

FIGURE 28. Distribution of Diminutiva Group species.

Aglaothorax dactyla (Rentz & Weissman, 1981) stat. rev.

Neduba (*Aglaothorax*) *diminutiva dactyla*—Rentz & Weissman, 1981: 94.

Neduba (*Aglaothorax*) *diminutiva malibu*—Rentz & Weissman 1981: 95 **New junior subjective synonym.**

Fig. 28 (distribution), Fig. 31 (male and female habitus, calling song, male and female terminalia, karyotype), Plate 6 (male terminalia), Plate 9 (female subgenital plate), Plate 13 (male titillators), Plate 15 (male calling song).

Common name. Clawed Shieldback.

History of recognition. Described as a subspecies of *Neduba* (*Aglaothorax*) *diminutiva* from the western Santa Monica Mountains with populations to the east of Malibu Creek named *N. (A.) d. malibu* (Rentz & Weissman 1981). Transferred to *Aglaothorax* where this species is currently classified (Cigliano *et al.* 2025). The Santa Monica Mountains Diminutiva Group lineage shows strong genetic separation from other clades in the Group, especially from type *A. diminutiva*. Although we found phylogeographic separation west and east of Malibu Creek, expanded sample size negates prior morphological diagnosis of subspecies. Coupled with an absence of song and karyotype differences, we recognize *A. dactyla* at species rank and synonymize *A. d. malibu* under *A. dactyla*.

Type material. The holotype female of *N. (A.) d. dactyla* was collected from the junction of State Highway 23S and Mulholland Highway, Los Angeles County, California and is housed at CAS. The holotype male of *N. (A.) d. malibu* was collected at Big Rock Canyon Road 0.4 miles north of Pacific Coast Highway in Malibu, Los Angeles County, California, and is also housed at CAS. Images of the types are available at OSFO (Cigliano *et al.* 2025).

PARATYPES EXAMINED: (n=2) *dactyla* **USA, CA, Los Angeles Co.**, Cal Hwy 23 Mulholland Hwy., 34.0873, -118.8742, 556 m, 21-VI-1971, d B Weissman, CAS, 1♀; **Ventura Co.**, Point Mugu State Beach dune area, 34.083332, -119.050003, 4 m, 19-VII-1972, d B Weissman, CAS, 1♂; TOPOTy PES EXAMINED: (n=9); *dactyla* **USA, CA, Los Angeles Co.**, Malibu, Eino's, corner of Mulholland and Decker (23S), 34.08855, -118.87360, 2-VII-1976, d B Weissman, CAS, 1♂; SR23S & Mulholland Hwy., 34.0873, -118.8742, 548 m, 14-VIII-1982, d B Weissman, CAS, 3♂; same data except 17-VI-2008, JA Cole, LACM, 1♂; same data except JAC, 1♀; *malibu* **USA, CA, Los Angeles Co.**, Malibu, Big Rock Canyon Rd. at Rockport, 34.035842, -118.609528, 28-VI-1976, DB Weissman, CAS, 1♂; Malibu, intersection of Big Rock and Inland Roads, 34.035842, -118.609528, 5-VII-1982, d B Weissman, CAS, 2♂.

Measurements. (mm, ♂n=17, ♀n=11) Hind femur ♂13.65–16.07, ♀15.70–19.35, pronotum total length ♂8.04–9.76, ♀7.05–9.95, prozona length ♂2.90–4.19, ♀3.24–5.05, metazona dorsal length ♂4.58–5.95, ♀3.40–5.00, pronotum constriction width ♂2.25–3.05, ♀2.61–3.40, metazona dorsal width ♂5.60–6.65, ♀5.03–6.75, head width ♂3.35–3.88, ♀4.07–4.81, ovipositor length ♀11.00–14.30.

Distribution. Santa Monica Mountains, California.

Habitat. Coastal sage scrub, grassland, chaparral, oak woodland. Frequents hillsides, hilltops, and dry (south) slope chaparral. On California Sage (*Artemisia californica* Less.), Mulefat (*Baccharis* sp.), Laurel Sumac, *Ceanothus* spp., Monkeyflower, Western Sycamore, Coast Live Oak, Scrub Oak, White Sage (*Salvia leucophylla* Greene), and Poison Oak.

