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A NEW SPECIES OF *AMMOTRECHELLA* ROEWER 1934 (SOLIFUGAE: AMMOTRECHIDAE) FROM SAINT-BARTHÉLEMY, LESSER ANTILLES

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Abstract: *Ammotrechella beatriceae* n.sp. is herein described on the basis of three specimens from the small island of Saint-Barthélemy, in the Lesser Antilles. This species clearly differs from all of its congeners by the peculiar dentition pattern of the fixed finger of the chelicerae (including the presence of a diastema between the median and anterior teeth), and the coloration of the body and appendages, among other characters.
Key words: Solifugae, Ammotrechidae, *Ammotrechella*, taxonomy, new species, Lesser Antilles.

Una nueva especie de *Ammotrechella* Roewer 1934 (Solifugae: Ammotrechidae) de San Bartolomé, Antillas Menores.
Resumen: Se describe *Ammotrechella beatriceae* sp.n. a partir de tres ejemplares procedentes de la pequeña isla de San Bartolomé, en las Antillas Menores. Esta especie difiere claramente de todos sus congéneres por el peculiar patrón de dentición del dedo fijo de los quelíceros (incluida la presencia de un diastema entre los dientes anteriores y el intermedio) y la coloración del cuerpo y los apéndices, entre otros caracteres.
Palabras claves: Solifugae, Ammotrechidae, *Ammotrechella*, taxonomía, especie nueva, Antillas Menores.

Taxonomía/Taxonomy: *Ammotrechella beatriceae* **sp. n.**

Introduction

The Lesser Antillean fauna of the order Solifugae Sundevall 1833 is currently the most poorly known of the Western Hemisphere: only three genera and three species of Ammotrechidae Roewer 1934 have been so far recorded from this area (Roewer, 1934; Maury, 1982; Muma, 1986; Armas, 2002; Harvey, 2003). Nevertheless, only one of these records can be regarded as reliable: *Antillotrecha iviei* Armas 2002 from Sombrero, which was recently described and is known from both sexes (Armas, 2002, 2010).

The other two taxa were both originally recorded by Roewer (1934): *Ammotrecha stolli* (Pocock 1895) from Grenada, and *Ammotrechella geniculata* (C. L. Koch 1842) from Guadeloupe and St. Vincent. But these records are controversial and have been either accepted (Muma, 1970, 1976; Harvey, 2003), deemed as misidentifications (Maury, 1982; Muma, 1986), or simply ignored (Armas, 2004). In the best case, they must be regarded as dubious and confirmation-pending.

Recently, a few solifuges were collected in different localities of the small island of Saint-Barthélemy, in the Lesser Antilles (Leeward Islands). The detailed study of these specimens revealed that they all belong to a new species of the genus *Ammotrechella* Roewer 1934, which is described in the present paper.

Methods & Material

The specimens were studied, measured, drawn and photographed under a Zeiss Stemi 2000-C stereomicroscope, equipped with line scale and grid ocular micrometers, and a Canon PowerShot A620 digital camera, all calibrated to 20x. Digital images were slightly processed with Adobe Photoshop® 8.0, only to optimize bright and contrast features. Nomenclature of cheliceral teeth follows Maury (1982), abbreviated after Maury (1984): A = anterior, BE = basal-external, BI = basal-internal, I = intermediate, P = principal; nomenclature of pedipalp and leg segments follows Shultz (1989). Measurements were taken following Muma (1951); the total length excludes chelicerae (Armas, 2010). All specimens are deposited in the first author's personal collection (RTO).

Systematics

***Ammotrechella beatriceae*, new species**

Fig. 1-4. Table I.

TYPE DATA: SAINT-BARTHÉLEMY: Petite Saline; November 24, 2010; K. Questel; one adult male holotype (RTO). Anse Gascon; January 2, 2011; K. Questel; one juvenile male paratype (RTO).

ADDITIONAL RECORD: SAINT-BARTHÉLEMY: Chauvette; August 26, 2007; K. Questel; one adult female (photographed alive and released).

DIAGNOSIS: Size small for the genus (adult male 8.2 mm). Coloration light to reddish orange (darker in adult females), diffusely infuscate all over, basal segments of legs translucent-whitish. Entire body densely covered with short spiniform setae in adult males. Chelicerae long and slender in adult males; fixed finger without dorsal crest, with dentition pattern 2A, 1I, 1P, 4BE, 3BI, and with a moderate diastema between the anterior and intermediate teeth. Pedipalps ventrally with five pairs of large spiniform setae on patella, no such pairs present on remaining segments.

