

FIGURE 15. Distribution of Morsei Group species.

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

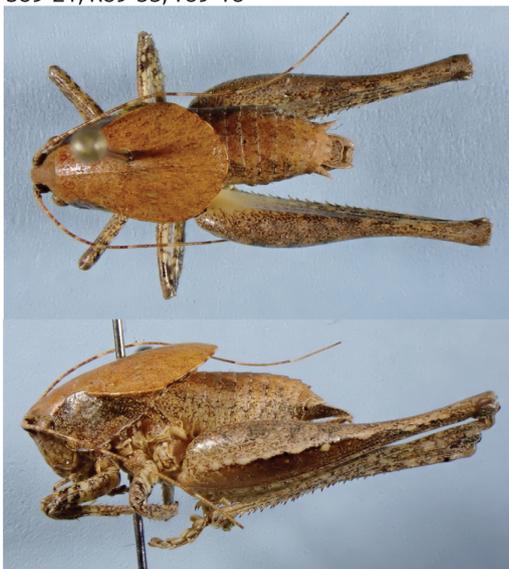
Fig. 15 (distribution), Fig. 25 (male and female habitus, calling song, male and female terminalia, karyotype), Plate 5 (male terminalia), Plate 8 (female subgenital plate), Plate 12 (male titillators), Plate 15 (male calling song).

**Common name.** Toad Shieldback.

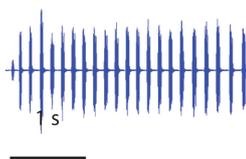
**History of recognition.** None.

**Type material.** HOLOTYPE MALE: México, Baja California, La Bufadora, 31.7243N, 116.7231W, 2-VI-1989, DB Weissman & DC Lightfoot, DB Weissman, S89-21, R89-33, T89-18, 3.45 [stridulatory file length, mm], 87 [stridulatory file tooth count] excised tegmen in gelcap below specimen, deposited in CAS, Entomology type #20375. PARATYPES: (n=46) **México, Baja California**, same data as holotype, CAS, 2♂, 1♀; same data as holotype except 29-VII-1986, d B Weissman, d C Lightfoot, CAS, 1♂; 12 km E Rosarito on dirt road to Table Mesa, 32.373719, -116.901529, 61 m, 19-VI-1980, d B Weissman, CAS, 1♂; 13 km E Rosarito on dirt road to Table Mesa, 32.373409, -116.890873, 61 m, 19-VI-1980, d B Weissman, CAS, 2♂; 2 km E La Bufadora at 0.16 km E km 20 on BCN 23, 31.723413, -116.692822, 28-VII-1978, d B Weissman, d C Lightfoot, CAS, 8♂, 4♀; 5 km E Rosarito on dirt road to Table Mesa, 32.349632, -117.013933, 61 m, 19-VI-1980, d B Weissman, CAS, 6♂; Highway 3, 5.5 km northeast of jct. Highway 1, 31.96361, -116.65833, 241 m, 29-VI-2019, JA Cole, d B Weissman, AMNH, 1♂; same data except LACM, 3♂; Highway 3, km marker 41, 31.62639, -116.46194, 195 m, 29-VI-2019, JA Cole, d B Weissman, LACM, 1♂; Highway 3, km marker 60, 32.21250, -116.51083, 463 m, 29-VI-2019, JA Cole, d B Weissman, LACM, 3♂; Hwy. 2, 5.7 km W El Condor at km 88.7, 32.476301, -116.222532, 1210 m, 19-VIII-1995, d B Weissman, d C Lightfoot, CAS, 2♂; km 60 on road to Sierra de San Pedro Martir National Park off Mex. Hwy. 1, 30.927296, -115.348406, 853 m, 26-VII-1978, d B Weissman, d C Lightfoot, CAS, 1♂; km 66 on road to Sierra de San Pedro Martir National Park off Mex. Hwy. 1, 30.927296, -115.348406, 27-VII-1978, DB Weissman, DC Lightfoot, CAS, 1♂; km 67 on road to Sierra de San Pedro Martir National Park, 30.927296, -115.348406, 21-VII-1977,

