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A new genus and five new species of eriophyid mites (Acari: Eriophyoidea)

ABSTRACT

Apontella, a new genus belonging to Eriophyidae, Nothopodinae related to *Disella* Newkirk and Keifer as well as five new species of the same family are described and illustrated. *Apontella bravaisiae* n. sp. is vagrant on leaves of *Bravaisia integerrima* (Acanthaceae); *Aceria pithecolobi* n. sp. was found in erineum of *Pithecolobium dulcae* (Fabaceae) and *Aceria maracai* n. sp. was found causing galls on lower leaf surface of *Pluchea odorata* (Compositae). The above species were collected in Maracay, Aragua, Venezuela. *Aceria ruelliae* Channabasavanna, described from South India in whitish erineum on *Ruellia patula*, was collected, in the same locality in Venezuela, in erineum on *Ruellia tuberosa* (Acanthaceae). *Aceria echinopsi* n. sp., was found in Africa (in Libya) causing galls on leaves of *Echinops* sp. (Compositae) and *Aceria saturejae* n. sp. was found in Italy causing flower deformation on *Satureja graeca*.

INTRODUCTION

A new genus and five new species are described and illustrated by S.E.M. micrographs and light microscopic drawings.

Type materials are deposited at Department of Applied Entomology SGGW, Warszawa, Poland and Istituto di Entomologia Agraria Bari, Italy.

Designations on Plates

AP - Internal female genital structures
Da - Anterior dorsum
CS - Lateral view of opisthosoma's end
F - Featherclaw (empodium)
GF - Coxae and female genitalia
L1 - Foreleg
SA - Anterior side view of mite

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Apontella n. gen.

Generic description: Nothopodine mite with fusiform, tapering body. Rostrum short projecting down. Shield subtriangular in anterior outline, with very short lobe over rostrum, rounded posteriorly with median longitudinal and submedian lines. Dorsal tubercles set well ahead of rear shield margin and directing setae up and postero-laterally, diverging. Forecoxae fused, not forming distinct sternum, with two pairs of setae. Forefemoral setae absent, tibia but slightly indicated on lateral side of legs; no foretibial setae. Opisthosoma dorsally forming a central longitudinal furrow and two sublateral ridges, with slight ventral increase in ring number, with all standard setae present. Female genital coverflap with transverse curved lines. Internal genital apodeme of moderate length. The genus is named for Dr. Orlando Aponte, Instituto de Zoologia Agricola, UCV, Maracay, Aragua, Venezuela who sent us the Venezuelian species.

This new genus is close to *Disella* Newkirk and Keifer, 1975, but it can be distinguished by the presence of dorsal furrow, two ridges and the first forecoxal setae, diverging dorsal setae and the absence of forefemoral setae. All known *Disella* species have opisthosomal rings evenly arched.

Genotype: *Apontella bravaisiae* n. sp.

Apontella bravaisiae n. sp. (plates 1-2)

Female - 165 μm long (range of 10 specimens 135 - 172 μm); 59 μm wide, 40 μm thick; fusiform, slightly flattened. Rostrum 20 μm long; rostral setae 2 μm long; chelicerae 18 μm long; dorsal shield 47 (43-49) μm long with lobe over rostrum 2 μm long, with obscure median, and admedian longitudinal lines. Dorsal tubercles 17 μm ahead of rear shield margin, situated laterally, 25 μm apart, with dorsal setae 5 μm long, directed up, slightly laterally and diverging. Foreleg 28 μm long; forefemur 11 μm long without setae, genu 2 μm long, tibiotarsus 9 μm long; claw (solenidium) 4 μm long, unknobbed; featherclaw (empodium) 5 μm long, 5-rayed. Hindleg 24 μm long; tibiotarsus 8 μm long; claw (solenidium) 10 μm long, unknobbed; featherclaw (empodium) 5 μm long. Coxae with some ornamentation of granules; first forecoxal tubercles 11 μm apart; setae 4 μm long; second forecoxal tubercles 8 μm apart; 25 μm long. Hindcoxal tubercles 26 μm apart; setae 22 μm long; sternum 5 μm long. Opisthosoma with 28 broad tergites and about 45 sternites. Tergites with very undistinct elongated microtubercles touching rear margins of tergites. Sternites with elongated more distinct microtubercles. Lateral setae 30 μm

