A NEW MILLIPEDE OF THE GENUS CARALINDA FROM NORTH FLORIDA (POLYDESMIDA: XYSTODESMIDAE)

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ABSTRACT

Caralinda pulchritueta Shelley, a new xystodesmid millipede species is described from Jackson Co., FL. This species is characterized by male gonopods with a straight, apically expanded prefemoral process, and by an upright, acuminate acropodite shielding a digitiform solenomite. With the discovery of this species plus Stelgipus agrestis Loomis in Jacksonville, an undescribed species of Pleuroloma in the panhandle, and an undiagnosed aphelorine genus and species in Jackson and Liberty Counties, 7 xystodesmid millipede species are now known to occur in Florida.

The xystodesmid millipede fauna of Florida is sparse in comparison to those of other southeastern states due primarily to the paucity of deciduous forest habitat. Only 3 genera have been reported from the state, the most common being the rhyssodesmin, Pleuroloma, represented by 2 species, P. cola (Chamberlin) in the peninsula, and an undescribed form in the panhandle west of the Suwannee River. Dicellarus okefenokensis (Chamberlin), ranging from the Okefenokee Swamp south to Gainesville, is the only representative of the tribe Pachydesmini, although Pachydesmus rassicius admiratus Hoffman may eventually be found in Escambia Co. The 3rd known Floridian genus, Chetopus, belongs to the tribe Aphelorini and is represented by C. planus Loomis from the Georgia state line south to Gainesville and west to Tallahassee.

Three additional xystodesmid species may now be added to the Floridian fauna. While visiting the American Museum of Natural History in August 1978, I discovered a male of Stelgipus agrestis Loomis from Jacksonville among unsorted material, which confirmed my suspicion that this millipede occurred in Nassau and Duval Counties. I had collected this species from Crooked River State Park, Camden Co., GA, but had been unable to find it south of the St. Mary’s River. There is also an undiagnosed aphelorine genus and species in Jackson and Liberty Counties, which is widespread in the southeastern Coastal Plain from Alabama to South Carolina. This form is currently under study as part of a larger revision of the “sigmoid” xystodesmid millipede genera. The final new Floridian xystodesmid is an undescribed species of the rhyssodesmin genus, Caralinda, which was erected by Hoffman (1978) for a small species from Tifton, GA. The Florida species was collected at the northernmost fringe of the state, ca. 1/2 mi. S of the Alabama state line and 115 mi. WSW of the locality of the type species, C. beatriz Hoffman.

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Caralinda pulchritecta Shelley, NEW SPECIES
Figs. 1-6

TYPE-SPECIMENS: Male holotype (NCSC A1437) and 5 ♂ and 5 ♀ paratypes collected by Alvin L. Braswell and David L. Stephan 20-XI-1976 from Jackson Co., FL, at Welcome Center on U. S. Hwy. 231, 3 mi. N Campbellton, 1/2 mi. S AL state line. One ♂ and 1 ♀ paratype deposited in Florida State Collection of Arthropods.

DIAGNOSIS: Distinguished by intricate dorsal color pattern of scattered black flecks concentrated into 3 longitudinal stripes; large, heavily sclerotized process arising from sternum of segment 4; and following gonopodal characters: prefemoral process upright, apically expanded; acropodite straight, acuminate, expanded into broad shield for digitiform solenomere.

HOLOTYPE: Length 23.3 mm; width of 3rd segment 4.8 mm, of 6th segment 6.0 mm, of 10th segment 4.8 mm, of 15th segment 4.6 mm; W/L ratio 21.5%.

Color in life (Fig. 1) as follows: a general testaceous base color with scattered dark brown flecks concentrated in 3 longitudinal stripes running entire length of dorsum; a narrow, dark brown middorsal stripe surrounded by dark yellow areas, with 2 wide dark brown longitudinal stripes along inner edges of paranota; peritremata and edges of paranota light testaceous colored. Antennae dark brown; epicranial region a mottled dark brown, fading out in interantennal region; genae, clypeus, sterna, and legs pale yellow.

