

Notes on the mites living in the flowers of *Espeletia* spp.
(Asteraceae) in Colombia. III. A new phytoseiid mite,
Amblyseius rackae sp. n. (Acari, Mesostigmata,
Phytoseiidae)

ALEX FAIN

(With 6 figures)

Abstract

A new species in the genus *Amblyseius* Berlese, 1904 (Acari, Phytoseiidae), *A. rackae* sp. n., is described from the flowers of several *Espeletia* spp. in the páramo area, Colombia.

Introduction

Fain & Rack (1987) and Fain (1987) have described a new genus and three new species of astigmatic mites found in the flowers of *Espeletia* spp. from the high tropical mountains of the Andine area (páramo area), in Colombia. Herein a new species of mite belonging to the genus *Amblyseius* Berlese, 1904 (Mesostigmata, Phytoseiidae) is described. This species, *A. rackae* sp. n. was found in the flowers of *Espeletia grandiflora*, *E. brachyxantha* and *E. incana*, in the same area as the previous species.

The mites of the family Phytoseiidae are cosmopolitan and occur in a wide variety of plants. They feed on plants, juices, pollen etc., and are also partly predacious on various mites especially the harmful tetranychids and eriophyids. Actually they are extensively used for the biological control of these mites and have therefore a great economical importance.

All the measurements are given in micrometer (μm).

A list of the plant-hosts has been given in the paper of Fain & Rack (1987).

Family Phytoseiidae Berlese, 1916

Genus *Amblyseius* Berlese, 1904

Amblyseius rackae sp. n.

I have the pleasure to name this new species for Dr. Gisela Rack, Zoological Museum of the University of Hamburg, who sent me these mites for study.

Female (figs 1-4): Idiosoma in the holotype 385 long 250 wide. Dorsal shield with a light reticulum, 370 long and 228 wide (maximum). In 5 paratypes the length x width of the scutum is: 380 x 184, 376 x 178, 374 x 240, 370 x 215 and 338 x 170. The scutum bears 17 pairs of setae. There are 4 pairs of pro-lateral setae. The lateral setae z_2 , s_4 , s_2 , z_1 , z_4 and z_5 measure 50 to 65 long. Median setae (j_4 , j_5 , z_5) are 25 to 30 long. The J_5 is 6 long. All these setae are bare except z_5 which bears a few very short barbs. The soft cuticle outside of the scutum bears 3 pairs of thin setae 30-35 long (r_3 , r_5 and R_1). Sternal shield with an un conspicuous reticulum, and bearing the 3 anterior sternal setae. The fourth pair of sternal setae is situated on small metasternal shields. Genital shield lightly reticulated, truncated posteriorly, bearing the genital setae, its maximum width is 90. Ventri-anal shield longer (120) than wide (98) with 3 pairs of preanal setae. There are 4 pairs of setae on the soft cuticle of opisthogaster. Two pairs of narrow elongate metapodal plates. Peritremal plate narrow and fused with the exopodal plate. Peritreme extending slightly in front of coxa I. The inseminating apparatus consists of the following structures (at both sides): a narrow *adductor canal* 8 long, a *maturation pouch* formed of a sclerotized funnel-shaped part (*calyx*) and an apical membranous sac, a very thin canal (*spermiduct*) originating from the slightly dilated basal part (*atrium*) of the base of the maturation pouch and running posteriorly. The spermiduct is about 130 long and its ends into the non-sclerotized *spermatheca* (non visible) by a small fork (Nomenclature of the inseminating apparatus after Fain 1963). Base of the gnathosoma 90 wide. Chelicerae 150 long; fixed digit with about 10-12 teeth and a pilus dentilis 6-8 long; moveable digit with 3 teeth. Legs: Genu II and III with 9 and 7 setae respectively. Tarsus IV with a macroseta 55 long.

