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Six new species of eriophyid mites (Eriophyidae) are described in this paper. All were collected in Portugal.

Three of them, Aculcus longiseta, n. sp., Aculcus breviseta, n. sp. and Acaricalus elegans, n. sp., were collected on Castanea sativa Miller; no damage was observed; mites were found vagrant on the underside of the leaves.

Glyptacus fagineae, n. sp., was found on Quercus faginea Lam. and Aceria granulata, n. sp. on Verbasum sinuatum L. Both species are vagrant on the leaves; no damage was observed.

Acriotonotus nascimentoi, n. sp. was found on Ruscus hypoglossum L. The mites live in colonies on the underside of the leaves, where they cause whitish spots, like powdery mildew (Photo 1).

**ERIOPHYINAE.**

**Aceria granulata, n. sp.**

(Fig. 1)

*Aceria granulata* n. sp. is similar to *Aceria neocynodis* Keifer 1960, differing from it by the featherclaw 4-rayed and shield without submedian lines. *A. neocynodis* K. presents featherclaw 6-rayed and two anterior submedian lines.

**Female.**

Body 150 μ (140 μ-170 μ) long, 45 μ (44 μ-50 μ) wide, 40 μ thick; wormlike; colour in life yellowish.

Rostrum 23 μ (19 μ-23 μ) long, projecting down.

Shield 28 μ (28 μ-37 μ) long, 33 μ (32 μ-35 μ) wide, with small lobe over rostrum base. Median line apparent on rear 1/3; admedian lines complete from anterior lobe, gently sinuate, diverging a little to rear. Shield with irregular granules; partial rings below dorsal tubercles. Dorsal tubercles on rear margin, 23 μ apart; dorsal setae about 19 μ long, diverging to rear.

Foreleg 42 μ (39 μ-42 μ) long; tibia 8 μ long, with seta 4 μ long at 1/3; tarsus 8 μ long, claw

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1. This paper is part of a thesis prepared for the grade of specialist at Estação Agronómica Nacional, Oeiras, Portugal.

**Fig. 1**: *Aceria granulata* n. sp., ♀.

A. — Side view of mite; B. — Shield; C. — Legs; D. — Side skin structure; E. — Internal genital structures of female; F. — Featherclaw; G. — Female genitalia and coxae.
15 μ long, featherclaw 4-rayed. Hindleg 36 μ long; tibia 5 μ long; tarsus 8 μ long, claw 15 μ long. Coxae ornamented with granulations. Forecoxae well separated by a sternal line.

Abdominal thanosome with about 66 rings, completely microtuberculate; microtubercles rounded, set ahead of rear ring margin. Lateral seta 37 μ (35 μ-40 μ) long, on ring 8 behind shield; first ventral seta 60 μ (55 μ-60 μ) long, on ring 24; second ventral seta 15 μ long, on ring 39. Telosome with 5-7 rings, telosomal seta 28 μ long. Accessory seta 3 μ.

Female genitalia 13 μ long, 20 wide; coverflap with three curved transverse basal lines bearing granules and about 10 longitudinal ribs; seta 15 μ long.

Male not seen.

Holotype — Female n° 1, slide n° I159. Estação Agronómica Nacional, Oeiras, Portugal. Collected by the author, March 24, 1969.

Paratypes — 30 paratypes females, slides n°s II159, a, b, c, d and e.

Type locality — Quinta do Marquês, Oeiras, Portugal.

Type host — Verbascum sinuatum L. (Scrophulariaceae). Common name “verbasco ondeado”.

Relation to the host — The mites live among the dense hairs on the underside of the leaves. The host shows no damage.

PHYLLOCOPTINAE

Aculus longiseta, n. sp.
(Fig. 2)

It differs to Aculus ulae Boczek 1961, by the coxae ornamented with a band of granules, pregenital rings without microtubercles and the coverflap of female genitalia with 8-10 longitudinal rings.

Both species have 4-rayed featherclaws.

Female.

Body 170 μ (160 μ-180 μ) long, 62 μ (58 μ-66 μ) wide, 58 μ (56 μ-60 μ) thick; colour in life greyish.

