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## STUDIES IN NEARCTIC DESERT SAND DUNE ORTHOPTERA

### Part VII. A new dwarf race of *Plagiostira gillettei* from a Utah Dune, with generic key<sup>1</sup>

Ernest R. Tinkham<sup>2</sup>

In Part I of this series of studies, I reported a dwarf male of *Plagiostira gillettei* taken on the Coral Pink Dunes of southwestern Utah the night of August 3-4, 1958. Additional material of this form taken by Jacques Helfer of Mendocino, California, in the summer of 1960 is now available and indicates that this small race dwelling in sage brush on the Coral Pink Dunes at the considerable elevation of 6500 feet in the Pine Zone is worthy of racial recognition.

#### *Plagiostira gillettei utahensis*, n. subsp.

Considerably smaller than typical *P. gillettei* Caudell; differing from Utah specimens of *gillettei* by the presence of four nacreous spots on the prozona of the pronotum and by the broad nacreous border margining the lower edge of the lateral lobes of the pronotum, as well as by the more strongly flanged anterodorsal margin of the pronotum; from Nevada specimens of *gillettei* chiefly in its smaller size and more strongly flanged fore margin of the pronotum, the more rectangular dorsum of the pronotum, as well as by the parallel lateral carinae of the pronotum. From *P. albonotata* Scudder, with which it was associated, by its slightly larger size, the lustrous enamelling of head, pronotum and thorax and by the heavier pair of uncinat hooks on the internal subapical portion of each of the cerci. Other features include the pronotum which is broader and shorter, the anterior margin much more strongly flanged or reflexed dorsally, the strongly humped median section of the posterior margin, as well as the much more crenulately thickened lateral carinae of the pronotum. The dorsum of the metazona lacks the parallel dashes of dull Chinese white so characteristic of *albonotata*.

**COLORATION.**—The general ground color of head and thorax is a lustrous viridian, the head liberally lightened with satiny white on face and genae, the pronotum with the typical spots on the prozona and the lateral lobes of the pronotum with the lower margin broadly edged with nacreous. The mes- and meta-epimeron and episterna are lustrous viridian lightened by two diffused bands of nacreous. The abdominal segments are dark foliage green dorsally with irregular dorso-lateral and lateral stripes of satiny white;

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the posterior margin of each segment bearing a row of separated, rusty brown, spots.

TYPE.—Male. Coral Pink Dunes, 13 miles South of Mt. Carmel Junction, Kane County, Utah, elev. 6500 feet, Jacques Helfer. Calliper measurements: body length 21.8, pronotum, length 9.8 x 5.8 width; hind femur 19.5 mms. Type deposited in the California Academy of Sciences.

PARATYPES.—5 males. 4 males same as type; 1 male, same data but collected August 5, 1958, by Ernest R. Tinkham. Range in measurements: body length 18.5-23.0; pronotum 8.3-9.2 x 5.2-5.3; hind femora 17.5-18.7 mms. Paratypes similar to the Type in every respect and deposited in the collections of the California Academy of Sciences, Helfer and Tinkham Collections.

HOST.—The new race of *Plagiostira* was collected on the ridge of a steep slope of red sand, about 15 feet high, which was occupied by *Artemesia tridentata*, a little *A. filifolia* (Silver Sage) and some rabbit brush (*Chrysothamnus* sp.) Here also was found more commonly *Plagiostira albonotata*.

ORTHOPTERAN ASSOCIATES.—In the sage brush *P. g. utahensis* was associated with *P. albonotata* and a *Melanoplus* sp. near *pachardi*. On the dunes themselves atypical *Trimerotropis agrestis gracewileyae* was abundant in communities of Scurf Pea *Psoralea stenostachys*, and on the dune margins was the newly discovered *Trimerotropis arenacea* Rehn, a new record for Utah.

#### Key to the genus *Plagiostira* Scudder

1. Size large to medium, pronotum squarish or squarish-rectangular. No nacreous markings on the metazona. Subgenital plate from above rather broad and projecting only slightly beyond the apices of the cerci .....2
  - Size medium large to small. Pronotum narrowly rectangular. Nacreous markings present on both prozona and metazona of the pronotum. Subgenital plate narrow and projecting well beyond the apices of the cerci .....3
2. Size large, crenulated lateral margins of the pronotum broadest about the middle . . . San Raphael and Lahontan Deserts  
.....*g. gillettei* Caud.
  - Size medium. crenulated lateral margins of the pronotum practically parallel. Coral Pink Dunes: Pine Zone  
.....*gillettei utahensis* Tinkham
3. Size medium-large. Pronotum in profile distinctly subsellate. Nacreous markings on the prozona consisting of two short parallel streaks and with two long parallel streaks on the

metazona, the cephalic apices of which flare outwardly.  
eastern New Mexico; Mescalero sands

.....*mescaleroensis* Tinkham

Size small. Pronotum in profile almost flat. Pronotal length more than twice the pronotal breadth. Prozona with two pairs of nacreous spots and metazona with an inverted, white, straight-bottomed "U"-shaped design. Northern Arizona and southern Utah east to the Rio Grande in New Mexico .....

*albonotata* Scudder

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