

## A New Species of *Nemobius* from North Carolina (Orthoptera: Gryllidae).<sup>1</sup>

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*Nemobius sparsalsus*<sup>2</sup> new species.

This species was found in a strip of marsh grass, *Spartina stricta*, bordering a shallow sound near Carolina Beach, sixteen miles south of Wilmington, North Carolina. Its presence was detected by its distinctive type of song.

*Type*; female; Carolina Beach, N. C., Sept. 12, 1928. *Types* deposited in the U. S. National Museum.

Size large for the genus. Head as wide as pronotum. Eye 1.4 times as long as wide. Length of segments of maxillary palpus as follows: third 1.0 mm., fourth .7 mm., fifth 1.5 mm. Diameter of fifth segment increases gradually to tip which is slightly obliquely truncated; diameter at tip .35 mm. Pronotum 2.6 mm. long; greatest width at middle 3.4 mm.; slightly narrower at anterior and posterior margins; median line impressed; covered with fine brown pubescence and scattered black bristles. Tegmina cover about half the abdomen; dorsal

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<sup>2</sup> From *Spartina*, marsh grass and *salsus*, salt.

field obliquely truncated; intermediate channel rather wide, distally narrowing to three-fourth of width at middle. Dorsal field of right tegmen with three complete veins, the external one forked, and a fourth nearly complete vein. Dorsal field of left tegmen with only one complete vein, which is forked, and a vestigial second vein. Hind tibia four-fifths and tarsus three-fifths the length of the femur. Spurs and spines of hind tibia unusually long for the genus; disto-ventral spurs very unequal in length; the longest inner spur (2.9 mm.) reaches the base of the disto-internal spur of the metatarsus; disto-internal spine nearly equals longest spur (2.7 mm.). Ovipositor slightly shorter than hind femur; with a slight but distinct curve about the distal third; upper edge nearly straight at tip, with low rounded teeth; extreme tip of upper rods obliquely truncated.

Color nearly uniform dark sepia, becoming nearly black on occiput, pronotum, dorsal field and upper portion of lateral field of tegmina. Proximal portion of hind femora lighter sepia. Faint trace of four lighter longitudinal lines on occiput.

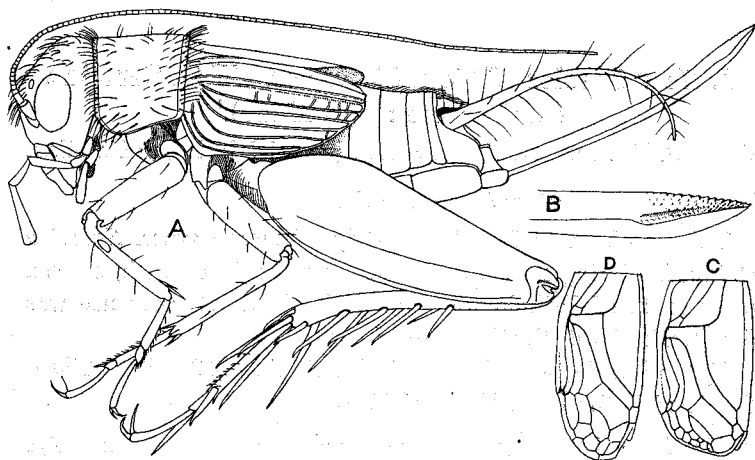


Fig. 1. *Nemobius sparsalsus*, new species. A. Lateral view of type. B. Enlarged view of tip of ovipositor. C. Dorsal field of tegmen of allotype. D. Same of *N. fasciatus socius* from Wilmington, N. C.

Exposed abdominal tergites each with pair of small slightly lighter blotches at level of cerci. Ovipositor black, tip dark reddish brown. Maxillary palpi sepia, distal portion of fifth segment darkest. Head, pronotum and tegmina shiny.

Allotype; male; same data as type. Similar to female in general structure and color. Tegmina broad and cover a little more than half the abdomen; distal margin of dorsal field broadly curved and oblique, apical area broader than long;

longest part of dorsal field near the fold and but little longer than lateral field. Proximo-internal spine of hind tibia specialized as in other native species.

Tegmina entirely dark sepia including all the veins. Exposed abdominal tergites black with fine brownish pubescence, concealed tergites shining black. Sixth and seventh abdominal tergites with paired obscure lighter spots at level of cerci.

