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A new *Rowlandius* Reddell and Cokendolpher, 1995 (Schizomida: Hubbardiidae) from Navassa Island, Greater Antilles

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A NEW *ROWLANDIUS* REDDELL & COKENDOLPHER, 1995 (SCHIZOMIDA: HUBBARDIIDAE) FROM NAVASSA ISLAND, GREATER ANTILLES

Luis F. de Armas

Abstract

A new species of the hubbardiid genus *Rowlandius* Reddell & Cokendolpher, 1995 is described from Navassa Island, a small and relatively ancient territory near Hispaniola, West Indies. Its nearest relatives seem to be the Cuban species *R. digitiger* (Dumitresco, 1977), and *R. decui* (Dumitresco, 1977). It is the first schizomid recorded from that island.

Key words: Schizomida, Hubbardiidae, *Rowlandius*, Taxonomy, West Indies, Navassa Island.
Taxonomy: *Rowlandius steineri* **sp. n.**

Nueva especie de *Rowlandius* Reddell & Cokendolpher, 1995 (Schizomida: Hubbardiidae) de la isla Navassa, Antillas Mayores

Resumen

Se describe una especie nueva del género *Rowlandius* Reddell & Cokendolpher, 1995, la cual procede de la isla antillana de Navassa, que es un pequeño y relativamente antiguo territorio próximo a La Española. Sus más cercanos congéneres parecen ser *R. digitiger* (Dumitresco, 1977) y *R. decui* (Dumitresco, 1977), ambas de Cuba. Éste constituye el primer esquizómido registrado para esta isla.

Palabras claves: Schizomida, Hubbardiidae, *Rowlandius*, Taxonomía, Antillas, Navassa.
Taxonomía: *Rowlandius steineri* **sp. n.**

The schizomid genus *Rowlandius* Reddell & Cokendolpher, 1995 is the most diverse and widespread one among the West Indies, where about 25 species have been recorded, mainly from Cuba, Hispaniola, and Jamaica (Reddell & Cokendolpher, 1995).

Navassa Island is a small (5.2 km^2) unincorporated U. S. Territory situated 64 km **W** of Hispaniola, Greater Antilles. As result of a biological survey carried out on that island during summer of 1998, and spring of 1999, some interesting arachnids were found, including a new species of Schizomida, an arachnid order not previously recorded from this locality.

The examined specimens (type-series) are deposited at the National Museum of Natural History (NMNH), Smithsonian Institution, Washington, D. C.

***Rowlandius steineri* n. sp.**
(Figs. 1 A-E; Table I)

TYPE-DATA. One heteromorphic male **holotype**, forest west of lighthouse (75 m, 18º 23.91' **N,** 75º 00.81' **W),** 30 July 1998, W. E. Steiner, J. M. Swearingen, *et al.*, taken under bark of fallen trunk of *Sideroxylon* in moist depression of mixed interior forest with deep leaf litter. **Paratypes:** One heteromorphic male, and six females, same data as holotype. Two heteromorphic males, ruins near Lulu Bay (22 m, 18º 23.75' **N**, 75º 01.07' **W**), 25 July-3 August 1998, W. E. Steiner, J. M. Swearing *et al.*, pitfall cup traps on open weedy flats of lower terrace, limestone and red oolitic soil near coastal cliff. One homomorphic male, forest west of lighthouse (75 m, 18º 23.91' **N**, 75º 00.81' **W**), 30 July-4 August 1998, W. E. Steiner, J. M. Swearing *et al.*, pitfall cup traps in deep leaf litter, mixed interior forest (*Ficus, Sideroxylon, Metopium, Coccoloba*), on limestone. One female, central forest area (70 m, 18º 23.99' **N**, 75º 00.67' **W**), 30 July-4 August 1998, W. E. Steiner, J. M. Swearing *et al.*, flight-intercept/yellow pans in Malaise trap in gap of mixed forest (*Ficus, Metopium, Coccoloba, Sideroxylon, Thrinax*), on limestone. On specimen (without abdomen), forest west of lighthouse (75 m, 18º 23.91' **N**, 75º 00.81' **W**), 30 July-4 august 1998, W. E. Steiner, J. M. Swearing *et al.*, taken in pitfall cup at base of tree (*Sideroxylon*) in moist depression of mixed interior forest with deep leaf litter.