Rostrum 34 μ (34 μ-38 μ) long, projecting down.

Shield 41 μ (39 μ-43 μ) long, 57 μ (57 μ-60 μ) wide, subtriangular, with an unclear design; anterior lobe over rostrum broad, bearing two spines. On each side a band of granules between shield and coxae. Dorsal tubercles on rear margin, 34 μ (30 μ-36 μ) apart; dorsal setae 160 μ (150 μ-180 μ) long, projecting upward and backward.

Foreleg 60 μ (58 μ-62 μ) long; tibia 13 μ (10 μ-13 μ) long, with 3 μ seta; tarsus 8 μ long, claw 5 μ long, featherclaw 4-rayed. Hindleg 52 μ (51 μ-52 μ) long; tibia 8 μ long; tarsus 8 μ long, claw 5 μ long. Anterior coxae separated by a strong sternal line and coxae ornamented with bands of granules.

Abdominal thanosome with about 25 tergites smooth and 58 sternites completely microtuberculate, the microtubercules elongated; pregenital rings smooth. Lateral seta 24 μ (20 μ-24 μ) long, on sternite 9 behind shield; first ventral seta 38 μ (30 μ-38 μ) long, on sternite 22; second ventral seta 16 μ (15 μ-20 μ) long, on sternite 38. Telosome with 5-6 rings; telosomal seta 26 μ (24 μ-26 μ) long. Accessory seta 4 μ long.
Female genitalia 18 μ (16 μ-18 μ) long, 20 μ (18 μ-22 μ) wide; coverflap basally smooth and apically with 8-10 longitudinal ribs; seta 13 μ (10 μ-13 μ) long.

*Male* not seen.

Holotype — Female nº 1, slide nº 1144. Estação Agronómica Nacional, Oeiras, Portugal. Collected by Emília Teixeira Loureiro, December 12, 1968.

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**Fig. 2:** *Aculus longiseta* n. sp., ♀.
A. — Side view of mite; B. — Shield; C. — Legs; D. — Side skin structure; E. — Internal female genital structures; F. — Featherclaw; G. — Female genitalia and coxae.
Paratypes — 23 paratypes females, slides no. II44, a, b, c, d, e and f.
Type locality — Rezende, Douro, Portugal.
Type host — Castanea sativa Miller (Fagaceae). Common name “castanheiro”.
Relation to the host — The mites are vagrant on the underside of the leaves. No damage were observed.

Aculus breviseta, n. sp.
(Fig. 3)

This new species differs from Aculus longiseta by the short dorsal setae, smooth shield and the coverflap of female genitalia with transversal ribs. Both species have 4-rayed featherclaws.

Female.

Body 185 μ (180 μ-200 μ) long, 65 μ (60 μ-65 μ) wide, 63 μ thick; colour in life pinkish.
Rostrum 42 μ (40 μ-42 μ) long, projecting down.
Shield 45 μ (43 μ-45 μ) long, 60 μ (58 μ-60 μ) wide, subtriangular, smooth; anterior lobe over rostrum broad. Laterally between shield and coxae, a band of obscure ribs and a line of granules limiting an oval area. Dorsal tubercles set on the rear margin of the shield, 36 μ (33 μ-38 μ) apart; dorsal setae 25 μ long, projecting backward.
Foreleg 65 μ (60 μ-65 μ) long; tibia 8 μ long, with 6 μ seta; tarsus 7 μ long, claw 6 μ long, featherclaw 4-rayed. Hindleg 55 μ (53 μ-55 μ) long; tibia 7 μ long; tarsus 7 μ long, claw 6 μ long. Anterior coxae separated by a strong sternal line and without ornamentations.
Abdominal thanosome with about 26 smooth tergites and 43 sternites microtuberculate with rounded microtubercles; pregenital rings smooth. Lateral seta 25 μ (23 μ-26 μ) long, on sternite 7; first ventral seta 40 μ (38 μ-45 μ) long, on sternite 19; second ventral seta 15 μ long, on sternite 32. Telosome with 5-6 rings; telosomal seta 30 μ (28 μ-30 μ) long. Accessory seta 5 μ long.
Female genitalia 15 μ (15 μ-18 μ) long, 25 μ (24 μ-25 μ) wide. Coverflap with basal transversal ribs; seta 15 μ (14 μ-16 μ) long.
Male not seen.

