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Plant mites of the Dominican Republic, with a description of a new species of *Petrobia* (*Tetranychina*) Wainstein, 1960 (Acari, Prostigmata, Tetranychidae) and a key to the species of this subgenus

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Abstract

Fourteen mite species of plant-associated mites of the suborder Prostigmata are reported from the Dominican Republic. Four of these refer to new findings for the country, including *Petrobia* (*Tetranychina*) *hispaniola* n. sp. Sánchez & Flechtmann, described from specimens collected from leaves of *Citrus* sp. (Rutaceae) and *Rosa* sp. (Rosaceae). A key for the separation of the world species of *Petrobia* (*Tetranychina*) is presented.

Key words: Phytophagous mites, taxonomy, Caribbean

Introduction

An ample diversity of ecosystems is found in the Dominican Republic, mainly as a result of its highly variable topography. Thus, a wide diversity of organisms, including mites, would be expected to be found in this country. In regard to mites, a high diversity has been observed in a relatively recent survey, conducted by Ferragut *et al*. (2011), to evaluate the phytoseiid fauna (Acari: Phytoseiidae), an important family of predatory mites. However, studies to determine the composition of other mite groups have been limited in the Dominican Republic.

According to Pérez-Gelabert (2008), 11 species of Tenuipalpidae, 11 species of Tetranychidae and one species of Bdellidae have been reported in the Dominican Republic. The objective of this work is to report the species of plant-associated mites of the order Prostigmata found in this country, based on leaf samples collected from both cultivated plants and natural vegetation.

Material and methods

The survey was conducted in August–November 2008, July–August 2009, January–December 2010, January 2011 and January 2014 in the northern region of the Dominican Republic. Except for the new species here described, all mite specimens were collected by the first author of this paper. Plant parts were collected in plastic bags and transported to the laboratory for examination under a stereomicroscope. Mites were collected and mounted in Hoyer´s medium for subsequent identification under a phase contrast microscope provided with a graded eye piece and a camera lucida.

In the description of the new species, measurements are given in micrometers and refer to the length of each structure, unless otherwise specified. Setal nomenclature is based on Lindquist (1985). For females, each measurement of the holotype precedes the corresponding range for the paratypes.

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5. All legs shorter than idiosoma (not including gnathosoma); distal section of peritreme slightly curved . . . . . *P.* (*T.*) *marsai* Manson, 1964 (Tunisia)
- Legs I and IV longer than idiosoma (not including gnathosoma); distal section of peritreme sigmoid . . . . . *P.* (*T.*) *donnalucatensis* Vacante, 1983 (Sicily)
6. Legs I shorter than idiosoma (not including gnathosoma) 7
- Legs I as long as or longer than idiosoma (not including gnathosoma) 8
7. Dorsal body setae acutely tapering from base, set on moderate tubercles; females large, up to 950 µm long. . . . . *P.* (*T.*) *zachvatkini* Reck & Bagdasarian, 1949 (Armenia)
- Dorsal body setae filiform (more or less cylindrical) and set on very strong tubercles. Females ca. 580 µm long . . . . . *P.* (*T.*) *moutiai* Baker & Pritchard, 1960 (Mauritius)
8. Tubercles of dorsocentral setae c_1, d_1 and e_1 contiguous 9
- Tubercles of dorsocentral setae separated 0
9. Peritreme ending in a simple, hooked chamber . . . . . *P.* (*T.*) *uncata* (Flechtmann & Moraes, 1991) (Brazil)
- Peritreme ending in anastomosing chambers forming a globular structure . . . . . *P.* (*T.*) *lippiae* Baker & Tuttle, 1994 (USA)
10. Legs I at most 1.5 times as long as idiosoma (not including gnathosoma). . . . . *P.* (*T.*) *lupini* McGregor, 1950 (USA)
- Legs I at least twice as long as idiosoma (not including gnathosoma) 11
11. Legs I about twice as long as idiosoma (not including gnathosoma) 12
- Legs I well over twice as long as idiosoma (not including gnathosoma) 14
12. Stylophore with numerous anterior papillae . . . . . *P.* (*T.*) *tribulus* Chaudhri, 1972 (Pakistan)
- Stylophore smooth. 13
13. Peritreme ending in a simple chamber . . . . . *P.* (*T.*) *harti* Ewing, 1909 (USA)
- Peritreme ending in anastomosing chambers forming a globular structure . . . . . *P.* (*T.*) *hispaniola* **n. sp.** (Dominican Republic)
14. Stylophore with an anteromedian notch and papillate; tibia I with 27 setae; tarsus I with 30 setae. . . . . *P.* (*T.*) *nocitus* Chaudhri, 1972 (Pakistan)
- Stylophore without anteromedian notch, papillate or not; tibia I with 23–26 setae; tarsus I with 25–28 setae 15
15. Peritreme enlarged and hooked distally; stylophore without papillae . . . . . *P.* (*T.*) *kleptes* Kamran & Afzal, 2004 (Pakistan)
- Peritreme ending in anastomosing chambers, forming a heart shaped bulb; stylophore papillate 16
16. Dorsal idiosomal striation simple; leg IV ca 1200 µm long . . . . . *P.* (*T.*) *afzali* Sabri & Afzal, 2007 (Pakistan)
- Dorsal idiosomal striation dotted; leg IV ca. 938 µm long . . . . . *P.* (*T.*) *cardi* Chaudhri, 1972 (Pakistan)

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