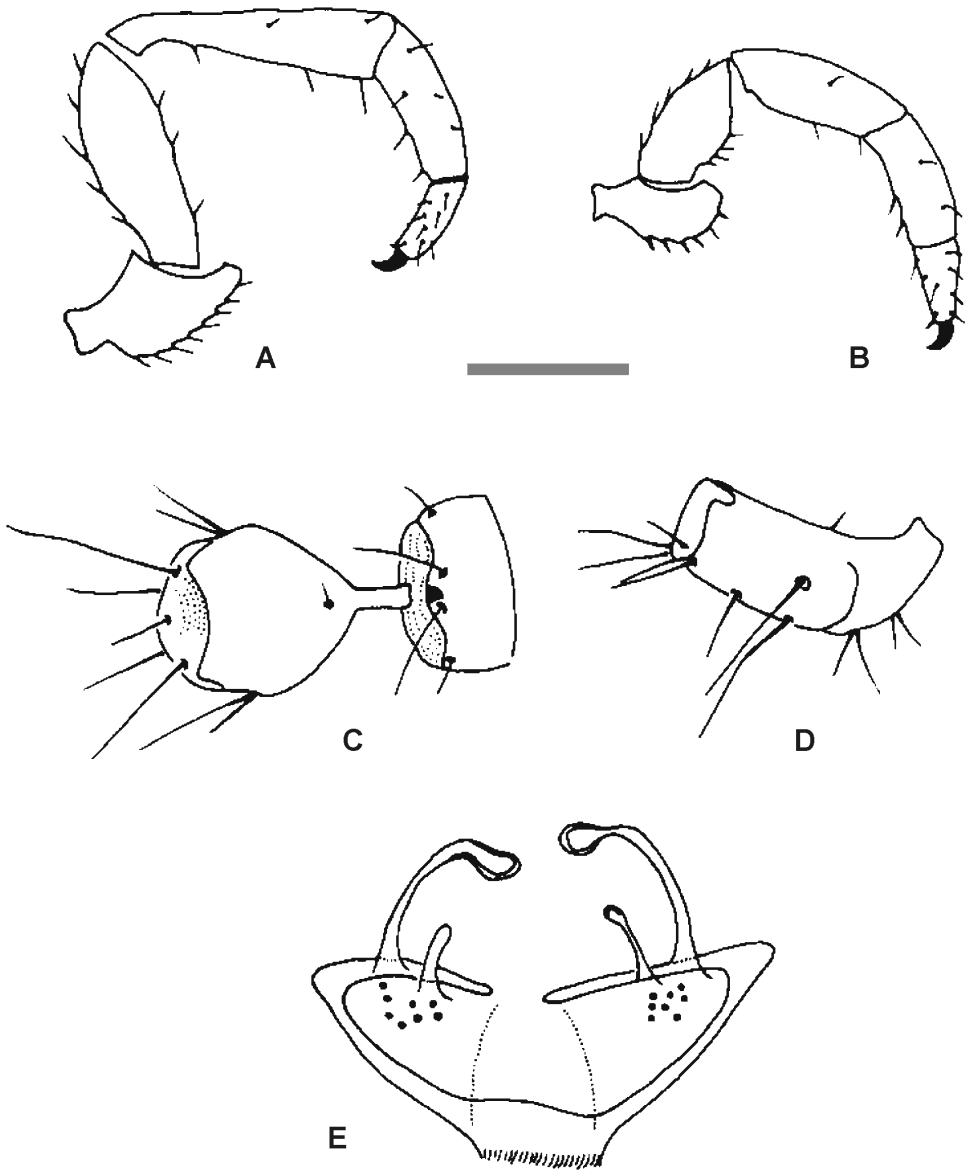

Fig. 1. *Rowlandius steineri* n. sp. **A-B**. Right pedipalp of male, external aspect: **A.** Heteromorphic; **B.** Homomorphic; **C-D.** male flagellum: **C.** Dorsal aspect; **D.** Lateral aspect; **E.** Female spermathecae. Scale (mm): A-D, 0.30, E, 0.05.

DISTRIBUTION. Navassa Island, Greater Antilles.

ETYMOLOGY. The specific name is a patronymic noun honoring Dr. Warren E. Steiner (NMNH), one of the collectors of the type-series.

DIAGNOSIS. A small species (total length, including flagellum, 2.7-3.4 mm), pale brown to pale brown-reddish in appearance, carapace with three pairs of dorsal setae, male pedipalp moderately elongate, with trochanter not apically produced, male flagellum with very reduced dorsoposterior prominences, lateral spermathecae very long, twice as long as the medians, median spermathecae without a defined terminal bulb.

DESCRIPTION OF THE HETEROMORPHIC MALE HOLOTYPE. Carapace, metapeltidium and legs, pale brown; pedipalp, pale brown-reddish; tergites, pale brown-greenish. Carapace with three dorsal pairs of setae; ocular spots well developed, rounded in shape. Metapeltidium entire. Abdominal tergites II-VII with two posterior setae; tergites VIII-IX with four posterior setae (two submedian, and two lateral); abdominal segment XII with rounded posterodorsal process (Fig. 1 C). Flagellum with 15 setae (six dorsal, and nine ventral), subrectangular in lateral view, with two small dorsoapical prominences (Figs. 1 C-D). Anterior sternum with 15 + 2 setae; posterior sternum with six setae. Pedipalp (Fig.