Holotype — Female no. 1, slide no. II45. Estação Agronómica Nacional, Oeiras, Portugal. Collected by Emilia Teixeira Loureiro, November 12, 1968.
Paratypes — 17 paratypes females, slides no. II45 a, b, c, d, e, f, g, h and i.
Type locality — Rezende, Douro, Portugal.
Type host — Castanea sativa Miller (Fagaceae). Common name “castanheiro”.
Relation to the host — The mites are vagrant on the underside of the leaves. No damage were observed.
FIG. 3: *Aculus breviseta* n. sp., ♀.

A. — Side view of mite; B. — Shield; C. — Legs; D. — Side skin structure;
E. — Internal female genital structures; F. — Featherclaw; G. — Female genitalia and coxae.
Acaricus elegans, n. sp.
(Fig. 4)

This new species is close to Acaricus segundus Keifer 1940. In the later one the shield has a prominent central keel; female genitalia coverflap with basal granules and about 10 longitudinal ribs; hindleg with a seta on patella; abdomen with tergites as numerous as the sternites.

Acaricus elegans n. sp. presents admedian lines on shield, these lines limiting a slight keel; female genitalia coverflap smooth basally and presenting 8 longitudinal ribs to the rear part; hindleg without seta on patella; abdomen with sternites more numerous than tergites.

Both species have 4-rayed divided featherclaws.

Female.

Body 162 μ (150 μ-165 μ) long, 57 μ (56 μ-60 μ) wide, 51 μ thick; colour in life pinkish.

Rostrum 22 μ (22 μ-24 μ) long, projecting down.

Shield 46 μ long, 51 μ (50 μ-52 μ) wide, subtriangular; anterior lobe over rostrum rounded apically, with a pair of anterior little spines; median line absent; admedian lines parallel from anterior lobe, united by a transverse line at about 1/6; diverging distally first down to 1/4; converging then down to 1/2 where they are joined together by another transverse line, limiting a small rounded lozenge; diverging again as a convex arc, closing at rear margin. Sides of shield with heavy granules. Dorsal tubercles strong, prominent, 18 μ apart, well ahead of rear margin; dorsal seta 12 μ projecting up and backward.

Foreleg 40 μ (39 μ-41 μ) long, tibia 6 μ long, with 7 μ seta; tarsus 6 μ long, claw 6 μ long, featherclaw bifurcate, 4-rayed on a side. Hindleg 38 μ (38 μ-40 μ) long; tibia 6 μ long; tarsus 8 μ long, claw 6 μ long. Anterior coxae separated by a moderately strong sternal line. Coxae without ornamentation.

Abdominal thanosome with about 52 sternites microtuberculate with rounded microtubercles and 33 smooth tergites with a central ridge extending back to about tergite 32. Lateral seta 16 μ long, on sternite 10; first ventral seta 47 μ (45 μ-48 μ) long, on sternite 23; second ventral seta 17 μ (15 μ-17 μ) long, on sternite 36. Telosome with 5-6 rings; telosomal seta 20 μ (18 μ-20 μ) long. Accessory seta 4 μ long.

Female genitalia 14 μ (12 μ-14 μ) long, 21 μ (19 μ-21 μ) wide; coverflap smooth basally and about 8 longitudinal ribs; seta 17 μ long.

Male not seen.

Holotype — Female no 1, slide no II43. Estação Agronómica Nacional, Oeiras, Portugal. Collected by Emília Teixeira Loureiro, November 12, 1968.

Paratypes — 50 paratypes females, slides no 1143, a, b, c, d, e, f, g and h.

Type locality — Rezende, Douro, Portugal.

Type host — Castanea sativa Miller (Fagaceae). Common name “castanheiro”.

