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NEARCTIC DESERT DECTICIDAE (ORTHOPTERA)
PART I. A NEW GENUS FROM CALIFORNIA

Ernest R. Tinkham¹

Pctropedes, new genus

This genus appears to have closest relationships to *Inyodectes* Rentz and Burchim from which it differs by much larger size, strongly excavate inferior margin of the lateral lobes of the pronotum, the enormous tympanum, the different cerci, bispinose genicular lobes of the pro- and meso-femora, the unispined external genicular lobe of the caudal femora as well as other features; from *Eremopedes* Cockerell by the differently shaped pronotum and the emargination of the inferior margin of the lateral lobes of the pronotum, by the much larger tympanum, by the bispinose and not unispinose genicular lobes of the pro-femora, by the less prominent emargination of the ultimate notite of the abdomen with less forcipate arms, by the cerci and subgenital plate and by the ovipositor; from *Oreopedes* Rehn and Hebard by size, pronotum, tympanum, spination of the genicular lobes of all femora and many other features; and from other cremicolous genera by even more striking dissimilarities.

DIAGNOSIS:— Size, medium large; antennae, at least three times body length. Pronotum, about twice as long as broad, rounding into rather deep lateral lobes having inferior margin strongly excavate to expose enormous tympanum. Tegmina exposed for a length equal to that of metazona, its base pale, its apical portion jet black, and diagnostic. Ultimate notite of abdomen with median, moderately deep-shaped notch formed by moderate forcipate divaricating arms, much shorter than those of *Eremopedes*. Cerci moderately slender with one internal triangular, almost central, projection bearing a piceous, thin plate with 6-8 fine serrate teeth directed anteriorad. Subgenital plate subtriangular in male, with rounded ventro-lateral ridges and a shallow median posterior notch. Pro- and meso-femora with bispinose genicular lobes. Ovipositor, about length of body, strong and slightly recurved in apical half. Subgenital plate in female with a very shallow median posterior emargination.

DESCRIPTION:— Head slightly broader than deep (at clypeal suture); eyes roundly oval and subglobose; antennae at least three times body length. Pronotum with barrel long, rounding into lateral lobes, about twice as long as broad; anterior and posterior margins squarely truncate. Prozonal sulcus a very broad v-shaped shallow groove running to near fore margin of lateral lobes, thence continuing as a very broad shallow groove submarginally to almost posterior margin. Prozonal-metazonal juncture, dorsally, with a slight horse-shoe-shaped depression. True tympanum very large, roundly oval, fore margin slightly irregular due to prothoracic spiracle; its margin devoid of hairs. Tegmina exposed for a length equal to metazonal length. Abdomen with ultimate notite having divaricating forcipate arms forming a moderately deep v-shaped emargination. Cerci, diagnostic, relatively slender, with internal, almost median, triangular

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prominence bearing a dark sclerotized thin plate with 6-8 serrate, fine, teeth. Titillator arm straight, ventral keel very slightly curved apically, dorsal keel with row of retrose teeth. Subgenital plate narrowly triangular with round ventro-lateral ridges and a shallow u-shaped emargination posteriorly.

Leg spination: Forelegs with strong procoxal spine; fore femora with 3 strongly appressed aciculate teeth on central portion of external and internal ventral keels plus bispinose geniculae; fore tibiae with six pairs of long acuminate spines on the ventral keels and three dorsal external spines (one on so-called tympanum of authors, one median and one apical). Tarsi 3-segmented with ungues segment. Meso-femora with four pairs of ventral spines in apical two-thirds plus bispinose geniculae; mesotibiae ventrally as in protibiae, dorsally with 2 anterior and 4 posterior dorsal spines (leg in back position). Caudal femora with 6-8 external and 6-7 internal spines on ventral keels all in apical half. Caudal tibiae with 25-26 external and 23-25 internal teeth on ventral keels and 7 external and 3-5 internal dorsal apical teeth. Leg spination: forelegs with strong procoxal spine; fore femora with 3 strongly appressed aciculate spines on central portion of internal inferior keel plus bispinose geniculae; fore tibiae with six pairs long acuminate spines on ventral keels and three dorsal external spines, one on so-called tympanum of authors, one median and one apical. Tarsi 3-segmented plus ungues segment. Meso-femora with four pairs ventral spines on the apical two-thirds plus bispinose geniculae; mesotibiae ventrally as in protibiae; dorsally with two external and four internal spines (leg in back position). Caudal femora with 6-8 external and 6-7 internal teeth on ventral keel all in apical half. Caudal tibiae with 25-26 external and 23-24 internal ventral teeth and 7 external and 3-5 internal dorsal teeth.

TYPE SPECIES.—*Petropedes santarosae* Tinkham.