Paratypic series; seven females, five males; same data as type. All of the females have the stout, slightly curved ovipositor with minutely truncate tip. All males have the obliquely truncated tegmina. No long-winged forms are present. With the exception of one female, the general coloration is dark sepia to black. In the exception noted all parts except the dorsum of abdomen and ovipositor are medium sepia, slightly mottled on head and pronotum but otherwise uniform. Dorsum of abdomen blackish and shows two paired rows of obscure lighter blotches on the exposed tergites, the additional rows above the level of the cerci. Measurements in millimeters:

	Pronotum Length	Tegmen	Hind Femur	Hind Tibia	Ovipositor
Type .....	2.6	4.4	8.4	6.8	7.5
Allotype .....	2.3	5.0	7.6	6.2	-
Paratypes					
Females .....	2.1-2.6	3.6-4.7	6.8-8.5	5.5-7.0	6.4-7.5
Males .....	2.0-2.3	4.0-5.0	6.5-7.6	5.3-6.2	

Comparisons: The spurs and spines of the hind tibiae are relatively longer and in the larger specimens actually longer than those of any species examined. The minutely truncated tip of the upper rods of the ovipositor is a distinct character and on account of the mucky nature of the ground where the species is found, it could hardly be due to wear from the use of the organ in oviposition.

The species is distinct from *N. carolinus* and *N. confusus* by the unequal length of the disto-ventral spurs of the hind tibiae. It resembles *N. cubensis* and *N. palustris* in the curvature and shape of the tip of the ovipositor; even the minute truncation of the upper rods is approached in some specimens of these species by the rather sudden curvature of the lower margin of the upper rods close to the apex. It also resembles the last two species in the uniform dark coloration, but differs greatly from them in body size and length of ovipositor. From the subgenus *Allonemobius* the new species differs in the curvature of the ovipositor. It also differs further from *N. maculatus* and *N. ambitiosus* by the uniform body coloration; from *N.*

*griseus* and *N. griseus funeralis* by the lack of contrasting colors in the tegmina. In size it resembles only *N. fasciatus* and averages larger than the *N. fasciatus socius* which inhabits the same general region. It differs from all races of *N. fasciatus* by (1.) the stouter and more curved ovipositor, (2) the uniform dark color of the tegmina which in *N. fasciatus* generally have distinctly lighter veins or areas, (3) the uniform color of the pronotum, (4) the obliquely sub-truncate apical margin of the dorsal field of the male tegmina, extending but little beyond the lateral field. In dark specimens of *N. fasciatus* the lateral lobes of the pronotum are black above and the ventral margin is pale, even the blackest specimens generally have a pale spot of the ventro-caudal angle. In *N. fasciatus* the apical area of the dorsal field of the male tegmina is rounded and reaches its greatest caudal extension near the middle.

*Habitat*: The species was found only in the thick growth of marsh grass, *Spartina stricta*, which is one of the dominants in the salt marshes of the North Carolina Coast, forming a zone bordering the brackish sounds. The grass grows about a foot high in a black silty mud which is partly or entirely submerged at high tide. The crickets live about the crowns of the grass and on the ground where they must have to be constantly on the alert to avoid the fiddler crabs which overrun the place.

It was practically impossible to collect the crickets by sweeping in the high grass. The series was obtained by holding the open net on the ground and herding the crickets into it by tramping down the grass.

*Song*: My attention was first attracted to the species by hearing the unique type of song. Its song is more varied in character than that of any species of the genus I have observed. The usual calling song consists of short notes about one per second at 80° F or about 3 notes per 5 seconds at 70° F. The pauses are of briefer duration than the notes. The sound is high-pitched but rather weak and wheezy for the size of the cricket. Each note increases slightly in volume and pitch after starting. There is no rhythmical regularity about the repetition of notes. Often when starting to sing and at irregular intervals

during the song a longer and louder note, 2 to 3 seconds long may be introduced.

When actively courting the female, the male resorts to short sharp chirps, 3 or 4 per second, but no louder than the longer notes. At times the long and very long notes and the short chirps may be mixed up promiscuously in the same song.

The only other cricket song heard in the *Spartina stricta* zone of the salt marshes was the silvery tinkling song of *Anaxipha exigua*.