Seasonal occurrence. Spring (3-V-1997, JA Cole, LACM) through summer (24-VIII-1976, PH Sullivan, CAS). Nymphs and adults occurred alongside one another at the early date record.

Stridulatory file. (n=6) length 3.20–3.90 mm, 81–106 teeth, tooth density 27.8±2.7 (25.3–32.8) teeth/mm.

Song. (n=46) Common small *Aglaothorax* song with slowly produced pulse trains that are countable by a human listener. Pulse trains 50±20 ms in length are produced at a rate of 5.05±0.79 s⁻¹. Mean peak frequency is 15.84±4.43 kHz, with peak frequencies as high as 26.60 kHz detected with ultrasonic recording equipment. Echemes are highly variable in length and group 36±20 (5–92) pulse trains. The echeme repetition rate is 1–12 min⁻¹. Males are synchronous chorusers. Followers may join leaders and overlap pulse trains precisely, making it difficult to gauge the number of males singing in an area. Across distance, choruses may be heard to spread like waves as males at increasing distances join the chorus center.

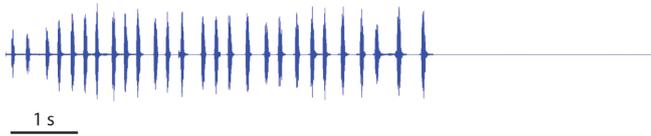
Karyotype. (n=3) 2n♂=24 (22t+Xty t), topotype T82-123 (S82-56).

Recognition. Morphology, geography. The male supra-anal plate is heart-shaped, sometimes only slightly, but the caudal margin of the plate is always indented, the paraproct processes have an internal apical tooth, and the titillator arms are long and bowed, characters that separate *A. dactyla* from Morsei Group species. Sympatric and nearby allopatric Morsei Group species have rounded supra-anal plates, a subapical tooth on the paraproct process, and short, barely curved titillator arms. The long, bowed titillators also separate *A. constrictans* from consideration,

male USA. CA: Ventura Co. JAC000002623



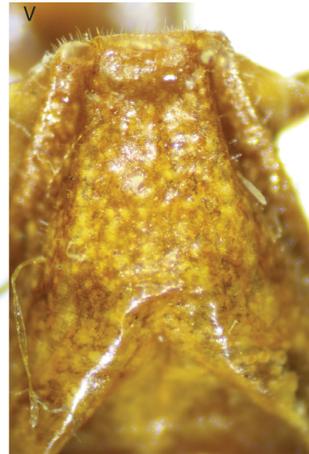
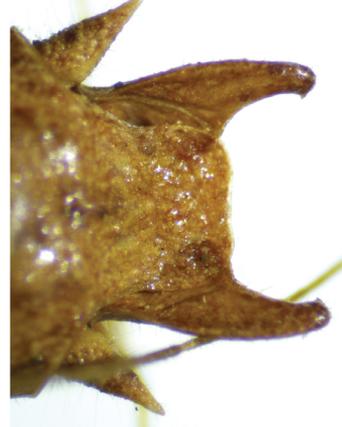
calling song TOPOTYPE USA. CA: Los Angeles Co. 25.5°C R82-249



karyotype TOPOTYPE USA. CA: Los Angeles Co. T82-123



male terminalia TOPOTYPE USA. CA: Ventura Co. JAC000002622 R



female TOPOTYPE USA. CA: Los Angeles Co. JAC000002628



titillators PARATYPE



female subgenital plate PARATYPE



male *malibu* TOPOTYPE USA. CA: Los Angeles Co. S82-34, R82-91, T82-20



male terminalia *malibu* TOPOTYPE R



male terminalia *malibu* TOPOTYPE V



FIGURE 31. *A. dactyla* male and female habitus, calling song, male and female terminalia, and karyotype. Idiogram shows karyotype $2n\text{♂}=24$.

which has short titillator arms and *A. oreibates*, which has long titillators that show less lateral curvature. The female subgenital plate has the longest and most slender digitiform lateral processes of any *Aglaothorax*; the processes of *A. acrolophitus* and *A. poecilonotum* are shorter, thicker at the base, and more strongly tapered.