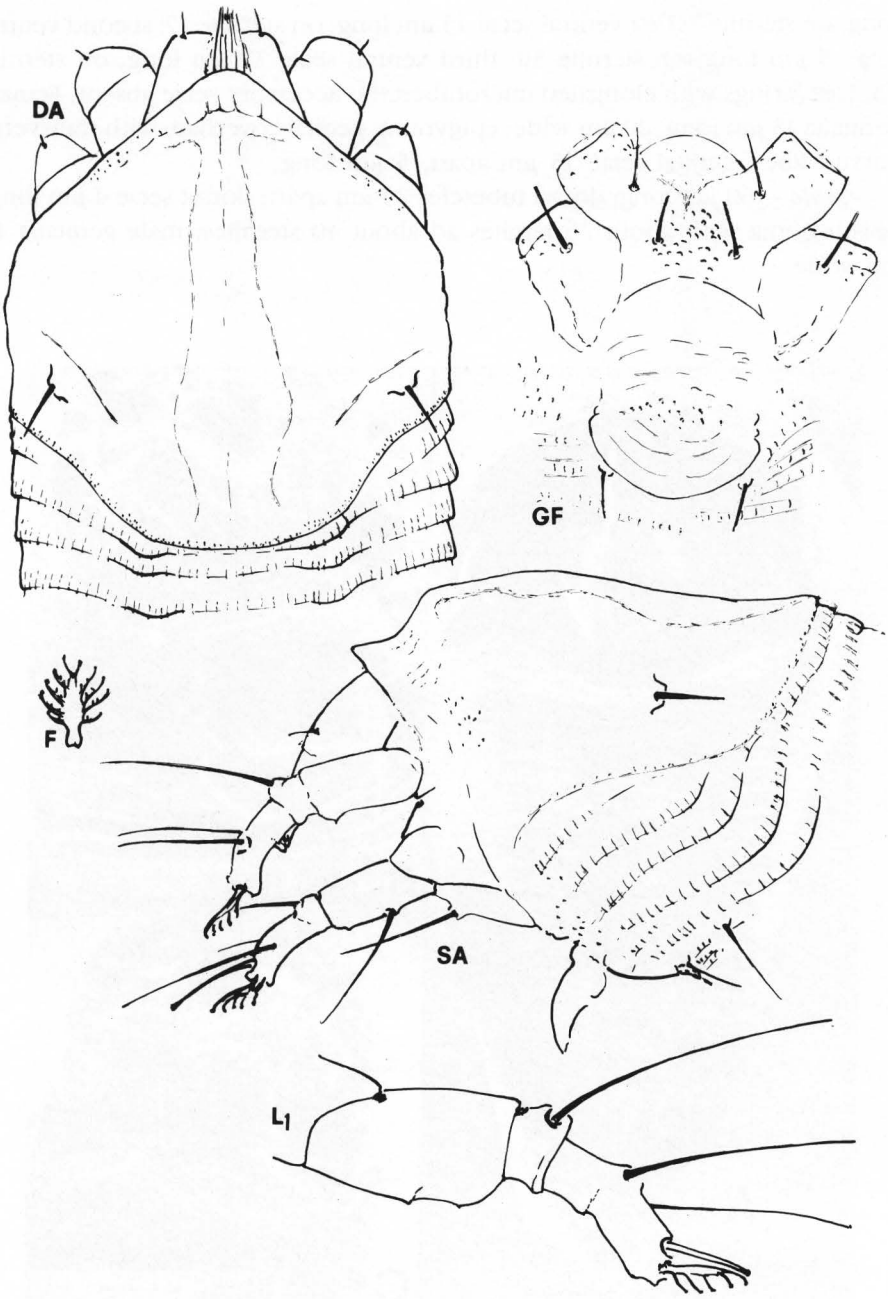

Plate 1 - *Apontella bravaisiae* n. sp.

long, on sternite 7; first ventral setae 45 μm long, on sternite 17; second ventral setae 5 μm long, on sternite 30; third ventral setae 37 μm long, on sternite 43. Last 5 rings with elongated microtubercles. Accessory setae absent. Female genitalia 15 μm long, 20 μm wide; epigynum, genital coverflap, with transverse curved lines; genital setae 15 μm apart, 5 μm long.

Male - 160 μm long; dorsal tubercles 25 μm apart; dorsal setae 4 μm long; opisthosoma with about 26 tergites ad about 40 sternites; male genitalia 15 μm wide.

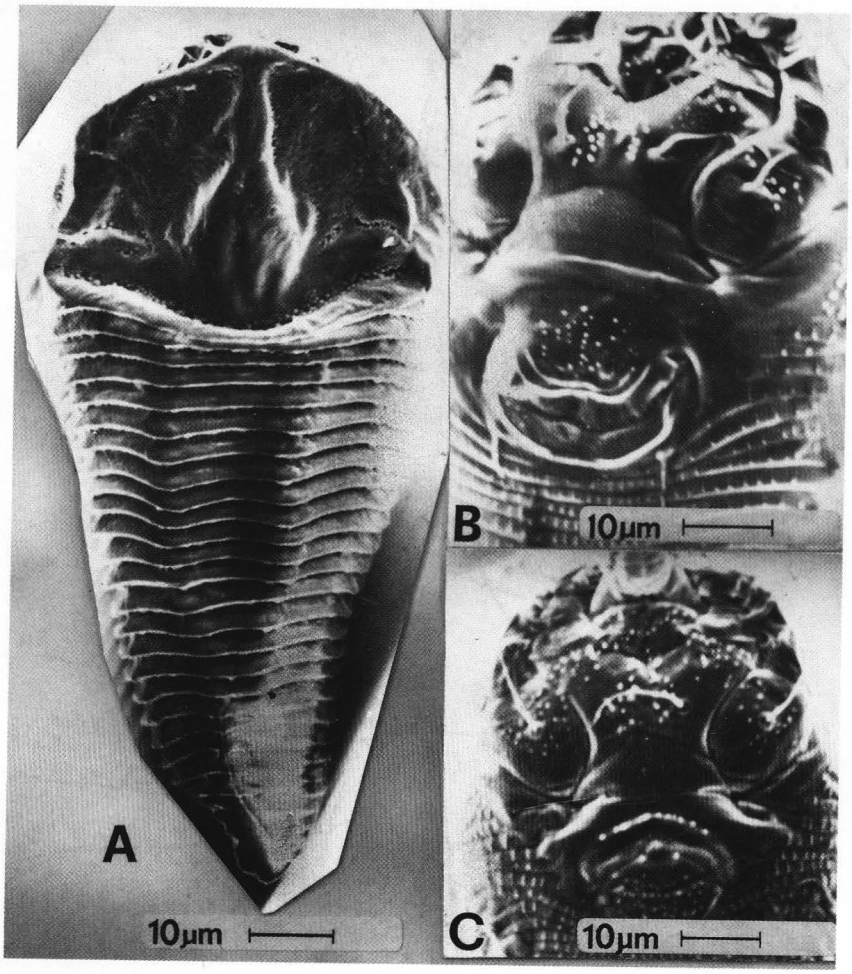

Plate 2 - *Apontella bravaisiae* n. sp.: A, dorsal side of the body; B, female genitalia and coxae; C, male genitalia and coxae.