Structural details similar to those of C. beatriz with following exceptions:

Width across genal apices about 2.4 mm; interantennal isthmus broad (ca. 0.8 mm), subequal to length of 2nd antennomere; epicranial suture distinct. Antennae moderately long, extending to middle of 3rd paranota; relative lengths of antennomeres 2>3=4>6=5>1>7. Genae with slight medial impression. Facial setae as follows: epicranial 2-2; interantennal 1-1; subantennal 1-1; about 8-8 scattered setae of varying lengths in frontoclypeal region; clypeal and labral about 10-10, continuing for short distance along edges of genae.

Terga smooth, polished, slightly roughened in paranotal regions. Collum not extending beyond ends of following tergite. Paranota depressed and cupped below peritremal ridges at anterior corners, concave; posterior paranotal corners right angled through segment 15, becoming increasingly acute posteriorly.

Sternum of segment 4 (Fig. 2) with large, heavily sclerotized, ventrally directed process, extending beyond margins of adjacent coxae, surface with ridges and without hairs; of segment 5 (Fig. 3) with smaller, apically divided process between anterior legs, subequal in length to width of adjacent coxae, surface smooth and set with long hairs on posterior side; sternum between 5th legs shallowly recessed to accommodate tips of gonopods, with hairs on flattened areas next to coxae; of segment 6, flat, recessed, to accommodate gonopodal telopodites, wider than sterna of anterior segments. Postgonopodal sterna with small, rounded lobes between posterior legs. Hypoproct broadly rounded.

Gonopodal aperture very broad, caudal edge raised and flared laterally. Gonopods (Figs. 4-5) relatively large in proportion to overall body size,
extending forward to anterior edge of 6th segment, apices slightly overlapping. Prefemur about 1/3 of telopodite length; prefemoral process upright, about 2/3 of acropodite length, greatly expanded apically with shallow impression in center, edges serrate. Acropodite set off from prefemur by cingulum, expanded into broad, upright shield with solenomerite in center, narrowing distad to acuminate tip; solenomerite an acute, digitiform projection originating from inner surface of acropodite at level of apex of
Figs. 2-6. *Caralinda pulchritecta* Shelley, n. sp. 2) Sternal process of segment 4, caudal view. 3) Sternal process of segment 5, caudal view. 4) Left gonopod, medial view, prefrontal setae omitted. 5) The same, lateral view. 6) Right cyphopod, caudal view. Figs. 2-5 drawn from holotype, 6 from female paratype. Scale line = 1 mm for all drawings.

prefemoral process; prostatic groove running along lateral side of ridge on inner surface of acropodite, entering solenomerite on dorsal side.

FEMALE PARATYPE: Similar in size, color pattern, and external structural features to holotype except paranota more depressed, body more highly arched, and sternal lobes between caudal pair of legs much more pronounced on segments 7-13. Cyphopods (Fig. 6) with receptacle visible in aperture next to legs; valves large, deeply depressed centrally, end opposite operculum bent abruptly laterad, situated dorsoventrally in aperture with only this end visible (perpendicular to main body axis); operculum lightly pigmented, hidden behind free end of valves inside aperture; receptacle small, surface with grooves, separate from and not enclosing valves.
DISTRIBUTION: Known only from type locality.

REMARKS: The species was abundant at the Welcome Center on this particular day. According to one of the collectors, there were literally thousands on the walkways, in the grass, and on the outside walls of the building. Some individuals had entered the building and were crawling across the floor; others had been squashed by tourists. The large numbers indicate a mass aggregation such as have been reported several times for species of *Pleuroloima* (see summary of these reports by Cloudsley-Thompson 1949).

The status of *C. pulchritecta* as a full species, reproductively isolated from *C. beatrix*, is amply justified by the gonopodal and sternal differences. Both were collected in the cooler months of the year (November and January), suggesting that winter field work in north Florida and south Alabama and Georgia might produce still more species. To Hoffman’s comments regarding *C. beatrix* I would only add that *C. pulchritecta*, and probably also the type species, has the most intricate and delicate color pattern I have seen on a xystodesmid. This may also be diagnostic for the genus.

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LITERATURE CITED
