-2017, JA Cole, K Halsey, JAC, 1♂ nymph; Bouquet Canyon, 34.425829, -118.541475, 700 m, 23-VII-1937, N Westerland, LACM, 1♂; Juniper Hills, Devil's Punchbowl Road (County Road N6), 2 miles east of Longview Road, 34.4267, -117.8697, 1316 m, 14-VI-2015, JA Cole, GE Bell, T Farwell, JAC, 1♂ nymph; San Gabriel Mountains, Big Tujunga Canyon near Fusier Canyon, 34.281, -118.211, 700 m, 2-V-2015, K Singh, malaise trap, CSUN, 2♀ nymphs; Sierra Highway, 0.5 miles west of Boiling Point, 34.5174, -118.2713, 920 m, 17-VI-2003, JA Cole, 1♂ song recording; **Tulare Co.,** Sierra Nevada, Sequoia Nat. For., Greenhorn Mts., Camp Nelson, 36.142724, -118.609256, 1525 m, 14-VIII-1982, SL Gibson, 1♂.