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CONCERNING *SCOLOPS COCKERELLI*, (HOMOPTERA,
FULGORIDAE).*

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In his paper on the genus *Scolops* (Kansas University Science Bulletin, Volume XVIII, page 417, 1928), Breakey comes to the conclusion that *Scolops cockerelli* Fowler is a synonym of Ball's *Scolops robustus*. On pages 427-428 he records the comparison of specimens of a number of closely related species with the type specimen of Fowler's species by Mr. W. E. China of the British Museum. As a result of these comparisons Breakey felt that there were no differences between the two species mentioned above that were specific, or that could not be accounted for by the slight variation in size, color, etc., which are known to exist within the species.

After Breakey sent his paper to press the writer while examining a series of *Scolops* specimens from Texas, collected by members of the 1927 Entomological

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Survey party of the University of Kansas, ran across a number of specimens which seemed different from any he had ever seen and which seemed quite close to the specimen described and figured by Fowler. A pair of these specimens were sent Mr. China for comparison with the type, who reported that while there were minor differences between these specimens and the type, yet, in the essential features they were alike, the cephalic process was the same in the two males and that, "we can safely identify your specimen as *S. cockerelli*." Mr. China had always reported, in comparison with previous specimens of several species sent him by Mr. Breakey that in his judgment *S. cockerelli* was unlike anything he had received before. His feeling as to the identity of the specimens in this case, coupled with our own judgment that these specimens were probably identical with Fowler's species, makes us reasonably sure that the species is distinct and that it is not a synonym of *S. robustus* Ball.

A comparison of a large series of the two species shows that Ball's species is definitely smaller and the cephalic process is shorter and more slender. Moreover the elytra do not become as deeply colored with dark brown as in the darker specimens of *S. cockerelli*. This opinion is strengthened by Van Duzee's determination of a specimen from Mesilla, New Mexico, which is within forty-five miles of the type locality, as a specimen of this species. This specimen is identical with the specimens before the writer which were taken as follows: Potter County, Texas, R. H. Beamer; Canyon, Texas, L. A. Stephenson; Amarillo, Texas, P. A. Read; Amarillo, Texas, L. D. Anderson. All these specimens were taken July 7, 1927. Doctor Beamer reports that most of the specimens were taken from the somewhat ranker vegetation in what appear to be small dry lake beds which are scattered over the plains.

The following is the description of the female which Mr. China compared with the type, and which may be designated as the allotype:

A greenish-yellow species with tegmina usually heavily marked with brown. Length from tip of process to tip of tegmina 8 mm. Cephalic process 1.3 mm. long.

Structural Characteristics: Cephalic process about two-thirds as wide at sulcus as vertex, about as long as front, broadest at sulcus, tapering gradually to the rounded apex. Vertex with lateral carinae strongly developed; median carina obsolete. Front widest across basal angles, margins converging gradually till near sulcus, then suddenly constricted; with five carinae, the middle one fading out near sulcus. Clypeus with strong median carina. Pronotum with marginal and submarginal carinae distinct; central disc but little wider than long, the median carina prominent; posterior margin broadly concave. Scutellum about two-thirds as long as wide; central disc with lateral carinae distinct, with median line slightly raised anteriorly and slightly depressed posteriorly. Cubitus and media of tegmina forking near junction of second and third anal veins.

Color: Pale yellow, tinged here and there with greenish, the elytra heavily marked with dark brown in well colored specimens. Vertex yellowish, tinged with brown, shiny, with a pair of small black spots anteriorly. Cephalic process yellowish with a narrow dark line in dorsal groove and two broader dark lines along lateral carinae. Lateral compartments of front spotted with brown, central compartments and clypeus unmarked. A large black spot below postocu-

lar process. Pronotum pale yellow, with four black spots directly caudad of vertex and a pair of very small ones caudolaterad of these. Scutellum darker than pronotum, tinged with green, with four large indefinitely-margined black spots. Tegulae brown. Elytra pale yellow but so heavily marked with brown that the yellow shows only in small spots along the veins and particularly in caudal part of costal cell, in large light spots at forking of both media and cubitus and along first sector of cubitus; elytra appearing much more distinctly mottled than in *S. robustus*. Below yellowish, mottled with brown, fore and hind legs darker and spines of hind legs black.

Taken by Dr. R. H. Beamer, Potter County, Texas, 7/7/27.

Another specimen, designed as the holomorphotype, agrees in color with the above description except for a few extra brown spots on the pronotum and a longer elytra, which extend much beyond the abdomen, give the insect a narrow-darker scutellum which bears two large black spots on its cephalic margin. The elytra are more elongate appearance. Taken by L. D. Anderson, Amarillo, Texas, July 7, 1927.

In over twenty other specimens of this species taken in the same region, one sees a considerable variation in color. The teneral specimens are decidedly greenish and the others range in color from a brownish-green to a rather dark brown in the darkest specimens.

Types deposited in the Snow Entomological Collection.