Relation to the host — The mites are vagrant on the underside of the leaves. No damage were observed.
FIG. 4: *Acaricus elegans* n. sp., ♀.

A. — Side view of mite; B. — Shield; C. — Legs; D. — Side skin structure;
E. — Internal female genital structures; F. — Featherclaw; G. — Female genitalia and coxae.
Glyptacus fagineae, n. sp.
(Fig. 5)

The genotype of *Glyptacus* is *G. lithocarpi* Keifer 1953, found on *Lithocarpus densiflora* (H. & A.). On the genotype the shield has the median line present; featherclaw 7-rayed, female genitalia coverflap with about 20 broken longitudinal furrows.

The new species, *G. fagineae* has not median line on the shield; featherclaw 6-rayed; female genitalia coverflap with about 11 longitudinal furrows, partly in two ranks.

**Female.**

Body 168 μ (165 μ-185 μ) long, 48 μ (44 μ-48 μ) wide, 38 μ (35 μ-40 μ) thick; fusiform; colour in life whitish.

Rostrum 25 μ (23 μ-30 μ) long, projecting down; antapical seta 4 μ long.

Shield 40 μ (38 μ-43 μ) long, 44 μ (42 μ-46 μ) wide, broadly subtriangular; anterior lobe over rostrum moderately large. Obscure shield design with lines of granules; the median line absent, the admedians present at 1/4, strongly sinuate, connected at 5/8 by a cross line, united at 7/8; laterally with lines of granules. Dorsal tubercles and setae absent. On each side between shield and coxae a band of granules.

Foreleg 35 μ (30 μ-35 μ) long; tibia 8 μ (7 μ-8 μ) long, with 8 μ seta from about 1/2; tarsus 7 μ long, claw 8 μ long, featherclaw 6-rayed. Hindleg 28 μ (25 μ-30 μ) long; tibia 7 μ long; tarsus 7 μ long, claw 7 μ long. Coxae without ornamentation except a curved line around second tubercles; anterior coxae diverging, the central connection short; first setiferous coxal tubercles farther apart than second and these well ahead of transverse line through third setiferous coxal tubercles.

Abdominal thanosome with about 29 tergites and 55 sternites; both tergites and sternites bearing microtubercles, these being more elongated dorsally; the first 4-5 tergites are connected immediately behind shield, producing a small dorsal hump; the others form a broad central longitudinal trough which ends about 9 tergites from the rear. Lateral seta 15 μ (12 μ-16 μ) long, on sternite 5 behind shield; first ventral seta 36 μ (31 μ-36 μ) long, on sternite 15; second ventral seta 12 μ (10 μ-12 μ) long, on sternite 30. Telosome with 5-6 rings, the microtubercles very elongate ventrally; telosomal seta 24 μ long. Accessory seta absent.

Female genitalia 15 μ (13 μ-15 μ) long, 19 μ (17 μ-19 μ) wide; coverflap with about 11 longitudinal ribs, partly in two ranks; seta 12 μ (10 μ-12 μ) long.

**Male** not seen.

Holotype — Female n° 1, slide n° 1134. Estação Agronômica Nacional, Oeiras, Portugal. Collected by the author, October 31, 1968.

Paratypes — 30 paratypes females, slides n° 1134, a, b, c, d, e, f and g.

Type locality — Quinta do Marquês, Oeiras, Portugal.

Type host — *Quercus faginea* Lam. (Fagaceae).

Relation to the host — The mites are vagrant on the underside of the leaves. They do not damage their host. The mites live in the dense compound hairs on the underside of the leaves and their small size, plus their white colour make them difficult to find. They could not be found in large numbers.

**Fig. 5**: *Glyptacus fagineus* n. sp., ♀.

A. — Side view of mite; B. — Shield; C. — Legs; D. — Side skin structure; 
E. — Internal female genital structures; F. — Featherclaw; G. — Female genitalia and coxae; 
H. — Dorsal view of mite.
Acritonotus nascimentoi, n. sp.
(Fig. 6)

This new species is characterized by having a featherclaw 4-rayed on a side; shield with median and admedian lines present and accessory setae also present.