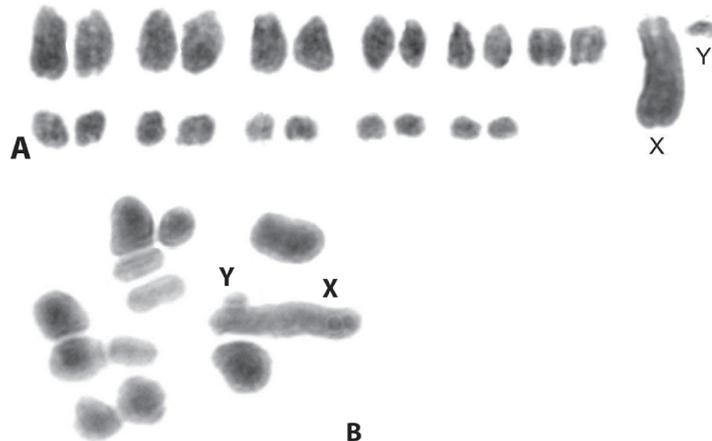
male HOLOTYPE México. Baja California.  
S89-21, R89-33, T89-18



calling song PARATOPOTYPE México. Baja California. 23.5°C  
S89-21, R89-25



karyotype PARATYPE México. Baja California. JCT19-6



female PARATYPE  
México. Baja California. S78-95



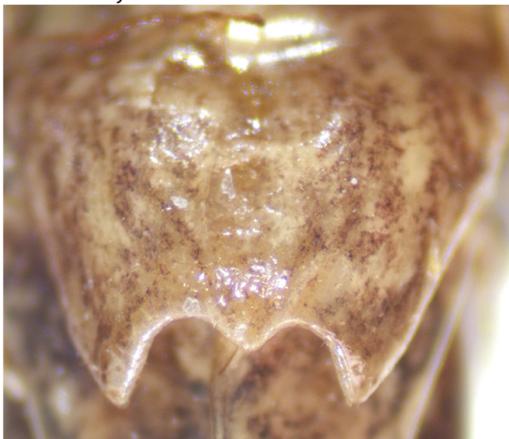
male terminalia HOLOTYPE  
R



titillators PARATOPOTYPE  
S89-21 R89-31



female subgenital plate PARATYPE  
México. Baja California. S78-95



male terminalia PARATOPOTYPE México. Baja California. S89-21  
R V



**FIGURE 25.** *A. bufonoides* male and female habitus, calling song, male and female terminalia, and karyotype. Idiogram A. karyotype  $2n\sigma=24$ ; B. Same male, metaphase I with small y and large X sex chromosomes labeled.

d B Weissman, CAS, 1♂; km 73.8 on road to Sierra de San Pedro Martir Park off Mex. Hwy. 1, 30.927296, -115.348406, 1650 m, 4-VIII-1981, d B Weissman, d C Lightfoot, CAS, 1♂, 2♀; La Misión on Mexican Highway 1 Libre, 32.100855, -116.856278, 8-VII-1978, d B Weissman, d C Lightfoot, CAS, 2♂, 1♀; La Rumorosa at km 68.2 on Mex. Highway 2, 32.602043, -116.079469, 31-VII-1978, d B Weissman, d C Lightfoot, CAS, 2♂.

**Measurements.** (mm, ♂n=10, ♀n=5) Hind femur ♂13.80–16.15, ♀17.10–19.42, pronotum total length ♂7.61–9.13, ♀7.26–9.22, prozona length ♂3.40–4.22, ♀3.81–5.40, metazona dorsal length ♂3.83–5.35, ♀2.95–3.82, pronotum constriction width ♂2.58–3.17, ♀3.00–3.41, metazona dorsal width ♂5.35–6.45, ♀5.33–5.87, head width ♂3.14–4.05, ♀4.08–4.68, ovipositor length ♀11.30–13.50.