Host plant - *Bravaisia integerrima* (Spreng) Standl. (Acanthaceae)

Relation to host plant: vagrant on undersurface of leaves.

Type material - Holotype: female on slide, Maracay, Aragua, Venezuela, March 15, 1988, Rosa Mickel. Paratypes (8): females (7) and male (1) on slides, same data as holotype.

Notes - This species is characterized by the presence of some granulations on coxae, short diverging dorsal setae, 5-rayed featherclaw. Opisthosoma with about 28 tergites.

Aceria pithecolobi n. sp. (plates 3-4)

Female - 162 μm long (range of 10 specimens 132-178 μm); 36 μm wide, 32 μm thick; wormlike. Rostrum 13 μm long; chelicerae 11 μm long. Dorsal shield 30 μm long with very short lobe over rostrum, laterally with granules; with complete median and admedian lines. Dorsal tubercles on rear shield margin; 25 μm apart, with dorsal setae 5 μm long, directed to the rear and diverging. Foreleg 23 μm long; tibia 3 μm long without seta; tarsus 4 μm long; claw (solenidium) 4 μm long unknobbed; featherclaw (empodium) 6 μm long, 5-rayed. Hindleg 21 μm long; tibia 2 μm long; tarsus 4 μm long; claw (solenidium) 7 μm long, unknobbed; featherclaw (empodium) 5 μm long. Coxae with ornamentation of fine granules; first forecoxal tubercles 8 μm apart; setae 5 μm long; second forecoxal tubercles 8 μm apart; setae 15 μm long. Hindcoxal tubercles 20 μm apart; setae 23 μm long; sternum 8 μm long. Opisthosoma with about 47 microtuberculae tergites and about 60 microtuberculate sternites. Microtubercles elongated. Lateral setae 30 μm long, on sternite 8; first ventral setae 39 μm long, on sternite 20; second ventral setae 50 μm long, on sternite 34; third ventral setae 18 μm long, on sternite 53. Last 5 rings broader. Accessory setae missing. Female genitalia 15 μm long, 21 μm wide; epigynum proximally with granules and distally with 12 longitudinal short striae; genital setae 31 μm apart, 14 μm long.

Male - 120 μm long.

Nymph II - 142 μm long; shield 27 μm long; chelicerae 11 μm long; dorsal setae 5 μm long. Opisthosoma with about 32 rings; genital setae 11 μm apart.

Host plant - *Pithecolobium dulceae* (Roxb.) Benth. (Fabaceae).

Relation to host plant: causing erineum on undersurface of leaves.

Type material - Holotype: female on slide, Maracay, Aragua, Venezuela, June 15, 1987, J.A. Munoz. Paratypes (9): females (8) and male (1) on slides, same data as holotype.

Notes - This species is close to *Aceria rosas-costae* K., 1952 and can be distinguished by the shield and coverflap pattern, foretibia, microtubercles, length of body and setae. In *A. rosas-costae* shield without median line, coverflap with longitudinal striae, foretibia with seta, body 115-125 μm long, dorsal seta 14 μm long, microtubercles rounded, accessory seta present. In the new species shield with median line, coverflap with granules proximally and striae distally, foretibia and forefemur without setae, body 132-178 μm long, dorsal setae 5 μm long, microtubercles elongated, accessory setae absent.

