

University's protected Jasper Ridge Biological Preserve is small. The unprotected population near Stanford's campus occasionally contains thousands of individuals and occupies a heavily grazed cattle pasture. I believe the grazing may benefit the cricket. In any case, these fields need protection while similar habitats in Santa Clara and Alameda Cos. are surveyed. I have searched for but found no additional populations.

Enclosures: Rehn and Hebard, 1918

Weissman and Rentz, 1977. Wasmann J. Biol. 35:87-114.

Vickery and Weissman, 1989. Pan-Pacific Entomol 65:68-73.

Tettigoniidae, Tettigoniinae, shield-backed katydids

Ateloplus joaquin Rentz, 1972. Proc. Acad. Nat. Sci., Philad. 124:41-77. Type locality: CA, Fresno Co., Jacalitos Canyon 6 M SSW Coalinga.

Comment: This species is known from only 2 males. Although oil drilling is pre-eminent in Jacalitos Canyon, there is also heavy grazing which threatens this katydid and Stenopelmatus nigrocapitatus (see above).

Enclosures: Rentz, 1972.

Ateloplus splendidus Hebard, 1934. Trans. Amer. Entomol. Soc. 60:31-55.

Type locality: CA, San Bernardino Co., Barstow. I have the following new record: CA, San Bernardino Co., 3 M W Essix.

Comment: The described allotype represents a different species. This taxon is thus known only from San Bernardino Co. We have spent considerable time searching for this species, without success.

Enclosures: Hebard, 1934.

Neduba extincta Rentz, 1977. Ent News 88:241-245. Type locality: CA, Contra Costa Co., Antioch.

Comment: The holotype is unique, collected in 1937. Additional specimens have been searched for, but the katydid may have been absent due to various climatic factors. These dunes are also the only known locality of the Category 2 shield-backed katydid Idiostatus middlekauffi (see below).

Enclosures: Rentz, 1977.

Acrididae, Oedipodinae, band-winged grasshoppers.

Trimerotropis bernardi Rentz and Weissman, 1984. Pan-Pacific Entomol. 60:227-237. Type locality: CA, San Bernardino Co., San Bernardino Mts.

Comment: This species is known only from the type and paratype localities, all higher elevations in the mountains.

Enclosures: Rentz and Weissman, 1984.

Otte, 1984.

Trimerotropis occulens Otte, 1984. The North American Grasshoppers, Vol. II. Acrididae, Oedipodinae. Harvard University Press, pages 204-205. Type locality: CA, Santa Barbara Co., Lompoc.

Comment: This species is known from only the type series, from 2 localities. Our efforts to locate additional specimens have been unsuccessful.

Enclosures: Otte, 1984.

Trimerotropis occidentaloides Rentz and Weissman. 1981. Univ. Calif. Publ. Entomol. 94:1-240. Type locality: CA, Los Angeles Co., Santa Monica Mountains.

Comment: This Santa Monica Mountain endemic is found in small scattered populations. At least 2 paratype localities have been developed since this species' description.

Enclosure: Rentz and Weissman, 1981.

Otte, 1984.

Conozoa hyalina (McNeill). 1900. Psyche 9:27-36. Type locality: CA.

Comment: McNeill did not actually describe this species until 1901, merely proposing the name in 1900. Otte (1984) and Strohecker et al. (1968) list this taxon from 4 Central Valley localities, the most recent collection being 1953. I have looked for the species in the Central Valley repeatedly without success.

Enclosures: McNeill, 1900.

McNeill, 1901. Proc. U.S. Nat. Mus.23:393-449.

Strohecker, Middlekauff, and Rentz. 1968. Bull. Calif. Insect Survey 10:1-177.

Otte, 1984. The North American Grasshoppers, Vol. II.

Acrididae, Oedipodinae. Harvard University Press, p 172.

Romaleidae, Romaleinae, lubber grasshoppers.

Spaniacris deserticola (Bruner). 1906. Biol. Cent. Amer., Orth II, p 187. Type locality: CA, Riverside Co., Indio. I have collected the following new records: Mexico: Baja California Norte; Hwy 2 at Km 15 W Mexicali. Sierra Pinta dunes 89 Km S Mexicali.