Table I. Measurements (mm) of the holotype of *Ammotrechella beatriceae* sp.n.
Abbreviations: length (L), width (W), depth (H).

Dimensions		Adult male holotype
Propeltidium	L / W	2.2 / 2.1
Abdomen	L	5.5
Chelicera,	L / W / H	2.9 / 1.0 / 0.8
Pedipalp	L	11.2
Femur	L / H	3.7 / 0.8
Patella	L / H	3.8 / 0.6
Tibia	L / H	3.0 / 0.5
Tarsus	L / H	0.7 / 0.5
Leg I	L	7.6
Leg IV	L	15.4
Total	**L**	**8.2**

DISTRIBUTION (fig. 4): This species is apparently endemic from the small island of Saint-Barthélemy.

ETHIMOLOGY: This species is named after Béatrice Ibéné, friend of the second author (KQ).

DESCRIPTION (adult male holotype): **Coloration** (fig. 1) essentially bright orange, uniform to unaided eye; under magnification it is revealed to be diffusely infuscate all over the body and appendages, not forming any definite patterns except on the tergites, which have a thin transversal dark stripe along posterior margin; basal segments of legs translucent-white. **Chelicerae** (figs. 1, 2a–c) large and depressed (i.e., wider than deep), and densely covered with very large and stout spiniform setae, interspersed with smaller spiniform setae and large macrosetae. Fixed finger long, slender and sinuose, internal surface below flagellum densely covered with very large plumose setae; flagellum oval-elongate, but conspicuously shorter than the finger, with apical third of rim covered with microscopic setae, and attachment disc oval and well-marked; dentition pattern: 2A, 1I, 1P, 4BE, 3BI, the intermediate tooth (I) is very small (almost vestigial), fused to the base of the principal tooth (P) and separated by a moderate diastema from the anterior teeth (A), of the four basal-external teeth (BE), the two median teeth are subequal and larger than the distal and basal teeth, of the three basal-internal teeth (BI), the two basal teeth are fused into a biscusp and widely separated from the distal tooth; dorsal margin without crest, but with a slight dorsal notch over the diastema. Movable finger long, slender and evenly curved; dentition pattern: 1A, 1I, 1P, 1BI. **Pedipalps** (figs. 1, 2d) densely covered with short truncate setae, interspersed with long macrosetae and spiniform setae of various sizes. Femur without paired spiniform setae. Patella ventrally with five pairs of long and sharp spiniform setae. Tibia and metatarsus without paired spiniform setae. **Propeltidium** (fig. 1) 1.05 times longer than wide; very densely covered with short and stout spiniform setae, with several large and stout spiniform setae scattered; lateral lobes moderately prominent and defined by a dorsal groove; median eyes very large and separated by a dorsal groove which extends all along the propeltidium. **Tergites** very densely covered with short and stout spiniform setae, which become longer and thinner towards terminal segments. **Sternites** without ctenidia, but very densely covered with rigid setae. **Legs** (fig. 1) densely covered with short setae, with some scattered stout spiniform setae of various sizes. Tarsi II–III with 1.2.2/1 ventral spines. Tarsi IV con 2.2/2/2/0 ventral spines.

FEMALE (fig. 3): in general it is similar to the holotype male, but sexual dimorphism is well evident by: **(a)** entire body and appendages with spiniform setae cover substituted by short, fine setae; **(b)** propeltidium proportionally shorter and wider; **(c)** chelicerae less elongated and more robust, with fixed finger unmodified (i.e., without flagellum, plumose setae or diastema); **(d)** pedipalp patella with the ventral pairs of spiniform setae substituted by long, thin setae.

VARIATION: Apart from its smaller size, the juvenile male paratype differs from the holotype in the same features as the adult female, except for the fact that its propeltidium and chelicerae are somewhat narrower than in the latter. It is worth to mention here that both specimens have identical tarsal spine formula and cheliceral number of teeth, without any variation.

Live individuals of *Ammotrechella beatriceae* n.sp. have the color pattern somewhat darker and more contrasting, with a more reddish tint all over except for the basal segments of the legs, which are immaculate whitish (fig. 3).