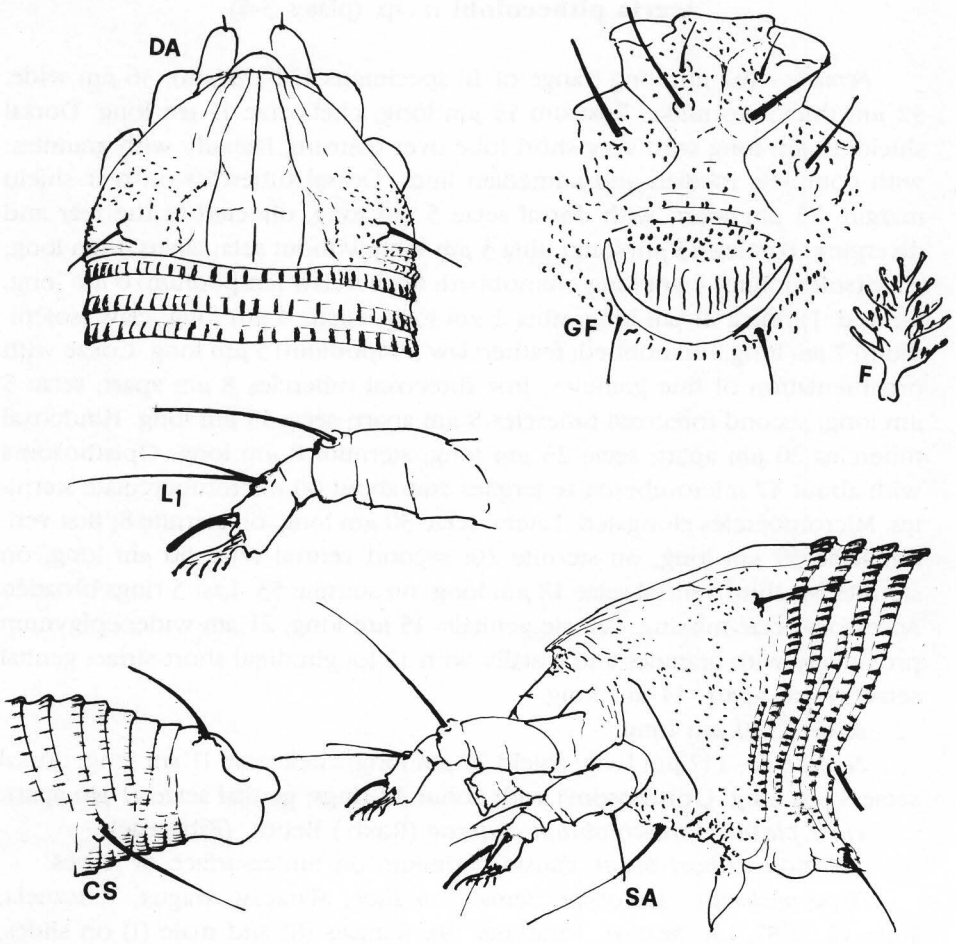

Plate 3 - *Aceria pithecolobi* n. sp.

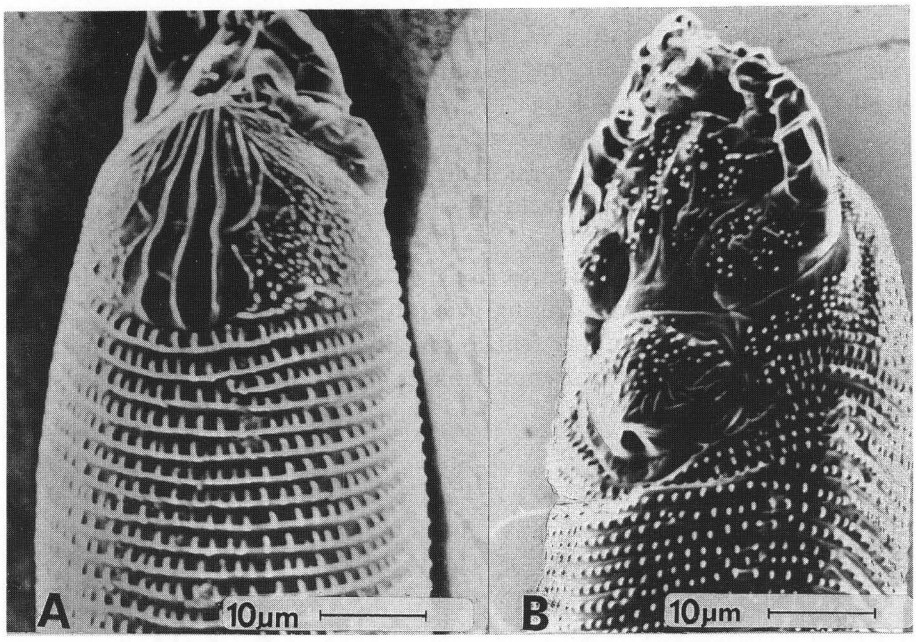

Plate 4 - *Aceria pithecolobi* n. sp.: A, dorsal view of anterior part of the body; B, latero-ventral view of female.

Aceria maracai n. sp. (plates 5-6)

Female - 204 µm long (range of 10 specimens 160-225 µm); 35 µm wide, 27 µm thick; wormlike. Rostrum 15 µm long; rostral seta 3 µm long; chelicerae 12 µm long. Dorsal shield 15 µm long without lobe over rostrum, with broken median, more distinct admedian and submedian lines; with some granules laterally and close to rear shield margin. Dorsal tubercles on rear shield margin, 17 µm apart, with dorsal setae 25 µm long, directed to the rear and diverging. Foreleg 23 µm long; tibia 3 µm long; without seta; tarsus 6 µm long; claw (solenidium) 5 µm long, unknobbed; featherclaw (empodium) 5 µm long, 4-rayed. Hindleg 20 µm long; tibia 3 µm long; tarsus 5 µm long; claw (solenidium) 7 µm long, unknobbed; featherclaw (empodium) 5 µm long. Coxae with ornamentation of granules; first forecoxal tubercles 7 µm apart; setae 6 µm long; second forecoxal tubercles 8 µm apart; setae 15 µm long. Hindcoxal tubercles 16 µm apart; setae 35 µm long; sternum 5 µm long. Opisthosoma with about 78 microtuberculate rings (74-92). Microtubercles elongated touching rear margin of rings. Lateral setae 15 µm long, on sternite 11; first ventral setae 57 µm long, on sternite 24; second ventral setae 30 µm long, on sternite 43; third ventral

setae 20 μm long, on sternite 72. Last 6 rings broader. Accessory seta 2 μm long. Female genitalia 10 μm long, 14 μm wide; epyginum with granules; genital setae 14 μm apart, 15 μm long.

Male - 140 μm long; dorsal tubercles 14 μm apart; dorsal setae 23 μm long; opisthosoma with about 67 rings; male genitalia 15 μm wide.

Nymph II - 170 μm long; shield 20 μm long; chelicerae 10 μm long; dorsal setae 20 μm long.

Host plant - *Pluchea odorata* (L.) Cass. (Compositae)

Relation to host plant: causing galls on lower leaf surface.

Type material - Holotype: female on slide, Maracay, Aragua, Venezuela, May 20, 1988, R. Mickel. Paratypes: females (9) and male (1) on slides, same data as holotype.