Notes. Complete syntopy of *A. dactyla* and *A. costalis* in a garden were noted in their original description, where their specific distinction was evident from obvious song differences (Rentz & Weissman 1981). We have since observed syntopy throughout the Santa Monica Mountains: both species may be found on the same plants and choruses of their divergent songs may be heard alongside one another. The history of mitochondrial capture by *A. costalis* and *A. longipennis* (Fig. 3) illustrates incomplete reproductive isolation. The contact zone between *A. dactyla* and *A. costalis* is an example of reinforcement of premating isolation. Females of both species avoid songs of heterospecifics (Cole 2016), which is made possible by evolution of a rapid pulse train rate in *A. costalis*. In addition to song, the two species show partial ecological and temporal isolation. *A. dactyla* prefers the dry upland or south facing slopes while *A. costalis* is more common in lowland, mesic, and riparian areas. Adult activity commences and ceases earlier in the season in *A. dactyla* than in *A. costalis*. East of Malibu Creek, *A. dactyla* is broadly sympatric with *A. longipennis* but that pair are more strongly separated by habitat and have not been observed in syntopy.

Material examined. (n=51) **All USA, CA, Los Angeles Co.,** Backbone Trailhead, at junction Stunt, Schueren, and Saddle Peak Rds., 34.0812, -118.6454, 721 m, 9-24-VI-2012, JA Cole, JAC, 2♂, 2♀; Calamigos Ranch, 34.09278, -118.81694, 550 m, 1-VII-1961, d L Gibo, CSUN, 1♀; Charmlee County Park, 34.0608, -118.8771, 427 m, 23-24-VIII-1976, PH Sullivan, CAS, 1♀; Charmlee Wilderness Park, 3.8 miles north of SR1 on Encinal Canyon Road, 34.0608, -118.8771, 427 m, 29-30-VI-2006, JA Cole, JF Eguizabal, LACM, 1♂; same data except 2-VI-2005, JA Cole, JF Eguizabal, LACM, 1♀; same data except JAC, 1♂; same data except 3-4-V-1997, JA Cole, LACM, 1♂, 1♀; Griffith Park, Mount Hollywood Trail, 34.1240, -118.3009, 370 m, 7-V-2002, JA Cole, JF Eguizabal, 1♂ sound record; junction Big Rock drive and SR1, 34.0377, -118.6088, 5 m, 17-VI-2008, JA Cole, 1♂ sound record; junction Las Flores Canyon Rd. and Schueren Rd., 34.0625, -118.6486, 469 m, 24-25-VI-2012, JA Cole, JAC, 1♂; junction Las Flores Rd. and Gorge Rd., 34.0507, -118.6391, 66 m, 25-VI-2012, JA Cole, LACM, 1♂; Leo Carrillo State Park, Nicholas Flat, at end of Decker School Rd., 34.0638, -118.9128, 457 m, 3-VI-2008, JA Cole, LACM, 1♂, 1♂ sound record; same data except 5-VI-2007, JA Cole, LACM, 1♂; same data except 8-VI-2008, JA Cole, LACM, 1♂; Topanga State Park, dead Horse Trail, 34.0915, -118.5939, 274 m, 27-28-V-2008, JA Cole, 1♂ sound record; UCLA Stunt Ranch Santa Monica Mountains Reserve, 34.0951, -118.6486, 374 m, 12-13-VI-2014, JA Cole, d A Gray, LACM, 1♂; **Ventura Co.,** Point Mugu State Park, Sycamore Canyon, 34.0728, -119.0145, 4 m, JA Cole, LACM, 7♂, 1♀; same data except 11-VI-2007, JA Cole, LACM, 1♀; same data except 14-15-VI-2007, JA Cole, 1♂ sound record; same data except JA Cole, JF Eguizabal, LACM, 1♂; same data except 16-17-VI-2008, JA Cole, LACM, 1♀; same data except JAC, 1♀; same data except 18-VI-2007, JA Cole, 1♂ sound record; same data except 2-3-VI-2008, JA Cole, LACM, 4♂; same data except JAC, 1♂; same data except 28-29-V-2007, JA Cole, 1♂ sound record; same data except 4-VI-2007, JA Cole, AMNH, 1♂, 1♀; LACM, 2♂; same data except 5-6-VI-2006, JA Cole, LACM, 3♂, 1♀; JAC, 1♂; same data except 9-VI-2005, JA Cole, LACM, 1♀.