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Serrobius pulchellus Causey, a Poorly Known Centiped, Rediscovered in Virginia (Lithobiomorpha: Lithobiidae)

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During the process of sorting and housing extensive material of myriapods and arachnids generously donated to the Virginia Museum of Natural History by Prof. William A. Shear (Hampden-Sydney College), I was able to identify some small lithobiomorph centipedes, one of which represents a species named from North Carolina and never subsequently recorded. This revelation led to a search for additional specimens among the museum's unidentified material of lithobiids. Some, indeed, were located, and an account of the taxonomic status of the species is being prepared for publication elsewhere. More significant, however, was the purely incidental discovery of several samples of *Serrobius pulchellus*, a remarkable species named by Nell B. Causey in 1942 and never, to the best of my knowledge, subsequently mentioned in chilopod literature. It is now possible to record it from

three new localities which greatly extend its range northward, and to confirm the validity of both the genus and species, while raising some points for further investigation.

The original description (Causey, 1942) of *S. pulchellus* is fairly detailed, and includes an illustration of the strongly modified ultimate leg of males. No further locality than "Duke Forest" was provided, and the depository of the type material was stated to be the Academy of Natural Sciences, Philadelphia. As so often the case with Causey types, these specimens apparently did not reach this destination (*vide* R. E. Crabill, who long ago investigated the matter), and it is not known to me if any are still extant.

The "Duke Forest" is composed of a number of forested areas dispersed over several Piedmont counties

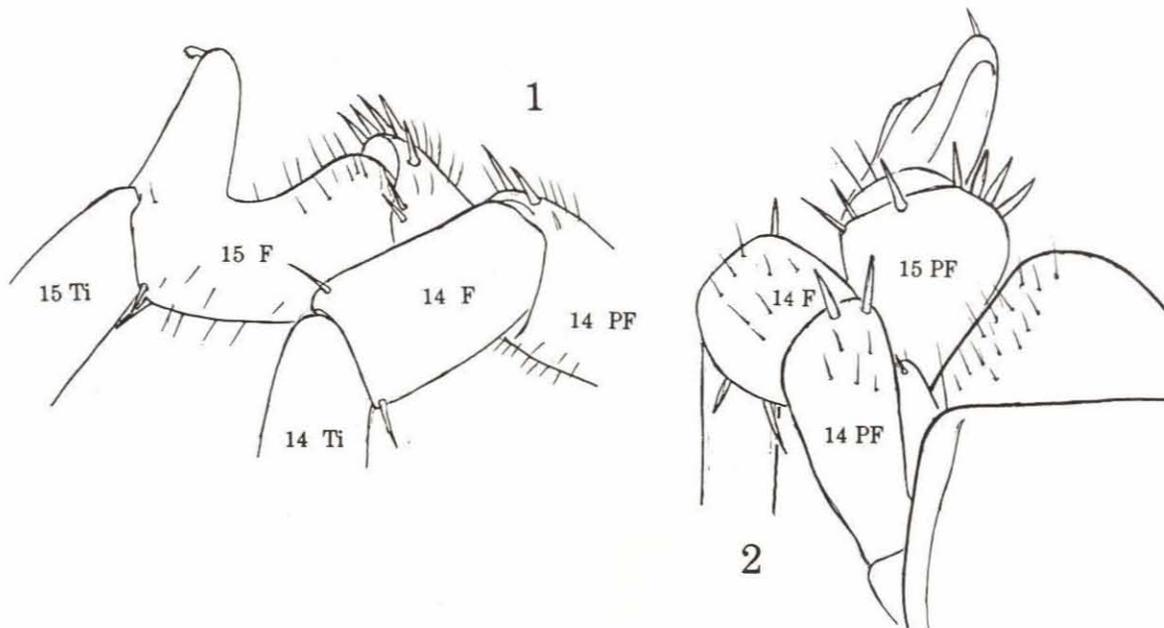


Figure 1. Basal podomeres of 14th and 15th legs of male *Serrobius pulchellus*, specimen from Elm Hill Game Management Area, Mecklenburg Co., Va., lateral aspect. Fig 2. The same podomeres, dorsal aspect. F, femur, PF, prefemur, Ti, tibia.

in North Carolina, but a clue about the precise type locality is provided in a paper on the Pauropoda of the Forest. J. H. Starling extracted pauropods from soil samples taken in four sample plots in the "Durham Division" [Orange County, just west of Duke University] between 17 November 1940 and 13 January 1942, and in the published version of his dissertation (Starling, 1944) provided lists of all the "myriapods" taken during these activities (identifications by N. B. Causey). Five specimens of *Serrobium pulchellus* (the generic name misspelled *Serrabium*) were thus recorded from plots 2, 3, and 4, approximately the same number as stipulated for the type series.

The species was nominally mentioned in the 2nd and 3rd supplements to "The Insects of North Carolina" (Wray, 1950, 1967), but to my knowledge has not subsequently appeared in print. In both personal conversations and letters over many years, the late R. E. Crabill expressed skepticism about the status of the genus, but in the lack of material could reach no conclusion. Material in the VMNH collection agrees so closely with the original description that no doubt attends the identification. The following Virginia localities are represented:

Floyd Co.: Buffalo Mountain, 9.5 km SE of Willis, cool moist northern hardwood forest on north slope at 3500 ft., one male hand-collected 15 July 1992 (VMNH survey). **Mecklenburg Co.:** Elm Hill State Game Management Area, pitfall site near the Kerr Dam powerhouse, one male trapped during the period 3-17 July 1991 (VMNH survey). **Prince Edward Co.:** Hampden-Sydney College campus, two males taken by berlese extraction of oak-pine litter, 20 November 1987 (W. A. Shear). The known range now encompasses a triangular area roughly 140 km in a north-south direction, and about 170 km northwest-southeast. This area will surely be much increased with further litter sampling.