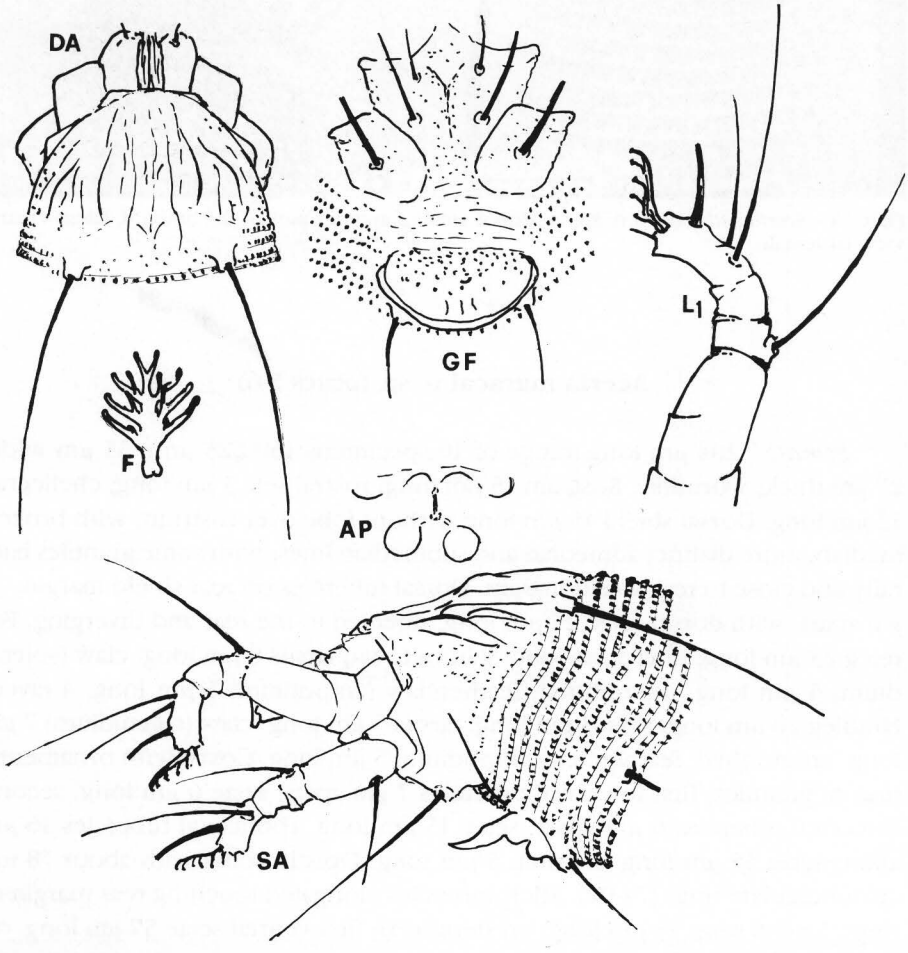

Plate 5 - *Aceria maracai* n. sp.

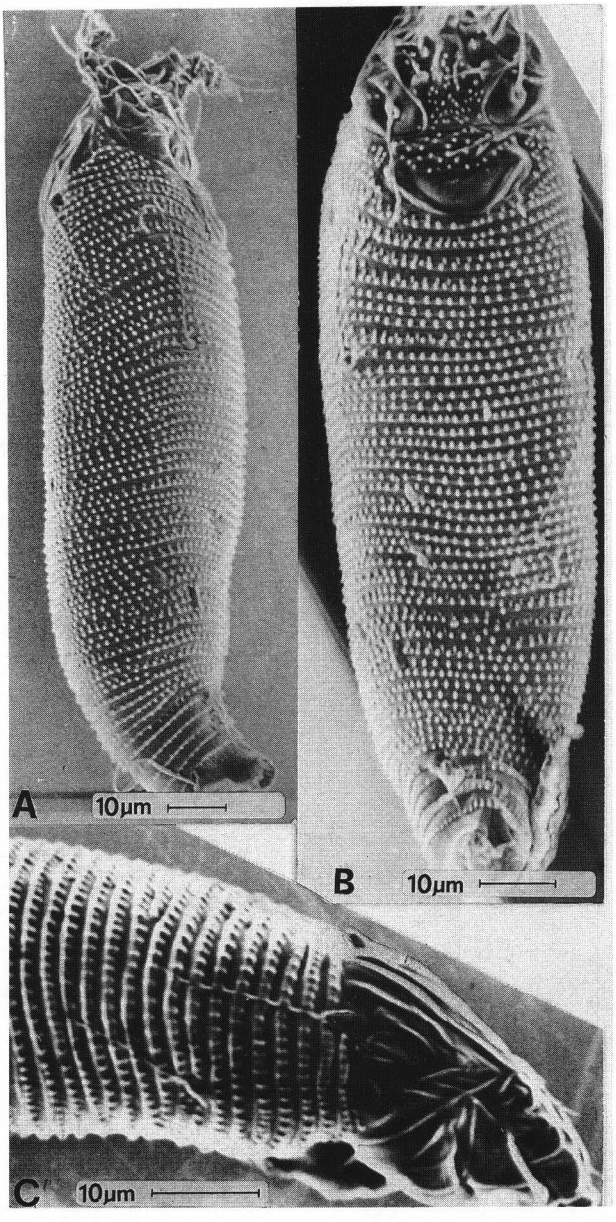

Plate 6 - *Aceria maracai* n. sp.; A, lateral view of female; B, ventral view of female; C, lateral view of anterior part of the body.