1 A) moderately elongate, trochanter with short mesal spur, not apically produced. Measurements in table I.

FEMALE. It is similar to male in general aspect, without posterodorsal process on abdominal segment XII. Flagellum tetrasegmented; pedipalp short and robust, alike that of homomorphic male. Lateral spermathecae about twice as long as median ones, very long, recurved; median spermathecae with terminal bulb vestigial or absent (Fig. 1 E). Measurements in Table I.

VARIATION. Homomorphic male is smaller than both female and heteromorphic male, with shorter pedipalps (Fig. 1 B) that resemble those of female. Pedipalp length in heteromorphic male paratypes (N = 3) varies between 1.54-1.88 mm (trochanter: 0.29-0.31, femur: 0.34-0.47, patella: 0.42-0.55, tibia: 0.31-0.34, tarsus: 0.16-0.18).

NATURAL HISTORY. Navassa Island is covered with low xeric forest. The schizomids were mainly collected under rocks and leaf litter. The larger sample (three males, six females, and one specimen of unidentified sex) was found in a relatively humid and deep litter layer.

COMPARISONS. Female spermathecae of *R. steineri* resemble those of *R. digitiger* (Dumitresco, 1977), from southeastern Cuba, *R. decui* (Dumitresco, 1977), from northwestern Cuba, *R. dumitrescoae* (Rowland & Reddell, 1979), from southwestern Costa Rica (Central America), and *R. insignis* (Hansen, 1905), from Martinique, Lesser Antilles. The last has "lateral spermathecae about four times longer than medians" (Rowland & Reddell, 1979: 48), and heteromorphic male with very long and slender pedipalps. In *R. dumitrescoae* the female has four dorsal setae on carapace, and heteromorphic male has pedipalps similar to those of *R. insignis*. Compare with *R. digitiger* and *R. decui*, the median spermathecae of *R. steineri* are longer. They also differ because heteromorphic male of *R. digitiger* has pedipalp trochanter extremely long and extremely produced distally, as well as a truncated posterodorsal process on abdominal segment XII. On the other hand, in *R. decui* female has only two pairs of dorsal setae on carapace (an apomorphic character, sensu Rowland and Reddell, 1979), and heteromorphic male has pedipalps similar those of *R. insignis,* and *R. dumitrescoae* (Rowland & Reddell, 1979, figs. 47-49).

Another Greater Antillean species, *Rowlandius desecheo* (Rowland & Reddell, 1979), from Desecheo Island, Puerto Rico, shows pedipalps similar those of *R. steineri*, but it has a lanceolate flagellum, and truncate posterodorsal process on abdominal segment XII (female is unknown).

Acknowledgements

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Table I

Measurements (mm) of *Rowlandius steineri*, n. sp., from Navassa Island.
D, deep; L, length; W, width.

Segments	MALES (N = 3)			FEMALES (N = 2)	
	1 (Type)	2 (heteromorphic)	3 (homomorphic)	1	2
Total L	2.60	2.65	2.47	3.12	2.99
Carapace, L	0.78	0.81	0.75	0.88	0.88
Flagellum, L/W/D	0.26/0.16/0.13	0.26/0.16/0.10	0.26/0.13/0.10	0.23	0.23
Pedipalps	1.89	1.58	1.21	1.49	1.50
Trochanter	0.31	0.29	0.21	0.29	0.31
Femur, L/D	0.49/0.13	0.36/0.13	0.29/0.16	0.36/0.18	0.31/0.18
Patella	0.57	0.44	0.29	0.39	0.39
Tibia	0.34	0.31	0.26	0.29	0.31
Tarsus	0.18	0.18	0.16	0.16	0.18
Leg I	3.28	3.30	2.97	3.16	3.14
Trochanter	0.26	0.23	0.18	0.23	0.23
Femur	0.73	0.78	0.68	0.75	0.75
Patella	0.96	0.96	0.83	0.91	0.88
Tibia	0.70	0.70	0.65	0.65	0.68
Basitarsus	0.21	0.21	0.21	0.23	0.21
Telotarsus	0.42	0.42	0.42	0.39	0.39
Leg IV	2.42	2.45	2.27	2.57	2.50
Trochanter	0.16	0.16	0.16	0.21	0.21
Femur, L/D	0.75/0.36	0.75/0.36	0.65/0.34	0.75/0.42	0.75/0.36
Patella	0.31	0.31	0.31	0.36	0.36
Tibia	0.52	0.52	0.47	0.52	0.47
Basitarsus	0.39	0.42	0.39	0.42	0.42
Telotarsus	0.29	0.29	0.29	0.31	0.29