The localities in Mecklenburg and Prince Edward counties lie in the Virginia Piedmont almost directly north of Durham and in basically the same major habitat type (mixed oak-pine), so that the occurrence of *pulchellus* there is not surprising. The find at Buffalo Mountain is distinctly unexpected, as the biotope is a cool northern hardwood forest dominated by tulip poplar (*Liriodendron tulipifera*), striped maple (*Acer spicatum*), and yellow birch (*Betula alleghaniensis*). Obviously the species can successfully occupy a diversity of habitats, with a vertical distribution of from about 300 to 3500 ft. (90 to 1100 m.).

During the past eight decades, the number of genera proposed for lithobiids in eastern North America has

increased dramatically, although no attempt has been made to achieve any kind of suprageneric groupings. Even the carefully documented early papers (e.g., 1922) by R. V. Chamberlin treated genera randomly and opportunistically. In the lack of modern revisionary studies (Chamberlin, for instance, considered any single difference to be one of specific value) of the rich and varied Nearctic fauna, it is impossible to express any realistic views about the systematic position of *Serrobium*. Causey (op. cit., p. 79) noted a possible relationship with *Neolithobius*, largely because of similarity of the last pair of male legs to those of *N. xenopus* (Bollman). This perception may be correct, but concurrence in other characters such as small size, 30 antennomeres, and 5+5 prosternal teeth suggests affinity with *Sozibius*. Females of *pulchellus*, for instance, are not easy to distinguish from those of local sozibiids, although the strongly modified 15th legs of the males would seem to justify generic status. I believe that the presence of 5-8 dorsal spurs on the ultimate leg prefemur (Fig. 1) is unique within the family and not even approximated by any other known species (but see remarks below).

Heretofore, variations in the spurulation of lithobiid legs (codified admirably by Crabill, 1962) have enjoyed a high priority in the definition of taxa. Until far more detailed studies have been conducted, it is impossible to know whether Chamberlinian "species" are actually species in the genetic sense, subspecies, or merely expressions of geographic (or even individual) variation. It is my suspicion that better insights into generic classification will derive from antennal, prosternal, secondary sexual, and qualitative plectrotaxic characters.

The three male specimens of *pulchellus* at hand provide a microcosmic insight into some of the problems. Those from Mecklenburg and Floyd counties agree quite closely with Causey's description particularly as regards modifications of the 15th male leg, the prefemur of which has the supernumerary 7 - 7 dorsal spurs (it is impossible to state which is anterior, median, or posterior) that characterize the genus and can confidently be considered as *S. pulchellus*. The male from Prince Edward County has the podomeres modified exactly as shown in Causey's drawing, but none have more than the customary three dorsal spurs (AMP) that occur on most lithobiids, as shown by the plectrotaxic table below. Chamberlinian taxonomy would surely have given this specimen specific (if not generic) recognition. But is this difference - surely an important one - constant? Such a species, if confirmed, could be regarded an evolutionary link between *Serrobium* and, for instance, *Sozibius*. Only the second page has been written in the history of this

taxon, and already we must invoke the traditional apology "More studies are needed."

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Dorsal

Ventral

	C	TR	P	F	TI	C	TR	P	F	TI
12	-	-	amp	p	p	-	-	amp	amp	m
13	-	-	amp	p	p	-	-	amp	amp	m
14	-	-	am	p	p	-	m	amp	amp	m
15	-	-	am	m	-	-	m	mp	amp	m

Table 1. Qualitative plectrotaxy of last four pairs of legs of male *Serrobius pulchellus* from Hampden-Sydney College, Prince Edward Co., Va. In the other two males examined, and in the type material, there are 7 spurs in series DP on leg 15 instead of a and m.

Abbreviations: A, anterior, M, median, p, posterior; C, coxa, TR, trochanter, P, prefemur, F, femur, TI, tibia.

Pyrrhalta rufosanguinea (Coleoptera: Chrysomelidae): A Monophagous Leaf Beetle of *Rhododendron periclymenoides* (Ericaceae)?

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The seventeen native American azalea species are deciduous members of the genus *Rhododendron*. *Rhododendron periclymenoides* (Michaux) Shinnery, formerly known as *R. nudiflorum* (L.) Torrey, occurs in Virginia from the lower elevations of the Blue Ridge to the Coastal Plain. *Rhododendron atlanticum* (Ashe) Rehder is a species of the Coastal Plain and Fall Belt. These two species have been reported to hybridize wherever their ranges overlap (Galle, 1967) but no detailed analysis of the pattern of hybridization has been conducted. My morphometric and chemical analyses of natural hybridization between these two ericaceous shrubs (in progress) indicates introgression to both azalea species.

In 1982, I collected herbivorous insects from seven native azalea species in six southeastern states. One of these phytophagous insects was a reddish-brown leaf beetle about 5 mm long which was feeding on the leaves of *R. periclymenoides*. This beetle was identified by R. E. White (USDA, Systematic Entomological Laboratory, Beltsville, MD) as *Pyrrhalta* (= *Tricholochomaea*) *rufosanguinea* (Say). Wilcox (1979) reported *R. periclymenoides* as a host plant of *P. rufosanguinea* but I found no other information on its host range or biology. In 1985, I surveyed six populations of *R. periclymenoides*, two populations of *R. atlanticum* and a putative hybrid population in central Virginia for herbivorous insects. I found *P. rufosanguinea* only on *R. pericly-*