Aceria echinopsi n. sp. (plates 7-8)

Female - 225 μm long (range of 10 specimens 182 - 230 μm); 50 μm wide, 40 μm thick; wormlike. Rostrum 18 μm long; rostral seta 5 μm long; chelicerae 13 μm long. Dorsal shield 30 μm long (28-32), with 3 μm long lobe over

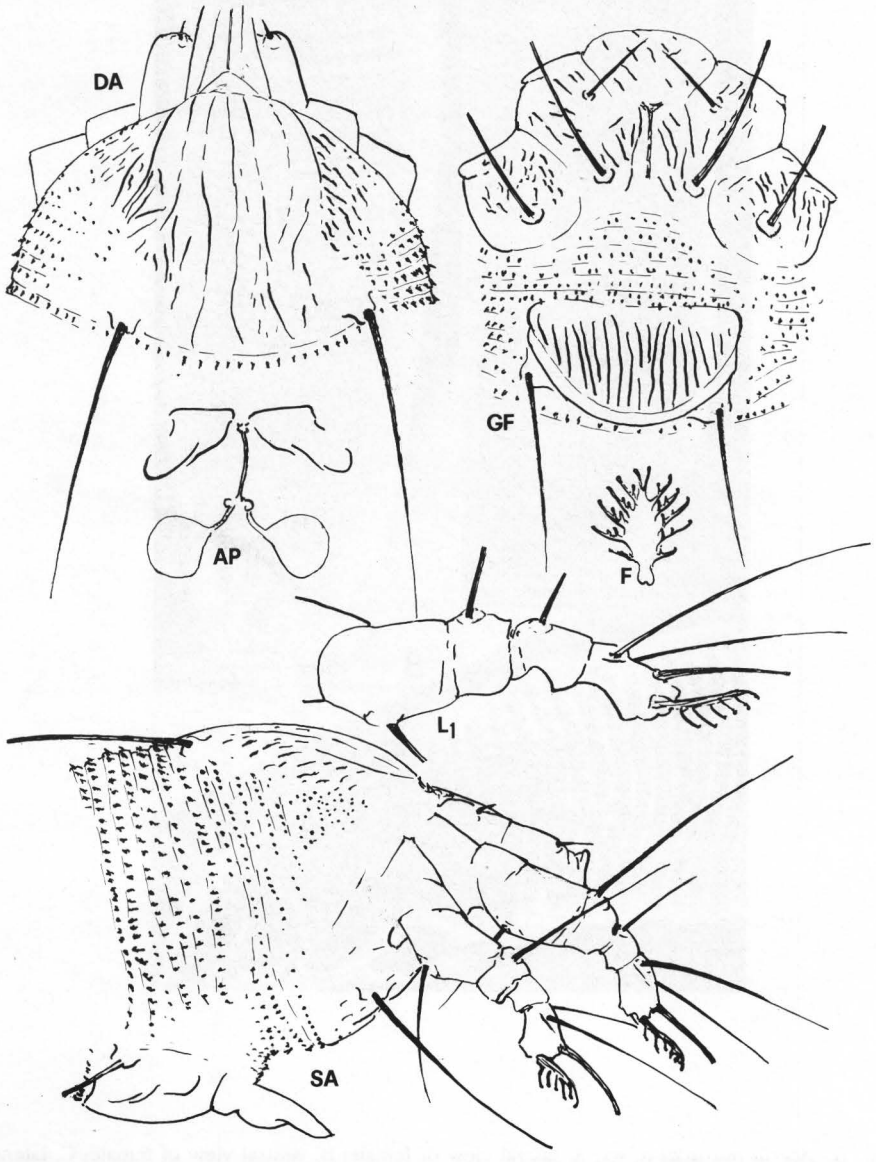

Plate 7 - *Aceria echinopsi* n. sp.

rostrum, with straight median, long admedian and three submedian lines laterally with some fingerlike processes. Dorsal tubercles on rear shield margin; 26 μm apart, with dorsal setae 38 μm long, directed up and to the rear, diverging.

