

FIGURE 15. Distribution of Morsei Group species.

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

Fig. 15 (distribution), Fig. 23 (male and female habitus, calling song, male and female terminalia, karyotype), Plate 5 (male terminalia), Plate 8 (female subgenital plate), Plate 12 (male titillators), Plate 15 (male calling song).

**Common name.** Alluvial Shieldback.

**History of recognition.** None.

**Type material.** HOLOTYPE MALE: USA, California, Los Angeles Co., Sycamore Flat Campground, Angeles National Forest, 12.5 miles northwest of Big Pines off county road N4, 34.4128N, 117.8239W, 1309 m, 7-VII-2004, JA Cole leg., JAC000002979, 108 [stridulatory file tooth count], 3.85 [stridulatory file length, mm], genitalia in glycerin and excised tegmen in gelcap below specimen, deposited in CAS, Entomology type #20239.

PARATYPES: (n=20) USA, CA, Los Angeles Co., same data as holotype, LACM, 2♂, 1♀; same data except 23-VI-2008, JA Cole, AMNH, 1♂; same data except LACM, 4♂; same data except 8-VII-2004, JA Cole, LACM, 2♂; Grassy Hollow off SR2, 2.5 miles west of Big Pines, Angeles National Forest, 34.37500, -117.72028, 2225 m, 4-VIII-2021, JA Cole, J Bailey, LACM, 3♂; San Gabriel Mountains, Camp Eaton (=Cumorah Crest) 3 km NE Newcomb Ranch, 34.348832, -117.978868, 3-VIII-2021, JA Cole, J Bailey, LACM, 1♀; same data except 1860 m, 10-15-VIII-2003, JN Hogue, CSUN, 1♂, 1♀; same data except 10-VIII-2005, JN Hogue, CSUN, 1♀; **Orange Co.**, jct. Hicks Haul Road, Blue Diamond Haul Road, and Santiago Canyon Road, 33.73721, -117.70137, 264 m, 22-IX-2019, J Bailey, LACM, 2♂; **San Bernardino Co.**, Applewhite Campground, San Bernardino National Forest, 34.26056, -117.49444, 1021 m, 19-20-X-2023, JA Cole, C Wong, LACM, 1♂.

**Measurements.** (mm, ♂n=7, ♀n=3) Hind femur ♂14.75–16.41, ♀14.54–18.65, pronotum total length ♂7.87–9.62, ♀7.25–9.00, prozona length ♂3.21–4.24, ♀3.90–5.60, metazona dorsal length ♂4.27–5.38, ♀3.20–3.40, pronotum constriction width ♂2.59–3.35, ♀2.82–3.39, metazona dorsal width ♂5.63–6.90, ♀5.10–6.10, head width ♂4.04–4.42, ♀4.40–4.85, ovipositor length ♀10.15–12.65.

**Distribution.** Eastern San Gabriel Mountains and adjacent basins, including the Antelope Valley and San Gabriel Valley.

**Habitat.** Chaparral, hillside scrub, and alluvial scrub. Taken from Rabbitbrush (*Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & Baird) and low branches of Western Sycamore (*Platanus racemosa* Nutt.).

**Seasonal occurrence.** Limited records show adult activity from summer (23-VI-2008, JA Cole, LACM) through fall (20-X-2023, JA Cole and C Wong, LACM).

**Stridulatory file.** (n=5) length 3.20–4.10 mm, 89–108 teeth, tooth density 26.9±1.9 (24.1–28.4) teeth/mm.

**Song.** (n=7) Standard song for small *Aglaothorax* with pulse trains produced slowly enough to be counted. Pulse trains 60±20 ms in length are produced at a rate of 6.43±1.16 s<sup>-1</sup>. Mean peak frequency 19.31±5.64 kHz, ranging as high as 27.10 kHz. Echemes consist of 22±9 pulse trains repeated at a rate of 10–20 min<sup>-1</sup>. Increased sample size is likely to add song variation as in other species that produce this song type.