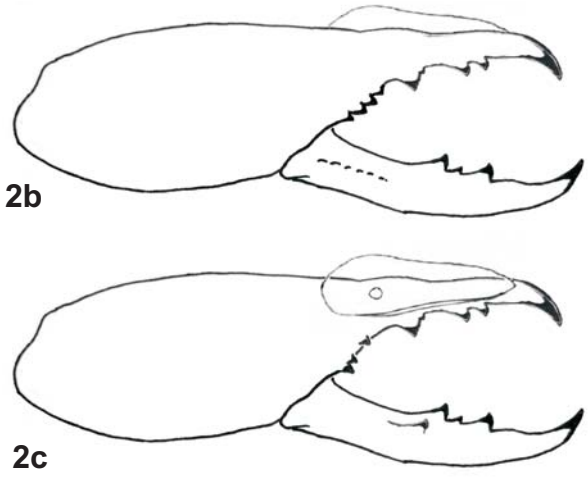
COMPARISONS: *Ammotrechella beatriceae* n.sp. can be very easily distinguished from all other members of this genus by its unique dentition pattern of the cheliceral fixed finger: **(1)** a reduced number of teeth, with only 4 BE and 3 BI; **(2)** the presence of a diastema which separates the basalmost anterior tooth from the intermediate tooth, which is also very reduced and fused to the base of the principal tooth. All other species of *Ammotrechella* possess 4–5 BI and frequently also 5 BE (Maury, 1982; Muma, 1986; Armas & Maes, 1996; Armas & Alegre, 2001; Armas & Teruel, 2005; Teruel & Armas, 2005). On the other hand, the possession of such a diastema has not been recorded previously for this genus, even though it occurs in one Cuban species of *Antillotrecha* Armas 1994 (see Armas & Teruel, 2005), and also in some members of *Ammotrechula* Roewer 1934 (Luis F. de Armas, *in litt.*, August 28, 2011).

Further, the essentially uniform orange coloration without sharply contrasting dark patterns on body and appendages represents another diagnostic character for *Ammotrechella beatriceae* n.sp. All other species of *Ammotrechella* are either pale yellowish with conspicuously dark pedipalp tips or heavily patterned with blackish to purplish brown (Maury, 1982; Muma, 1986; Armas & Maes, 1996; Armas & Alegre, 2001; Armas & Teruel, 2005; Teruel & Armas, 2005).

NATURAL HISTORY: The holotype male was found at night, moving fast between stones in a quarry. The other two specimens were found hidden under rocks during day, in quite open and sparsely vegetated areas.

The adult female was kept in captivity for a week, and then released. While captive, it readily accepted as prey several small Orthoptera (juveniles of *Gryllodes sigillatus*).

COMMENTS: Because of an inadequate preservation, the holotype is somewhat de-hydrated and fragile and thus, left legs I–II and right leg IV became detached from the body during mailing process (fig. 1). But no body parts are missing, the coloration remained unaltered and the taxonomically important structures of this specimen (i.e., setae, spines, teeth, and tegument sculpture) are intact. The juvenile paratype is in perfect condition and is presumably a subadult, because it is just slightly smaller than the holotype.



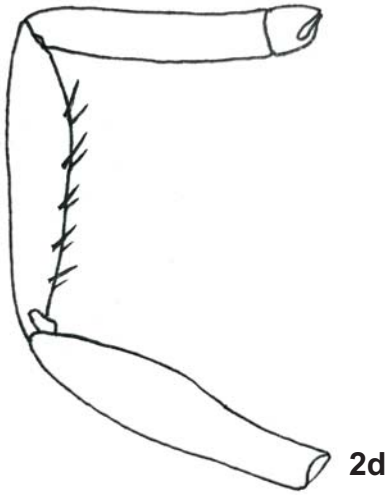


Fig. 1. Adult male holotype of *Ammotrechella beatriceae* n.sp., entire dorsal view. **Fig. 2.** Adult male holotype of *Ammotrechella beatriceae* n.sp., details: **a)** chelicerae, external view (see the exaggerate spiniform setation); **b)** chelicera, external view (setation omitted); **c)** chelicera, internal view (setation omitted); **d)** pedipalp, internal view (setation omitted). **Fig. 3.** Live adult female of *Ammotrechella beatriceae* n.sp. from Chauvette, in its natural habitat: **a)** entire dorsal view; **b)** close-up. **Fig. 4.** Known geographical distribution of *Ammotrechella beatriceae* n.sp.: type-locality (white square), other records (black squares).

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