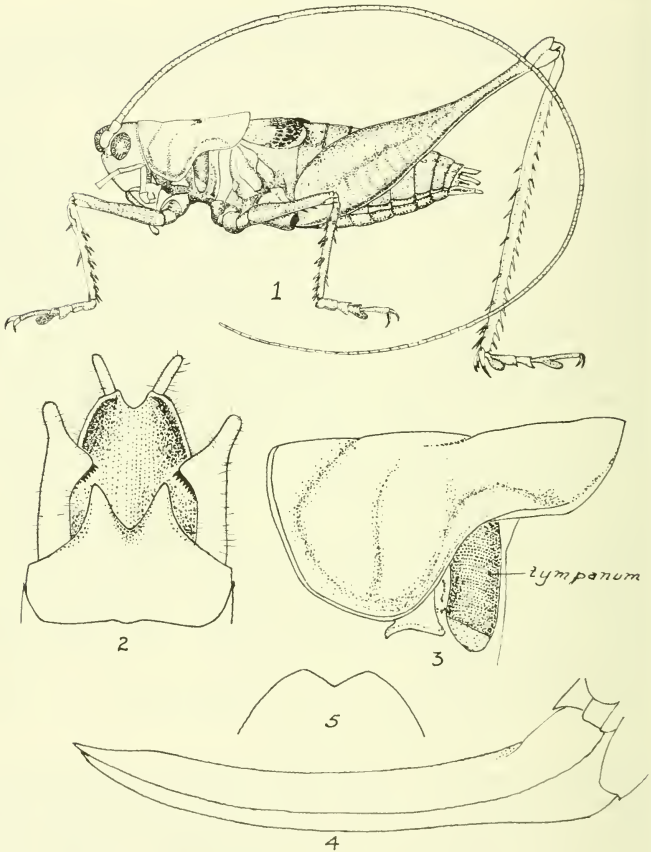
Petropedes santarosae, n. sp.

Coloration generally tawny or pale reddish brown, profusely mottled on abdominal notites with dark gray flecking, especially along posterior marginal area. Internal musculature of legs indicated by fine grayish infuscation. Tegmina pale with black infuscation in apical third, leaving posterior marginal area pale buff.

MALE HOLOTYPE:— Santa Rosa Mountains, Palms to Pines Hiway, 2000 feet elevation, 9-VIII-70; E. R. Tinkham; crossing pavement at night. Calipered measurements in mm: body length 24.8; head 5.0 x 6.8 at clypeal suture; pronotum 8.6 x 6.8; caudal femora 26.6; antennae approx 77.0. Type deposited in the Tinkham Eremological Collection.

FEMALE DESCRIPTION:— Size slightly larger than holotype; ovipositor as described. Subgenital plate rounding without ventro-lateral ridges as in male; posterior margin circularly rounded with very shallow v-shaped emargination.

FEMALE ALLOTYPE:— Same data as holotype but collected 5-VII-69. Calipered measurements in mm: body length 29.9, length to ovipositor 46.8;



Figs. 1-5. *Petropedes santarosae* Tinkham: 1, male holotype; 2, genitalia of male holotype showing ultimate notite, cerci, and subgenital plate; 3, lateral aspect of pronotum and tympanum of male holotype; 4, lateral aspect of ovipositor of female allotype; 5, posterior portion of subgenital plate of female allotype.

ovipositor 20.2; pronotum 8.2 x 7.2 in maximum breadth at inferior marginal flange. Allotype in the Tinkham Eremological Collection.

MALE PARATYPES:— Same data as holotype except: 3, 26-VI-66; 4, 26-VII-66; 3, 9-VII-70; 2, 10-VII-70. All male paratypes very closely similar to holotype in every respect. Calipered range measurements in mm as follows: body length 23.8-25.0; pronotum 8.1 x 5.9 to 9.2 x 7.0 breadth; caudal femora 25.8-29.9, antennae approx. 86.8. Paratypes to be exchanged with major Orthopterological museums.

FEMALE PARATYPES:— Closely similar to allotype except: 2, 26-VI-66; 1, 3-VII-67; 2, 9-VII-70; 1, 4-VII-70 (after light rain). Calipered range measurements in mm: Body length 25.0-30.0; length to apex of ovipositor 41.0-46.8; ovipositor 23.0-18.8; pronotum 9.5 x 7.5 to 9.1 x 7.3; caudal femora 31.1-28.8. Deposition as noted above.

HABITAT:—*Petropedes* inhabits the steep, rocky, northern slopes of the Santa Rosa Mountains in a rather narrowly defined altitudinal zone ranging from 1900 to 2200 feet elevation; the optimum being about 2000 feet. This belt, although within the areal limits of the Colorado Desert, is, due to its considerable elevation, more accurately Gila Desert because of the presence of the indicative Mohave yucca (*Yucca schidigera*). Other dominants and codominants include: desert agave (*Agave deserti*); cheese bush (*Hymenoclea salsola*); desert sweet (*Bebbia juncea*); desert sunflower (*Viguiera deltoidea*) and other rarer plants that occupy their niches in and among the boulders and rocks of this habitat. Even more preferred are the rocky road cuts of this highway for *Petropedes* is truly a rock-inhabiting dectid.

BIOLOGY:—Little is known about their life history at present, as the creature was only found crossing the pavement at night. Its saltatorial powers are considerable. Its song is very weak which may explain the enormous tympanum. The eggs probably hatch during the winter rains. In 1971, a drought year, collecting failed to reveal any specimens in the optimum zone of habitation. In a xeric environment the Orthopteran associates included: *Ateloplus notatus*, *Capnobotes fuliginosus*, *Poecilotettix sanguineus*, *Oedomerus* sp., *Melanoplus* sp., and *Stagmomantis californicus*.

Petropedes spinosa (Hebard), n. comb.

Eremopedes spinosa Hebard, 1923, Proc. California Acad. Sci. 12(15):337 figs. 10-13.

For many years the identity of this Mexican dectid described from Mejia Island in the Gulf of California has been a mystery. There is now no question that it is a member of the genus *Petropedes* Tinkham but at present nothing is known about its biology and little about its habitat.

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