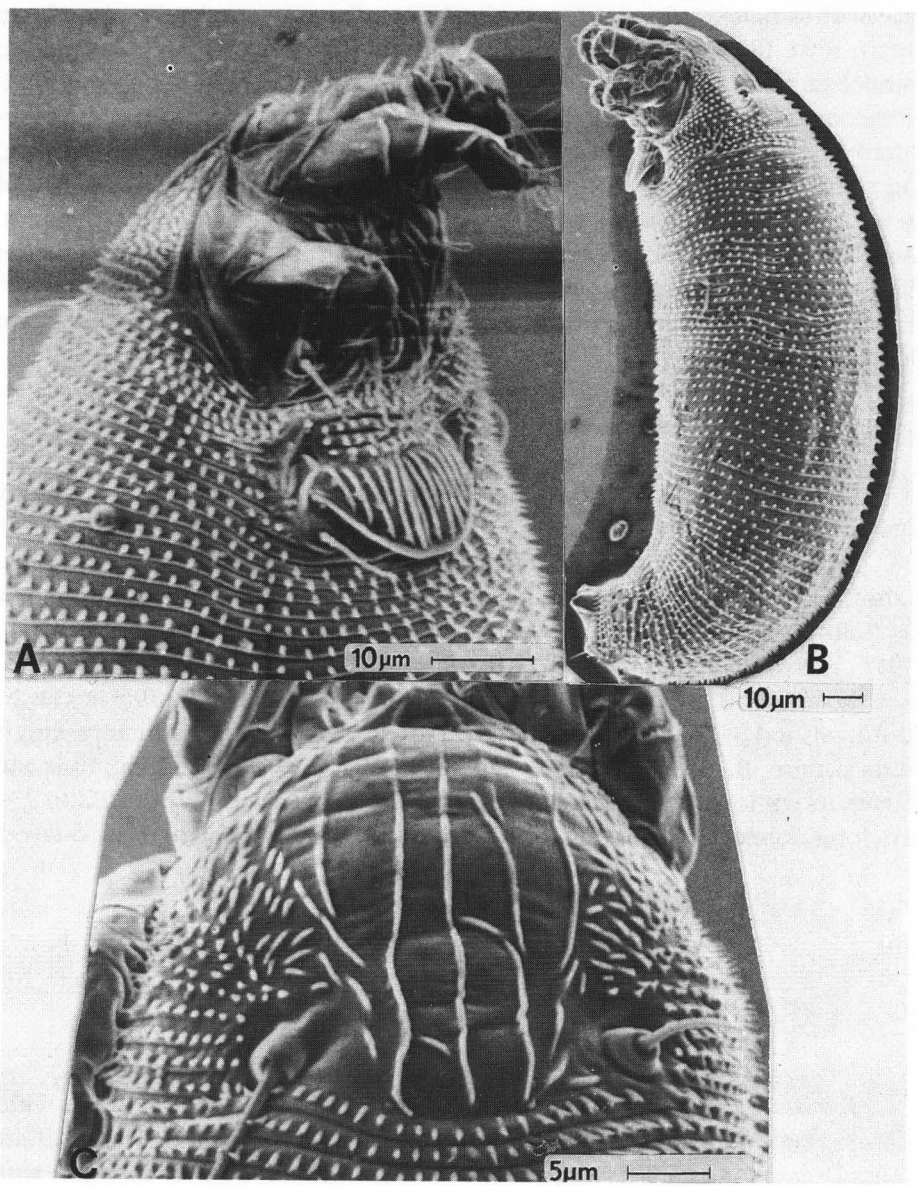

Plate 8 - *Aceria echinopsi* n. sp.: A, latero-ventral view of female anterior part of the body; B, lateral view of female; C, anterior part of the body, dorsally.

Foreleg 26 μm long; tibia 4 μm long; with seta 10 μm long; tarsus 8 μm long; claw (solenidium) 10 μm long, unknobbed; featherclaw (empodium) 8 μm long, 6-rayed. Hindleg 24 μm long; tibia 4 μm long; tarsus 7 μm long; claw (solenidium) 10 μm long, unknobbed; featherclaw (empodium) 8 μm long. Coxae with ornamentation of longitudinal dots; first forecoxal tubercles 15 μm apart; setae 18 μm long; second forecoxal tubercles 10 μm apart; 38 μm long; hindcoxal tubercles 28 μm apart; setae 55 μm long; sternum 5 μm long. Opisthosoma with about 95 (79-97) microtuberculate rings. Microtubercles spinuliferous. Lateral setae 20 μm long, on sternite 16; first ventral setae 45 μm long, on sternite 35; second ventral setae 21 μm long, on sternite 54; third ventral setae 25 μm long, on sternite 89. Last 6 rings with elongated microtubercles. Accesory seta 4 μm long. Female genitalia 13 μm long, 25 μm wide; epigynum with 18-20 striae distally; genital setae 20 μm apart, 20 μm long.

Male - 182 μm long; dorsal tubercles 23 μm apart; dorsal setae 32 μm long; opisthosoma with about 75 rings; male genitalia 21 μm wide.

Nymph II - 205 μm long; shield 28 μm long; chelicerae 14 μm long; dorsal setae 43 μm long, genital setae 9 μm apart, 11 μm long.

Host plant - *Echinops* sp. (Compositae).

Relation to host plant: forming subspherical galls, with cells inside, along margin of leaves.

Type material - Holotype: female on slide, A Gasr. Bu Tuil near Taruna, Libya, 14, May, 1913. Paratypes: females (8) and males (2) on slides, same data as holotype. Dry material, as well as herbarium (TROTTER A. e CECCONI G., 1917 - *Cecidotheca italica*, vol. XII - fasc. XXI n. 523).

Notes - This species is close to *Aceria balasi* Farkas, 1960, but it can be distinguished by the length of body and forelegs, featherclaw structure, epigynum pattern. In *A. balasi* female 240 μm long, forelegs 45 μm long, tibia and tarsus 16 μm long, featherclaw 5-rayed. In the new species female 182 to 230 μm long, forelegs 26 μm long, tibia and tarsus 7 μm long, featherclaw 6-rayed.

Aceria saturejae n. sp. (plates 9 - 10)

Female - 234 μm long (range of 10 specimens 180-234 μm); 50 μm wide, 45 μm thick. Rostrum 16 μm long; rostral seta 10 μm long; chelicerae 19 μm long. Dorsal shield 33 μm long, semicircular, without lobe over rostrum, with median, admedian and submedian lines, laterally with dots. Dorsal tubercles on rear shield margin; 28 μm apart, with dorsal setae 52 μm long, directed

to the rear, diverging. Foreleg 54 μm long; tibia 9 μm long; with seta 9 μm long; tarsus 11 μm long; claw (solenidium) 9 μm long, unknobbed; featherclaw (empodium) 8 μm long, 4 - 5 - rayed. Hindleg 45 μm long; tibia 8 μm long;

Plate 9 - *Aceria saturejae* n. sp.

tarsus 10 μm long; claw (solenidium) 9 μm long; featherclaw (empodium) 9 μm long. Coxae with ornamentation of dots; first forecoxal tubercles 15 μm a part; setae 20 μm long; second forecoxal tubercles 10 μm apart; 35 μm long. Hindcoxal tubercles 25 μm apart; setae 70 μm long, forecoxae fused not forming sternum. Opisthosoma with about 92 microtuberculate rings. Microtubercles touching rear margin of rings, pointed. Lateral setae 70 μm long, on sternite 14; first ventral setae 65 μm long, on sternite 33; second ventral setae 35 μm long, on sternite 54; third ventral setae 35 μm long, on sternite 84. Last 8 rings with elongated microtubercles. Accessory seta 5 μm long. Female genitalia 22 μm long, 30 μm wide; epigynum with granules proximally and numerous striae (20-24) distally; genital setae 20 μm apart, 30 μm long.