The other species of the genus Acritonotus, is A. denmarki Keifer 1962, which has a featherclaw 3-rayed on a side, shield with design absent and no accessory seta.

I am pleased to name this species for the collector Eng. Agr. Bento dos Santos NASCIMENTO, Tavira, Portugal.

**Female.**

Body 145 \(\mu\) (125-160 \(\mu\)) long, 54 \(\mu\) (50-58 \(\mu\)) wide, 38 \(\mu\) (35-40 \(\mu\)) thick; fusiform; colour in life brownish.

Rostrum 29 \(\mu\) (26-30 \(\mu\)) long, projecting down; antapical seta about 17 \(\mu\) long.

Shield 43 \(\mu\) (40-45 \(\mu\)) long, 48 \(\mu\) (45-50 \(\mu\)) wide; design tending to be obscure; median line fine, present from 1/3 to rear margin, broken at 2/3, sinuate; admedian lines complete, sinuate, diverging at 1/3 curving back convexly at 2/3, diverging again and recurving to rear shield margin, closing on rear part of median line. Dorsal tubercles well ahead of rear shield margin, 20 \(\mu\) (19-22 \(\mu\)) apart; dorsal seta 8 \(\mu\) (8-10 \(\mu\)) long, projecting up.

Foreleg 45 \(\mu\) (43-48 \(\mu\)) long; tibia 12 \(\mu\) (9-13 \(\mu\)) long, with 11 \(\mu\) seta from about 1/2; tarsus 7 \(\mu\) long, claw 6 \(\mu\) long, featherclaw 4-rayed on a side. Hindleg 41 \(\mu\) (38-42 \(\mu\)) long; tibia 8 \(\mu\) long; tarsus 6 \(\mu\) long, claw 6 \(\mu\) long. Coxae ornamented with curved lines; anterior coxae connected by a moderately long line.

Abdominal thanosome with about 49 irregular and broken tergites and about 70 sternites completely microtuberculate with rounded microtubercles. Lateral seta 35 \(\mu\) (31-40 \(\mu\)) long, on sternite 7 behind shield; first ventral seta 34 \(\mu\) (31-38 \(\mu\)) long, on sternite 22; second ventral seta 30 \(\mu\) (26-32 \(\mu\)) long, on sternite 47. Telosome with 6-8 rings; telosomal seta 23 \(\mu\) (20-25 \(\mu\)) long. Accessory seta 3 \(\mu\) long.

Female genitalia 14 \(\mu\) (13-16 \(\mu\)) long, 26 \(\mu\) (22-27 \(\mu\)) wide; coverflap with numerous longitudinal ribs in two ranks; seta 17 \(\mu\) (16-18 \(\mu\)) long.

*Male* not seen.


Paratypes — 35 paratypes females, slides no 81210, a, b, c, and d.

Type locality — Estação Agrária, Tavira, Portugal.

Type host — Ruscus Hypoglossum L. (Liliaceae). Common name “sempre verdes”.

Relation to the host — These mites live in colonies on the underside of the leaves where they originate whitish spots, resulting from the agglomeration of exuviae. These whitish spots resemble, at first sight, a powdery mildew.
Fig. 6: *Acritonotus nascimentoi* n. sp., ♀.
A. — Side view of mite; B. — Shield; C. — Legs; D. — Side skin structure;
E. — Internal female genital structures; F. — Featherclaw; G. — Female genitalia and coxae.
PHOTO 1. — Leaves of *Ruscus Hypoglossum* L. with whitish spots caused by *Acrilonotus nascimentoi* n. sp.

**Summary.**

Six new species of eriophyid mites are described and figured. They are: *Aculus breviseta*, n. sp., *Acclus longiseta*, n. sp. and *Acaricus elegans*, n. sp., all found on *Castanea sativa* Miller; *Gyptacius fagineae*, n. sp., on *Quercus faginea* Lam.; *Aeria granulata*, n. sp., on *Verbascum sinuatum* L.; *Acrilonotus nascimentoi*, n. sp., on *Ruscus Hypoglossum* L.

**References**


