A NEW SPECIES AND VARIETY OF SCOLOPS WITH NOTES ON OTHERS (RHYNCHOTA FULGORIDÆ)

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While working up recently collected material in the genus *Scolops,* the writer was impressed with the fact that most species had definite food plants to which they were apparently confined, and that in no case was the food plant a grass as Dozier and others have suggested. The fact that *osborni* Ball feeds exclusively on the compass plant of the lower plains region (*Silphium laciniatum* L.) has already been recorded. The writer on checking over his notes found that at least four other species, one of them being new, were apparently confined to different members of the Compositæ, two to different members of the Chenopodiaceæ and one to an Euphorbiaceæ. The two most widely distributed species of the genus, *sulcipes* Say and *pungens* Germ., are found abundantly in weedy and waste places and are likely to be found to be Compositæ feeders also. Breakey states that the typical habitat of the group is in moist places near the edge of woodlands and in low spots in the prairies. This, however, conveys a decidedly erroneous impression of their habits as observed by the writer. They are lovers of hot, dry and open situations, and are rarely found in damp or shaded locations.

S. robustus Ball has been found by the writer feeding exclusively on the perennial ragweed (*Ambrosia psilostachya* D. C.) in Colorado, Utah, and Arizona. *S. viridis* Ball, a pale green species, is exactly the color of the foliage of the saltbush (*Atriplex canescens* James), on which the writer has always found both nymphs and adults feeding.

Scolops graphicus Ball, new species

Intermediate in size, form, and color markings between *maculosus* Ball and *uhleri* Ball, and resembling *stonei* Break. in color and pattern, but much smaller. Dark gray with irregular white streaks and flecks, strikingly resembling the dorsal pattern of an eastern quail or meadow lark. Length, 6-7 mm.

Cephalic process slightly longer than in *maculosus,* much narrower and straighter, not as long as in *uhleri,* but even more slender. Elytra very broad and short giving a peculiar and characteristic truncate appearance. Cubitus forking just back of the junction of the claval veins, and medius forking distinctly beyond the cubitus.

Color dark, smoky, with broad white costal margins, a pair of narrow wavy stripes along the inner-claval veins, a secondary stripe arising on cubitus before the fork and fusing posteriorly with the inner stripe. These two stripes set off a definite dark brown or black stripe centering on medius with four or five white dots along the vein and a row of black spots around the apex. Vertex greenish with a pair of obscure spots; disk of pronotum white with a pair of dark spots. Scutellum with a broader median wavy stripe and a pair of widely separated dots. Heavily marked examples lose the inner pair of ivory stripes.

Holotype, female, allotype, male (in E. D. Ball collection) and four paratypes taken by the writer on the "match brush" or rayless goldenrod (*Gutierrezia californica*) at Yarnell Heights, Arizona, October 8, 1929, and six paratypes taken at Cline, Arizona, August 2, 1929, on the same plant. Only nymphs were taken July 14, adults and nymphs later in July and August, and only adults in October. This is the smallest species yet described and it appears to be strictly confined to this very fine-stemmed plant.

Scolops uhleri Ball has been taken by the writer many times on the annual *Dondia depressa* Wat. growing in alkali areas in western Colorado and southern Utah.

Scolops uhleri marginatus Ball n. subsp.

Resembling *uhleri* in general size and form, but usually larger and lighter colored with a pair of broad smoky or black stripes just inside the costal ivory stripes. The dark stripes with only two or three light spots on the veins. About four black spots at the apex. Cephalic process slightly shorter and much darker than in typical *uhleri.* Length, 7-8 mm.

Holotype, female, and allotype, male (in E. D. Ball collection), taken by the writer near Sacaton (labeled Tucson), Arizona, June 19, 1929, and six paratypes taken at St. George, Utah, July 24, 1908 (Ball), and Glendale, Nevada, June 9,

1928 (E. W. Davis). This may prove to be a distinct species when more material is available for study. At least it is a distinct subspecies apparently confined to the subtropical Southwest. All specimens taken have been from the perennial shrub (*Dondia torreyana* Wat.). Large nymphs and just emerging adults were taken June 8 by the writer and only a few adults were found June 23.

S. perdix Uhl. was taken by Mr. Stone and the writer in abundance June 22, 1927, at Sanford, Florida, on a ridge in a flat woods area where the narrow-leaved sunflower (*Helianthus angustifolius* L.) appeared to be the only possible food plant. The known distribution and abundance of this species coincides very well with the distribution of this plant.

S. stonei Break. This very distinct species was found by Mr. William E. Stone (for whom it was named), Mr. J. A. Reeves, and the writer, to be confined entirely to the milky-juiced "queen's delight" (*Stillingia angustifolia* Torr.). Small nymphs were found at Sanford, Florida, in June, large nymphs and adults in July, and adults only in August and early September.

Both nymphs and adults of *S. snowi* Break. were taken by the writer on goldenrod (*Solidago trinervata*) at Long Valley, Flagstaff, and Williams, Arizona, in August 1929.

Breakey gives California and Idaho under the distribution of *S. hesperius*. The writer, who has made long series of collections in both areas, is inclined to believe that those were erroneous determinations and that *hesperius* is a plains' species extending from Dakota and Montana south to Texas. His statement that Ball records *osborni* from Ohio is in error. *S. osborni* Ball was described from Iowa and Kansas. The writer agrees with him in doubting the distribution records of *S. grossus* from California and New Jersey and would add Idaho. *S. grossus* is, like *hesperius,* only known from the plains region. Breakey describes *S. viridis* Ball as "cephalic process long and slender," but places it in his key under "cephalic process short."