Comment: This is a localized, never numerous species. The only biological study is Tinkham (1975), who notes the elimination of 3 colonies of this species secondary to development. Two recent references are not cited in Tinkham and are included.

Enclosures: Bruner, 1906.

Tinkham, 1975. Great Basin Nat. 35:113-120.

Rehn and Grant, 1961. Mono. Acad. Nat. Sci., Philad. 12:1-257.

Strohecker, Middlekauff, Rentz, 1968. Bull. Calif. Insect Survey 10:1-177.

2. There are presently eleven Category 2 orthopteroid insects in California. I believe I have enough information on 6 taxa to warrant their upgrading to Endangered status.

Stenopelmatidae, Stenopelmatinae, Jerusalem crickets

Stenopelmatus cahuilansis Tinkham. 1968. Great Basin Nat. 28:124-131.

Type locality: CA, Riverside Co., Palm Springs. I have additional specimens from 4 localities. CA, Riverside Co., San Gorgonio River wash, 1.0 to 3.5 M W Snow Creek Rd. ("Fingal's Finger" area); Palm Springs, San Rafael Rd. near intersection Puerta del Sol; Windy Point area (near type locality); Thousand Palms, Ramon Rd. between Bob Hope Dr. and Interstate 10.

Comment: The information to reclassify this taxon is based upon the extensive survey work of Mr. Greg Ballmer, Department of Entomology, University of California, Riverside, specifically looking for this obligate sand species utilizing pit fall traps (see enclosed). Mr. Ballmer trapped farther N, E and S into the Coachella Valley ascertaining that this species appears restricted to a small area in the western part. These collection sites demonstrate that this insect can occur in sand on vacant lots if natural vegetation exists. These lots are being eliminated, hence the heightened threatened status. This Jerusalem cricket was frequently encountered at Windy Point during the 1970's (see, for example, Polis, 1979, J. Zool., Lond. 188:333-346), but ATV (all terrain vehicle) activity has destroyed those sand dunes.

Enclosures: Report of survey methods and results, Greg Ballmer.

Ammopelmatus kelsoensis Tinkham. 1965. Great Basin Nat. 25:63-72. Type locality: CA, San Bernardino Co., Kelso Dunes.

Comment: This insect is restricted to the Kelso Dunes and appears to have stable, if low population densities. The elimination of ATVs from the dunes several years ago has helped this species recover.

Ammopelmatus muwu Rentz and Weissman. 1981. Univ. Calif. Publs. Entomol. 94:1-240. Type locality: CA, Santa Barbara Co. Point Conception area. I have additional specimens: CA, San Luis Obispo Co., Oso Flaco Lake sand dunes.

Comment: The San Luis Obispo Co. locality is partially under protection of the Nature Conservancy, but contiguous sand dune areas are destroyed by all terrain vehicles. The type locality is owned by the Bixby Ranch Company. This species is an obligate coastal sand dune inhabitant.

Tettigoniidae, Tettigoniinae, shield-backed katydids.

Idiostatus kathleenae Rentz. 1973. Mem. Amer. Entomol. Soc. 29:1-211.

Type locality: CA, San Benito Co., Pinnacles National Monument.

Comment: This katydid still is known only from Pinnacles National Monument.

Enclosures: Rentz, 1973.

Idiostatus middlekauffi Rentz. 1973. Mem. Amer. Entomol. Soc. 29: 1-211.

Type locality: CA, Contra Costa Co., Antioch.

Comment: This katydid still is known only from the Antioch sand dunes, the presumed collection site of Neduba extincta (see above).

Enclosures: Rentz, 1973.

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Neduba longipennis Rentz and Weissman. 1981. Univ. Calif. Publs. Entomol. 94:1-240. Type locality: CA, Los Angeles Co., Malibu, at the southern base of the Santa Monica Mountains.

Comment: I have heard this distinctive songed katydid farther west also at the base of the Santa Monica Mts.: CA, Ventura Co., Point Mugu State Beach.