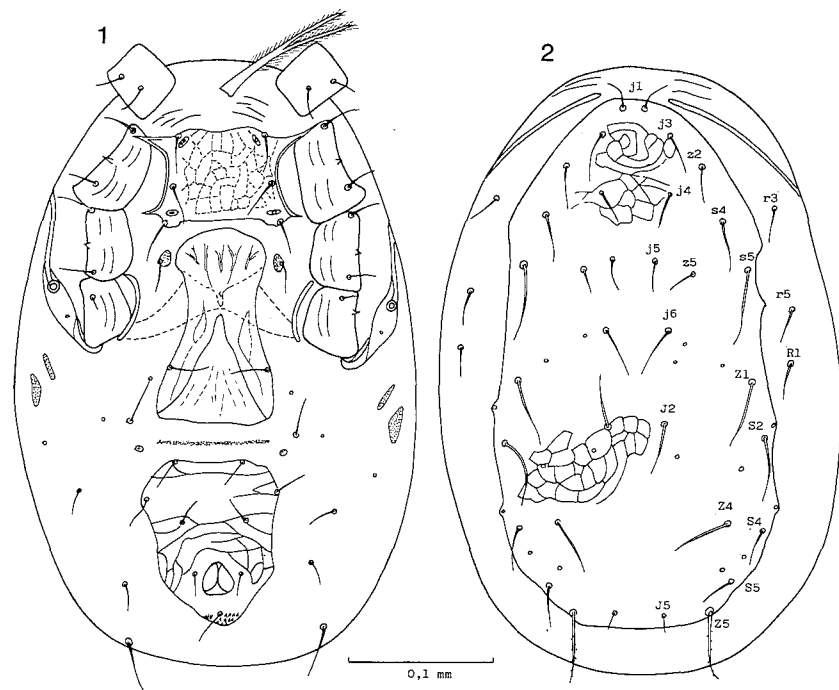
Male (figs 5-6): Idiosoma 315 long and 189 wide. Chaetotaxy of the scutum as in the female. Ventri-anal shield triangular with base anterior 145 wide; it bears 6 pairs of setae. Chelicerae: Moveable digit with a "spurred" spermatodactyl.

Variations in *A. rackae*: Slight variations are observed in the shape of the ventri-anal shield and the lengths of the scutal setae. In all the females from the flowers n°86/36, except in four females, the soft cuticle outside of the scutum bears 2 pairs of setae and these setae are longer than the normal 3 pairs of setae. By all the other characters these specimens are not separable from the holotype. In one paratype male the ventri-anal shield bears 7 pairs of anterior setae.

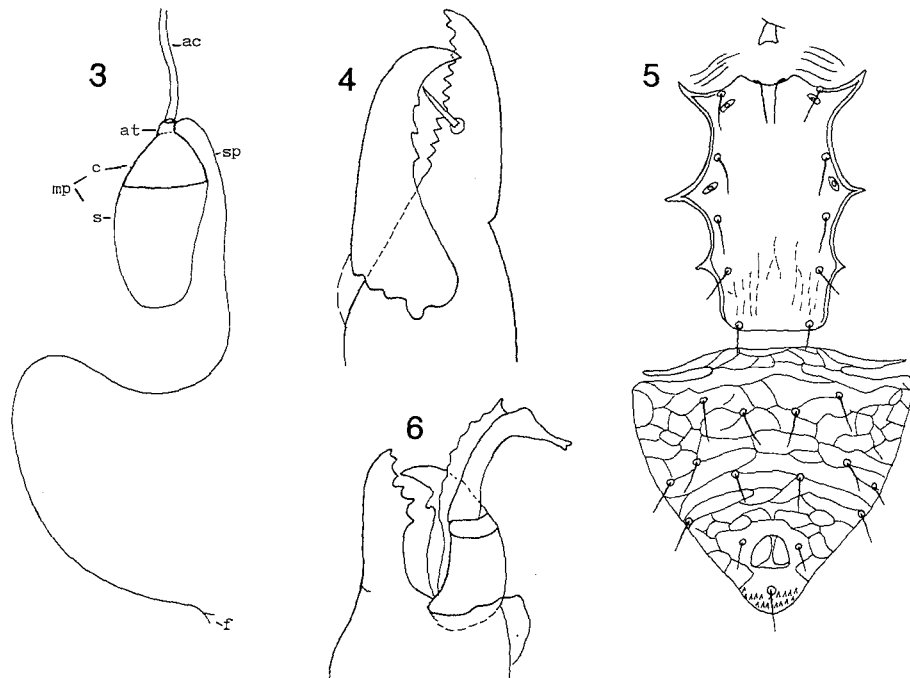
Habitat and deposition of types: For more details concerning the plant-hosts, see Fain and Rack 1987.