**Distribution.** Baja California, México. Geographically situated north of two other Baja California species, *A. kelainops* and *A. sphenosternum*, the latter two with divergent karyotypes. *A. bufonoides* has the widest range of the three species.

**Habitat.** Chaparral and oak woodland in valleys and on hillsides. On Mountain Mahogany (*Cercocarpus* spp.), Laurel Sumac, and *Keckiella* spp. The type locality is coastal bluff habitat.

**Seasonal occurrence.** Late spring (2-VI-1989, DB Weissman & DC Lightfoot, CAS) through summer (19-VIII-1995, DB Weissman & DC Lightfoot, CAS). It appears that despite the cooler, foggy coastal climate at La Bufadora, that population matures earlier than those more inland.

**Stridulatory file.** (n=4) length 3.00–3.90 mm, 87–110 teeth, tooth density 29.3±3.2 (25.2–32.0) teeth/mm.

**Song.** (n=12) Standard song for small *Aglaothorax* with pulse trains that occur slow enough for a human listener to count. Pulse trains of 60±10 ms produced at a rate of 5.31±1.19 s<sup>-1</sup>. Mean peak frequency is 13.90±1.10 kHz. Echemes contain a variable number of pulse trains (mean 22±11, range 4–39 pulse trains), the echeme rate is 4–7 min<sup>-1</sup>.

**Karyotype.** (n=13) 2n♂=24 (22t+Xty t), paratype JCT19-6, paratopotype S89-21, T89-10. Type locality T89-10 (S89-21) 2n♂=24, metaphase I clearly showing associated Xy sex chromosomes and 11 pairs of autosomes.

**Recognition.** Morphology, karyotype. The male supra-anal plate is rounded and concave and the paraproct processes are twice as long as wide, with an apical or slightly subapical mesal tooth. *A. nesiazio* to the north in the Peninsular Ranges of California has a square supra-anal plate and long, slender paraproct processes, more than two times longer than wide. From Baja California congeners, *A. sphenosternum* has the prosternal spines wedgelike whereas *A. bufonoides* has typical long, thin spines. The male titillator arms are short and curved laterally, unlike the nearly straight arms of *A. nesiazio* distributed to the north and *A. kelainops* to the south. Females of *A. bufonoides* have the subgenital plate lateral processes as long as wide while those processes are longer than wide in *A. kelainops*. The karyotype of *A. bufonoides* is typical for small *Aglaothorax* at 2n♂=24; *A. kelainops* and *A. sphenosternum* have atypical karyotypes that are discussed below.

**Etymology.** *G. bufo* toad + *oid* like, form. Descriptive of the toad-like gestalt of the genus.

**Notes.** This is the most widespread *Aglaothorax* in Baja California. The species is alone on the Baja California peninsula in possessing the widespread small *Aglaothorax* karyotype of 2n♂=24. Populations with the three different karyotypes have not been found in any combination of sympatry, but ranges may be adjacent (Fig. 15). Songs are not divergent between the three Baja California taxa nor from coastal San Diego *A. nesiazio*. Phylogenetically, this species is related to *A. nesiazio* to the north, and two different haplotypes are in turn sister to each of two *Aglaothorax* with divergent karyotypes (Figs. 3–4): *A. kelainops* (2n♂=20) and *A. sphenosternum* (2n♂=22).

**Material examined.** See Type Material above. QUESTIONABLE PLACEMENT: (n=3) 4.2 mi. Arroyo Santo Tomas, 31.535497, -116.660687, EL Sleeper, CAS, 1♂; turnoff to Rancho Las Cruces 28 km S Santo Tomas on Mex. Highway 1, 31.38950, -116.32205, 19-VI-1977, d B Weissman, CAS, 2♂.