Article XI.—NOTES ON SOME SPECIES OF NORTH AMERICAN ORTHOPTERA, WITH DESCRIPTIONS OF NEW SPECIES.

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In advance of a descriptive catalogue of the Orthoptera found within a radius of fifty miles of New York City and adjacent districts, the following notes and descriptions of some apparently new species are presented.

Nemobius affinis, sp. nov.

Shining, head and thorax fusco-testaceous or wholly piceous and sparsely covered with rather long hairs. Antennæ longer than the body. Wing covers of the female not reaching the tip of the abdomen, and with a paler line along the angle where the wing covers turn down at the sides. In the male the wing covers extend to the tip of the abdomen. Hind wings absent in both the sexes. The abdomen above is blackish, with faint traces of some paler spots; on the underside the body is wholly testaceous, as are also the legs, but somewhat darker. Anal cerci extending beyond the ovipositor, which points obliquely upwards. Length of body about 6-8 mm.; ovipositor of female, 3-4 mm.; cerci, 3.5-4 mm.

Types: males and females, Coll. Am. Mus. Nat. Hist.

Collected in Connecticut and different places in the vicinity of New York City; also taken in abundance on Staten Island by Mr. Davis.

Closely allied to *Nemobius fasciatus*, form *vittatus*, but smaller and more shining. It also differs by the shortness of the ovipositor, it being about one-half as long, and by having the abdomen wholly testaceous beneath. The stridulation is a long, continuous, soft, rolling *whirrrrrr*. The insect occurs from the latter part of July until frost. It is found in the same places as *Nemobius fasciatus*, and is rather common.

This is the species described by Mr. W. S. Blatchley in the Proceedings of the Indiana Academy of Sciences, 1891, p. 136, as *Nemobius exiguus* Scudder. Dr. Scudder did not describe an insect under this name, but simply refers to Say's *Acheta exigua*

(Bost. Soc. Nat. Hist., Vol. VII, 1862, p. 429). Say's description of this latter species agrees fairly well with the little Cricket known to us at present as Anaxipha pulicaria (Burm.). This latter species was described from Jamaica, and is probably different from Anaxipha exigua.

Ecanthus nigricornis Walker.

(Ecanthus fasciatus DE GEER, FITCH, Rep. Nox. Ins. N. Y. Trans. N. Y. Agricul. Soc. 1856, p. 414 (in error).

Œcanthus nigricornis WALKER, Cat. Derm. & Saltat. Brit. Mus. Gryllidæ, 1869, p. 93.

The description of *Œcanthus nigricornis* Walker agrees very well with the long-winged form of the species described by Fitch under the name of *Œcanthus fasciatus* De Geer. Fitch, however, erroneously mistook his insect for DeGeer's Gryllus fasciatus, which is a Nemobius. Consequently he did not give a name to his species, and Walker's name nigricornis should be used.

It is jet black with yellowish green elytra and wings. The first two joints of the antennæ have two black marks on each, those on the first joint usually confluent at the apex. These marks are mostly always obscured by the black ground color of the antennæ. It is found on low bushes in open fields and roadsides, and stridulates in the hottest sunshine. The stridulation is a long and comparatively loud, continuous whirrrrr, often lasting several minutes.

Ecanthus 4-punctatus, sp. nov.

This name is proposed for the wholly pale green species with two black marks on the underside of the first two basal joints of each antenna, the innermost mark on the first joint nearly as long as the joint, and the outer one in shape of a spot; on the second joint the marks are oblong and nearly equal. antennæ are fuscous except the basal joint, which is pale green. The insect is at present known to us as a variety E. nigricornis. It is certainly distinct. since it does not breed together with nigricornis. Amongst the many individuals collected or observed by me in the field in coitu. I have never been able to find E. 4-punctatus in coitu with E. nigricornis, but always found the two species breeding separately.

'Measurements.-Male: Length of body, 10 mm.; pronotum, 2.5 mm.; wing covers, II mm.; hind femora, 7.5 mm.; width of wing covers, when folded, 5 mm. Female: Length of body, 10 mm,; pronotum, 2.5 mm.; wing covers, 10 mm.; hind femora, 7 mm.; width of wing covers, when folded, 3 mm.

