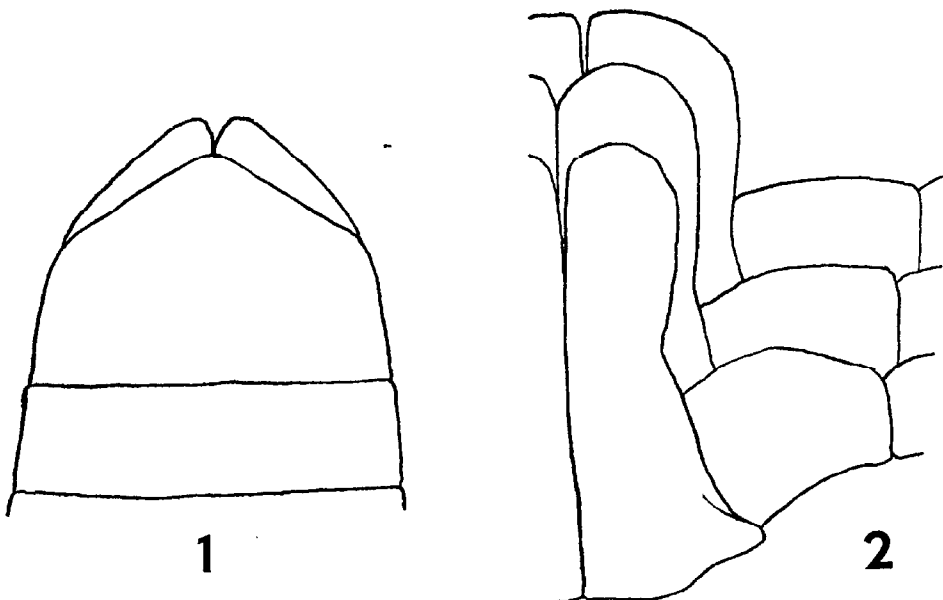


*NARCEUS WOODRUFFI*, NEW SPECIES, A FLORIDA  
MILLIPED (SPIROBOLIDA: SPIROBOLIDAE)

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Florida, with representatives of three genera of spirobolid millipeds, is the most important center of speciation of this order east of the Rocky Mountains (Causey, 1955). There are no records from more than half of the counties, but with careful collecting, all should yield one or more species. In Alachua County, for example, four species have been collected.

The most restricted spirobolid genus in Florida is the monotypic *Floridobolus* (Causey, 1957; Keeton, 1959), which is known from only one locality in Highlands County. Four forms of the genus *Chicobolus* occur from Key West north into the panhandle and on through Georgia and into South Carolina. The complex genus *Narceus* occurs from Key West north into the New England States and west as far as 97° longitude; in Florida, where it has attained its greatest diversity, some forms have overlapping ranges.



*Narceus woodruffi*, new species, male holotype. Fig. 1. Last two body segments, dorsal view. Fig. 2. First two segments of the right legs of the third, fourth, and fifth pairs, cephalic view.

The male gonopods are so uniform throughout the genus *Narceus* they are of little value for making specific determinations. The taxonomy is based chiefly upon the shape of the coxal lobes of the legs anterior to the gonopods; also the following somatic characters have varying and unequal value: size, ratio of body thickness to length, color, shape of the collum, height of the mesial margin of the anal valves, and the size and distribution of the microscopic puncta on the exoskeleton.

*Narceus woodruffi* is the smallest, darkest, and has the most restricted range of any species of the genus. It is named for Mr. Robert E. Woodruff, who collected the holotype.

*Narceus woodruffi*, n. sp.

Figures 1 and 2

**DIAGNOSIS:** Distinguished from all other species of the genus by the rectangular, elongated, and subequal coxal lobes of legpairs 3, 4, and 5 of the male, and by the dark black-brown color, the small and relatively thin body, and the low mesial margins of the anal valves.

**TYPE LOCALITY:** 4.2 miles south of Hawthorn, Putnam County, Florida. "The habitat," wrote Mr. Woodruff, "is known locally as high pine-turkey oak and contains an unusual association of plants and animals. The milliped was dug from beneath a pile of cow dung."

**RANGE:** Known only from Putnam and Alachua Counties, Florida.

**DEPOSITION OF TYPE MATERIAL:** Male holotype, American Museum of Natural History; female paratypes, Florida State Plant Board, Gainesville, Florida, and the author's collection.

**DESCRIPTION OF MALE HOLOTYPE:** Greatest body width 4 mm., length about 50 mm., 49 segments, the last one legless. Body color in alcohol black-brown, the hindbelts slightly darker than the midbelts on some segments, legs and antennae dark red. Body surface shining, coarsely punctate, the puncta most numerous in and on each side of the segmental furrows. Setigerous labral foveolae 4 + 5. Ocelli black, flat, closely arranged in five series in a subtriangular area. Mandibular cheek with the usual shallow antennal furrow, which is not at all covered by the collum; antero-ventral margin of mandibular cheek with the usual small, acute lobe. Antennae long enough to reach back about halfway between the anterior and the posterior margins of the collum. Anterior margin of collum very slightly concave at the level of the mandibular cheek and with the usual narrow margin. Lateral lobes of second segment extend well below the collum and are acutely triangular. Segmental furrows continue faintly across the dorsum of all except the last three or four segments, where they are absent. Caudal tergite triangular, the apex thin and flat and narrowly rounded; ratio of length of caudal tergite to length of anal valves, as viewed from above, about 5/1. Mesial margin of anal valves (Figure 1) not raised. Anal scale with both margins rounded, the ratio of the width to the length about 4.5/1.

Coxal lobes of legpairs 3, 4, and 5 are similarly and conspicuously elongated and different from any others in the genus in that all three pairs are broad, subrectangular, and flattened (Figure 2); the coxal lobes of legpair 5 are a little shorter, broader, thinner, and the mesial angle is a little less rounded than the others. The ratio of the length of the coxal lobes of legpairs 3, 4, and 5 to the length of the second segments of those legs is, respectively 5/3, 5/3, and 4/3. Coxae of legpairs 6 and 7 are not elongated.

Anterior gonopods with the medio-ventral projection of the sternum rounded at the apex, about as long as broad, and relatively small; coxal endite lobes broadly and evenly rounded along the ventral margin. Pos-

terior gonopods with the apex of the distal joint rectangular as in *Narceus keysi* Loomis.

**FEMALE PARATYPES:** Somatic characters are almost as in the male, except that the body surface is duller, the puncta on the body surface are more scattered, and there is a horizontal depression across the anal tergite. One female specimen, apparently mature, has a body width of 4.7 mm. and 46 segments, the last one legless. The other female, which lacks at least one molt of maturity, has a body width of 3.5 mm. and 49 body segments, the last one legless.

**RECORDS:** *Florida:* Alachua Co.: Exact site unknown, 2 ♀, June 16-19, 1949, collected by "Oliver" at "Trap 4", collection of the Florida State Plant Board. Putnam Co.: Hawthorn, 1 ♂, Jan. 17, 1959, R. E. Woodruff, collection of the Florida State Plant Board.

#### LITERATURE CITED

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