Enclosures: Rentz and Weissman, 1981.

3. The status of these 10 species is uncertain due to insufficient collecting, but our difficulty in obtaining more specimens indicates possible limited distributions. I consider these "species of concern" that warrant further study.

Stenopelmatidae, Stenopelmatinae, Jerusalem crickets.

Stenopelmatus pictus Scudder. 1899. Can. Entomol. 31:113-121. Type locality: CA, San Francisco Co., San Francisco. I have additional localities besides those listed in Tinkham and Rentz (1969): CA, Stanislaus Co., Modesto; Fresno Co., Fresno; Calaveras Co., Mokelumne River at Hwy 49.

Comment: The species has been eliminated from its type locality and most of the San Francisco Bay Peninsula. It remains in scattered localities in the San Joaquin Valley. Because this insect prefers flat grassland habitats, its populations are at risk from development.

Enclosures: Scudder, 1899.

Tinkham and Rentz, 1969. Pan Pacific Entomol. 45:4-14.

Gryllidae, Gryllinae, field crickets.

Gryllus brevicaudus Weissman, Rentz, and Alexander. 1980. Trans. Amer. Entomol. Soc. 106:327-356. Type locality: CA, Santa Clara Co., Palo Alto. I have collected these additional records, all from the San Francisco Bay area: San Benito Co., Hollister; Contra Costa Co., nr. Mt. Diablo State Park; Solano Co., 20 M NW Rio Vista.

Comment: I have been unable to locate populations between the San Francisco Bay area and San Luis Obispo Co.

Enclosures: Weissman, Rentz, Alexander, and Loher, 1980.

Tettigoniidae, Tettigoniinae, shield-backed katydids.

Neduba diminutiva Rentz and Birchim. 1968. Mem. Pacific Coast Entomol. Soc. 3:1-173. Type locality: CA, Contra Costa Co., Mt. Diablo State Park. I have collected the additional locality: CA, San Benito Co., Pinnacles National Monument.

Comment: Rentz and Weissman (1981) lowered this taxon to subspecies level because we discovered other subspecies in Southern California. Based upon more recent evidence of this species unique cytological and behavioral

characters, D.C. Lightfoot and I will raise this taxon back to specific level when we revise this genus in the near future. Interestingly, it apparently does not occur on the geographically intervening Mt. Hamilton, Santa Clara Co., although Rentz and I have searched for it.

Enclosures: Rentz and Birchim, 1968
Rentz and Weissman, 1981.

Neduba diminutiva malibu Rentz and Weissman.
Neduba diminutiva constrictans Rentz and Weissman
Neduba morsei tectinota Rentz and Weissman
Neduba morsei curtatus Rentz and Weissman
Neduba morsei costalis Rentz and Weissman

Comment: Rentz and Weissman (1981) described 4 new subspecies of Neduba from the Santa Monica Mountain area and 1 new subspecies from the Point Conception area. These taxa need to be searched for elsewhere within neighboring habitats.

Enclosures: Rentz and Weissman, 1981.

Acrididae, Oedipodinae, band-winged grasshoppers.

Microtes pogonata (Strohecker). 1963. Type locality: CA, San Luis Obispo Co., Grover City. I have collected additional specimens: CA, San Luis Obispo Co., Los Osos, coastal sand dunes.

Comment: I feel the paratype cited by Strohecker (1963) and repeated by Strohecker et al. (1968) from San Marcos Ranch, Santa Ynez Mountains, is mislabeled. This species is a coastal sand dune obligate.

Enclosures: Strohecker, 1963.

Strohecker, Middlekauff, and Rentz, 1968. Bull. Calif. Insect Survey 10:1-177.

Acrididae, Melanoplinae, spur-throated grasshoppers.

Melanoplus murieta Rentz. 1978. Acrida 7:165-196. Type locality: San Benito Co., Pinnacles National Monument.

Comment: This species is known only from the holotype and allotype, both from Pinnacles National Monument.

Enclosures: Rentz, 1978.

Please let me know if I can supply additional information.

Sincerely yours,

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