Holotype female from the flower of *Espeletia grandiflora* n°86/25, Páramo de Chingaza, circa 15 km WSW of Bogotá (alt. 3550-3700).

Paratypes: 9 females and 2 males with the same data as the holotype; 10 females and 1 male from *E. grandiflora* n°86/21; 9 females and 2 males



Figs 1-2: *Amblyseius rackae* sp. n. Female in ventral (1) and dorsal (2) view.



Figs 3-6: *Amblyseius rackae* sp. n. Female: Inseminating apparatus (3); cheliceral digits (4). Male: Ventral shields (5); cheliceral digits (6) (Abbreviations: ac = adductor canal; at = atrium; mp = maturation pouch, with its two parts (c = calyx and s = membranous sac); sp = spermiduct and its forked junction (f) with the spermatheca.

from *E. grandiflora* n°86/22; 3 females and 2 males from *E. grandiflora* n°86/23; 6 females from *E. grandiflora* n°86/24; 2 females from *E. brachyxantha* n°86/34, Páramo Alto, circa 220 km NNW of Bogotá and 6 km NW of Belén (alt. 3600 m), 1.10.1986; 13 females from *E. grandiflora* n°86/36; 5 females from *E. incana* n°85/120.

Holotype and 35 paratypes female and 4 paratypes male in the Zoologisches Museum of the University Hamburg; 22 paratypes female and 3 paratypes male in the Institut royal des Sciences naturelles de Belgique, Bruxelles. A paratype female in the British Museum (Nat.Hist.) London, the Museum national d'Histoire naturelle, Paris and in the U.S. National Museum, Washington.

Remarks: To our knowledge no phytoseiid mites have, so far, been described from the high tropical mountains of the Andine area (Páramo area).

Denmark & Muma (1972) reported from the lower parts of Colombia the presence of eleven species belonging to different genera of Phytoseiidae, of which two species of the genus *Amblyseius* (*A. anacardii* De Leon, 1967 and *A. deleoni* Muma and Denmark, 1971, one taken from *Citrus* sp. the other from *Passiflora edulis* var. *flavicarpa*).

A. rackae differs clearly from these species by the much shorter lengths of the setae *s5*, *S5* and *Z5* and the different shape of the inseminating apparatus.

References

- De Leon, D., 1967: Some mites of the Caribbean Area. - Allen Press Lawrence, Kansas, U.S.A. 66 pp.
- Denmark, H.A. & Muma, M.H., 1972: Some Phytoseiidae of Colombia (Acarina: Phytoseiidae). - Florida Entomologist, 55: 19-27. Gainesville, Fla.
- Fain, A., 1963: La spermathèque et ses canaux adducteurs chez les acaridés mesostigmatiques parasites des voies respiratoires. - Acarologia, 5: 463-479. Paris.
- Fain, A., 1987: Notes on the mites living in the flowers of *Espeletia* spp. (Asteraceae) in Colombia. II. *Espeletiacarus andinus* gen. n., sp. n. and *Michaelopus incanus* sp. n. (Acaridae). - Ent. Mitt. zool. Mus. Hamburg, 9 (130): 37-47. Hamburg.
- Fain, A. & Rack, G., 1987: Notes on the mites living in the flowers of *Espeletia* spp. (Asteraceae) in Colombia. I. *Carpoglyphus sturmi* sp. n. (Acari, Carpoqlyphidae). - Ent. Mitt. zool. Mus. Hamburg, 9 (130): 9-19. Hamburg.

Address of the Author:

Prof. Dr. Alex Fain, Institut royal des Sciences naturelles de Belgique, 29 Rue Vautier, 1040 Bruxelles, Belgique.