Lives on low bushes in open fields, and the stridulation is the same as that of E. nigricornis.

Œcanthus angustipennis Fitch.

Fitch's description of *Œ. angustipennis* is entirely too brief for recognition of the species he intended to describe. It applies equally as well to E. 4-punctatus as to the insect determined by recent writers as Œ. angustipennis. Whether the latter has been correctly determined or not can never be definitely ascertained, as Fitch's type of the species, as well as all his other species of Œcanthus, have been destroyed. I would propose that the name (E. angustipennis, nevertheless, be retained for the species so well known to us by this name. It may be easily recognized by being wholly pale greenish white, with the wing covers narrow, and by having one black mark on each of the first two basal joints of the antennæ; the one on the first joint elongate and hooked at the base, with the hook turned inwards; and the mark on the second joint shorter and slightly curved. The stridulation is a faint continuous reeeeee, lasting about five seconds, and terminating abruptly, and with an equal interval of rest. It inhabits the high branches of trees, and is very seldom found on low bushes and shrubs. It stridulates late in the afternoon and by night.

Scudderia fasciata, sp. nov.

Head green, with a white line in front and a yellowish mark at the sides; basal joint of antennæ green, following joints testaceous, becoming darker towards the extremity; pronotum dark grass green, paler at the side, and a rather broad yellow stripe along the lateral carina; wing covers dark grass green with a yellowish brown line running along the inner margin, and preceded by a blackish line running from the base to the apex; another blackish line runs along the costal vein; hind wings transparent, veins green and a green patch at the apex with a blackish dash; sides of abdomen green, above purplish; underside with a white and purplish stripe on each side, green along the middle; tip of anal spines of the male and ovipositor of female reddish brown; anterior legs green, femora testaceous at base; middle legs green; hind legs green, with the femora marked with black outside; tibiæ with black spines; tarsi of all the legs purplish brown; the anal spines are like those of S. angustifolia and S. furcata.

Measurements.—Male: Length of body, 18 mm.; pronotum, 4 mm.; posterior femora, 18 mm.; wing covers, 25 mm. Female: Length of body, 21 mm.; pronotum, 4 mm.; posterior femora, 17 mm.; wing covers, 21-23 mm. Expanse, male, 61 mm.; female, 50 mm.

Types: three males and three females, Coll. Am. Mus. Nat. Hist. Collected at West Woodstock, Windham Co., Conn., on pine trees, September.

Scudderia truncata, sp. nov.

Somewhat resembles Scudderia pistillata in general appearance, but is considerably smaller. The wing covers are narrower and of almost equal width, with the costal margin curved; apex rounded; the eyes are larger and more protruding; pronotum narrower in front than behind, not much longer than broad. Supra-anal plate of male with no elongated process, but abruptly pointed with the apex truncate and minutely notched. The subanal process is long and slender, and abruptly turned upwards; much less curved than that of S. pistillala.

Measurements.—Male: Length of body, 15 mm.; wing covers, 26 mm.; posterior femora, 19 mm.

Described from a single male taken by the late Henry Edwards at Vineland, N. J. Type, Coll. Am. Mus. Nat. Hist.

This is probably the insect referred by Brunner von Wattenwyl to Scudderia angustifolia Harris (Monograph Phaneropteriden, 1878, p. 241). His description of the insect agrees with the specimen before me. Harris's angustifolia, however, was recently determined for me by Prof. Lawrence Bruner and Mr. W. S. Blatchley, and their determinations are alike, but differ from Brunner von Wattenwyl, and I am inclined to believe the former are correct. Harris's angustifolia is allied to S. furcata, while S. truncata is allied to S. pistillata. The figure of angustifolia in Harris's 'Report on Insects Injurious to Vegetation' agrees better with Bruner's and Blatchley's determinations than it does with that of Brunner von Wattenwyl.

Melanoplus punctulatus (Scudder).

The habits of this species are very different from those of the other members of the same genus. Instead of being an active creature, and living on the ground amongst grass like other species of Melanoplus, it inhabits pine trees, and is sometimes found in numbers on the same tree. It is quite sluggish, and may be easily taken without it making any or much effort to escape capture. Found during August and September.