**Karyotype.** (n=2) 2n♂=24 (22t+Xt+y t), paratypes JCT21-05, JCT21-09.

**Recognition.** Morphology, habitat. The male supra-anal plate is rounded and flat unlike the caudally indented or heart-shaped plate of the Diminutiva Group. The male subgenital plate has a narrow apex and thick, conical styli, which separate *A. conistylus* from other small *Aglaothorax* species in which the styli are narrow, cylindrical, and straight to curved. The male paraproct internal tooth position is apical to slightly subapical, which further eliminates species in which the tooth is positioned distinctly subapically like *A. hulodomus* and *A. morsei*. *A. nesiazio* usually have the tooth on the paraproct process positioned apically but also have square supra-anal plates, while the plate of *A. conistylus* is rounded. The titillator arms are distinctly curved laterally, unlike the nearly straight titillator arms of *A. hulodomus* and *A. nesiazio*, and lack a notch at the base as in *A. morsei*. The female subgenital plate has short, triangular lateral processes, unlike the long digitiform processes of sympatric *A. acrolophitus* and most other Diminutiva Group species.

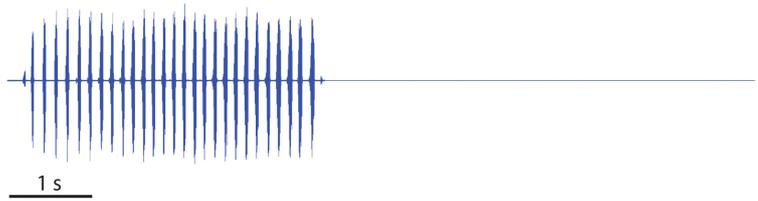
**Etymology.** Gr. *coni* a cone + *stylus* a pillar, stake. Refers to the cone shaped styli on the male subgenital plate.

**Notes.** *A. conistylus* is morphologically and ecologically distinct from two geographically adjacent (Fig. 15) *Aglaothorax* species: *A. morsei* and *A. hulodomus*. Concatenated genetic data found an *A. conistylus* grade between *A. morsei* to the west and *A. hulodomus* to the east (Fig. 4) that suggests isolation by distance. Calling songs are not significantly different in these separate lineages (Plates 14–15), suggesting a combination of geographical and ecological isolation. The habitats of *A. conistylus* are xeric and include steep, dry, sparsely vegetated hillsides in desert foothills and seasonally arid alluvial scrub. *A. morsei* prefers mesic canyon bottoms and *A. hulodomus* inhabits mixed woodland understory. This species is monophyletic based on nDNA markers (Fig. 2) but mtDNA found exemplars interspersed with other related Morsei Group lineages (Fig. 3) suggesting hybridization and gene flow between neighboring populations. Capture of *A. acrolophitus* mtDNA was also observed (Fig. 3) again suggesting hybridization, in this case between more distantly related taxa.

male PARATOPOTYPE USA. CA: Los Angeles Co.  
JAC000002971



calling song PARATOPOTYPE USA. CA: Los Angeles Co. 25.5°C  
JCR04SF03



karyotype PARATYPE USA. CA: Los Angeles Co.  
JCT21-09



female PARATOPOTYPE USA. CA:  
Los Angeles Co. JAC000002980



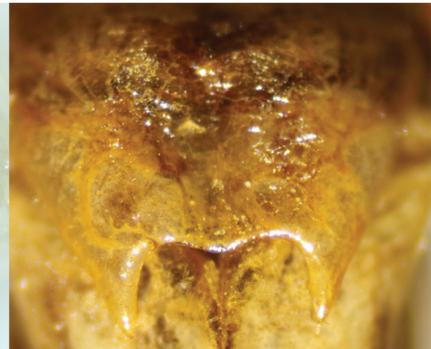
male terminalia HOLOTYPE USA. CA: Los Angeles Co. JAC000002979



titillators HOLOTYPE  
JAC000002979

female subgenital plate PARATOPOTYPE  
JAC000002980

female PARATYPE USA. CA: Los Angeles Co.  
JAC000005723



**FIGURE 23.** *A. conistylus* male and female habitus, calling song, male and female terminalia, and karyotype.

**Material examined.** See Type Material above. QUESTIONABLE PLACEMENT (n=1) USA, CA, Los Angeles Co., Rio Hondo nr. SR60, Whittier Narrows, 34.029178, -118.049512, 22-V-1987, B Hebert, CSUN, 1♂.