



FIGURE 6. Distribution of Ovatus Group species.

Aglaothorax khioneos Cole, Weissman, and Lightfoot, sp. nov.

Fig. 6 (distribution), Fig. 13 (male and female habitus, calling song, male and female terminalia, karyotype), Plate 4 (male terminalia), Plate 7 (female subgenital plate), Plate 10 (male titillators), Plate 14 (male calling song)

Common name. White Mountains Shieldback.

History of recognition. Previously treated as a population of *N. (A.) armiger* (Rentz & Birchim 1968). We describe this population as new based on morphological and phylogenetic evidence.

Type material. HOLOTYPE MALE: USA, CA, Inyo Co., Cedar Flat Group Camps, Inyo National Forest, jct. SR168 and White Mountain Road, 37.28385, -118.15546, 2276 m, 17-VII-2023, JA Cole, C Wong, DNA814, SING1435, JCR230817_003, deposited at CAS, Entomology type #20384. PARATYPES: (n=27) USA, CA, Inyo Co., same data as holotype, LACM, 6♂; SR168 and White Mountain Road, 37.28200, -118.02999, 2224 m, 23-VIII-2019, JA Cole, J Bailey, SA Downing, LACM, 1♂; Westgard Pass, 10 miles east of Big Pine on SR168, 37.2491, -118.1753, 1968 m, 15-VIII-2002, JA Cole, LACM, 1♂; Westgard Pass, 9.5 miles east of Big Pine on SR168, 37.2458, -118.1853, 1887 m, 13-VII-2003, JA Cole, JF Eguizabal, LACM, 1♂; White Mountain Road, 1.2 miles NW of SR168, 37.29290, -118.16749, 2283 m, 11-IX-2016, JA Cole, J Bailey, LACM, 3♂, 1♀; same data except 17-IX-2017, JA Cole, K Halsey, JAC, 1♂; 4-5 miles W of Westgard Pass, 37.300172, -118.245132, 1968 m, 19-VIII-1982, d B Weissman, CAS, 5♂, 1♀; Grandview Campground, 19 miles northeast of Big Pine off SR168 and White Mountain Road, 37.3332, -118.1923, 2610 m, 2-3-VIII-2005, JA Cole, LACM, 2♂; same data except 5-VIII-2004, JA Cole, LACM, 2♂; Pinyon Picnic Area, 4 miles north of SR168 on White Mountain Road, 37.3143, -118.1811, 2353 m, 2-VIII-2005, JA Cole, AMNH, 1♂; same data except LACM, 1♂; Mono Co., White Mountains, 37.578355, -118.207943, 14-VIII-1985, d M Martinelli, CAS, 1♀.

Measurements. (mm, ♂n=3, ♀n=3) Hind femur ♂17.51–17.96, ♀18.70–20.72, pronotum total length ♂12.01–12.64, ♀11.68–12.84, prozona length ♂5.21–5.53, ♀5.86–6.08, metazona dorsal length ♂6.62–7.22, ♀5.82–6.85, pronotum constriction width ♂3.69–4.20, ♀4.05–4.35, metazona dorsal width ♂7.86–8.10, ♀8.25–9.15, head width ♂5.34–5.54, ♀6.14–6.36, ovipositor length ♀17.15–18.35.

Distribution. White Mountains of California at high elevations above 1900 m.

Habitat. Pinyon-juniper woodland, arboreal on Utah Juniper (*Juniperus osteosperma*) and Pinyon Pine. Most males called from higher than 3 m in Pinyon Pines and junipers.

On favorable years populations occur in washes down to 1880 m elevation.

Seasonal occurrence. Summer (13-VII-2003, JA Cole, JF Eguizabal, LACM) into Fall (17-IX-2017, JA Cole, K Halsey, LACM). Late onset of adult activity due to high elevation occurrence.

Stridulatory file. (n=3) length 4.50–4.70 mm, 88–102 teeth, tooth density 20.6±1.4 (19.6–22.2) teeth/mm.

Song. (n=27). Pulse trains 40±10 ms in length repeat at a rate of 9.6±1.0 s⁻¹. Mean peak frequency is 13.98±2.30 kHz, with peak frequencies as high as 17.54 kHz in high frequency recordings. Echemes contain 2–5 pulse trains, with 1–3 (mean 1.65±0.60) s silent intervals between echemes.

Karyotype. (n=3) 2n♂=23 (22t+Xt), S82-75, T82-149, 150, 163.

male HOLOTYPE USA. CA: Inyo Co.
JAC000006537



female PARATOPOTYPE USA. CA: Inyo Co.
JAC000006543



male PARATOPOTYPE USA. CA: Inyo Co.
JAC000006540



calling song PARATYPE USA. CA: Inyo Co. 25.0°C JAC05GV2-06



karyotype PARATYPE USA. CA: Inyo Co. S82-75, T82-150



male terminalia PARATOPOTYPE USA. CA: Inyo Co. JAC000003020
R V



titillator PARATYPE
JAC000003019



female subgenital plate
PARATOPOTYPE JAC000003022



FIGURE 13. *A. khioneos* male and female habitus, calling song, male and female terminalia, and karyotype.

Recognition. Morphology, karyotype. Body usually green (may be tan at lower elevations), abdomen with longitudinal dorsal red stripe; body is wood brown without a dorsal abdominal stripe in *A. gurneyi* and usually tan in *A. armiger*. Black streaks present on the center of the pronotal disk, which are commonly limited to the periphery of the disk in *A. armiger*. Pronotum without white stripes as in *A. ovatus*. Male paraproct process with subapical ventrally directed tooth, unlike the apical, mesally directed tooth of *A. segnis* and *A. strobilion*. Male pronotum is not heavily rugose as in *A. giganteus* and *A. tinkhamorum*.

Etymology. Gr. *khioneos* snowy white. Descriptive of the White Mountains type locality.

Notes. Gene trees found conflicting relationships of this lineage: nDNA (Fig. 2) found *A. khioneos* related to *A. ovatus* and *A. giganteus*, while mtDNA (Fig. 3) found relationship with the eastern Mojave *A. armiger*, *A. segnis*, *A. strobilion*, and Colorado Desert *A. tinkhamorum*. The White Mountains are geographically situated between the Spring Mountains of Nevada and the Sierra Nevada of California, suggesting a hypothesis of gene flow when Ovatus Group populations were panmictic.

Material examined. See Type Material above.