Male - 182 μm long; dorsal tubercles 26 μm apart; dorsal setae 45 μm long; opisthosoma with about 75 rings; male genitalia 21 μm wide.

Nymph II - 215 μm long; shield 30 μm long; dorsal setae 31 μm long, chelicerae 15 μm long.

Host plant - *Satureja graeca* L. (Labiatae)

Relation to host plant: - causing flower deformation.

Type material - Holotype on slide, female, Monte Terminio, Avellino, Italy, July 1909. Paratypes: Females (8) and male (1) on slides, same data as holotype. Dry material: as well as herbarium (TROTTER A. e CECCONI G., 1917 - *Cecidotheca italica*, vol. XII, fasc. XXIII n. 564).

Notes - This species is close to *Aceria sphacelina* K., 1955, but it can be distinguished by the body size, length of legs, coxae and epigynum pattern.

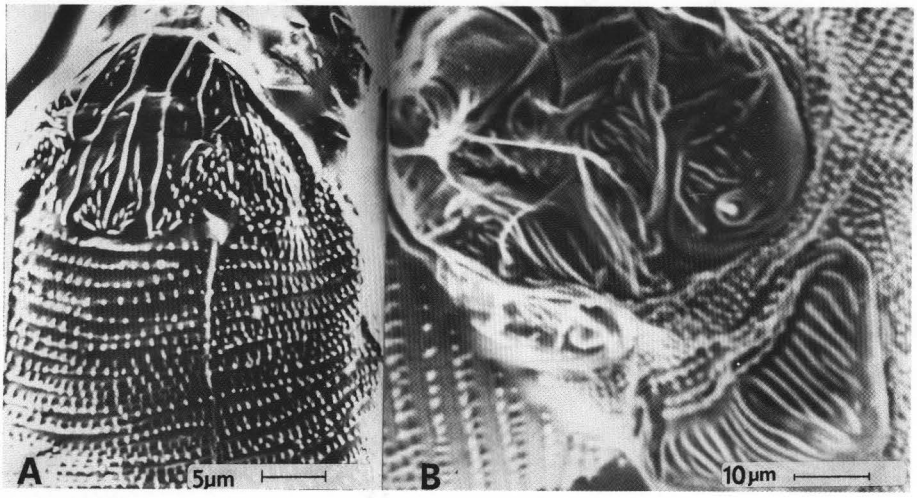

Plate 10 - *Aceria saturejae* n. sp.: A, anterior part of the body, dorsally; B, female genitalia and coxae.

In *A. sphacelina* females 140-180 μm long, forelegs 27 and hindlegs 23 μm long, coxae sligthly marked, epigynum with 10-12 striae. In the new species females 180 to 234 μm long, forelegs 54 and hindlegs 45 μm long, coxae with numerous dots, epigynum with 20-24 striae.

Aceria ruelliae Channabasavanna, 1966

This species was described from Coimbatore, Madras, South India inducing whitish erineum patches on stem and leaf surfaces of tender shoots of *Ruellia patula* (Acanthaceae). In Maracay, Venezuela, the species was causing erinea on lower surfaces of *Ruellia tuberosa* leaves. The mites from Venezuela showed some granules on female coxae.

Aceria dorestei K., 1963

This species as having smooth shields was descrived from Maracay, Aragua, Venezuela from leaves of *Bravaisia integerrima* (Sprang.) Standl. (Acanthaceae), forming irregular and disfiguring leaf pustules. Mites studied by us, causing edge rolling of the leaves of the same plant, from the same locality, shield with distinct pattern of admedian and submedian lines. Male 138 μm long, dorsal tubercles 14 μm apart, dorsal seta 18 μm long, opisthosoma with about 53 rings, male genitalia 15 μm wide.

RIASSUNTO

UN NUOVO GENERE E CINQUE SPECIE NUOVE DI ACARI ERIOFIDI (ACARI: ERIOPHYOIDEA)

Viene descritto un nuovo genere, *Apontella*, affine a *Disella* Newkirk and Keifer (Eriophyidae, Nothopodinae). Il nuovo genere si distingue da *Disella*, perchè i tergiti presentano un solco dorsale delimitato da due rilievi longitudinali. Sono descritte inoltre le seguenti nuove specie: tre provenienti da Maracay, Aragua, Venezuela, *Apontella bravaisiae* vagante su foglie di *Bravaisia integerrima* (Acanthaceae), *Aceria pithecolobi* che causa erinosi su *Pithecolobium dulceae* (Fabaceae) e *Aceria maracay* in galle su foglie di *Pluchea odorata* (Compositae); una proveniente dalla Libia, *Aceria echinopsi* in galle su foglie di *Echinops* sp. (Compositae) e una dall'Italia, *Aceria saturejae* in fiori di *Satureja graeca* (Labiatae). *Aceria ruelliae* Channabasavanna, descritta su *Ruellia patula*, è stata rinvenuta su *Ruellia tuberosa* in Venezuela ed *Aceria dorestei* K. è stata individuata in arrotondamenti del lembo fogliare di *Bravaisia integerrima* (Acanthaceae).

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