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Subscriptions: Year 2021 (Volume 61): 450 €
http://www1.montpellier.inra.fr/CBGP/acarologia/subscribe.php
Previous volumes (2010-2020): 250 € / year (4 issues)
Acarologia, CBGP, CS 30016, 34988 MONTFERRIER-sur-LEZ Cedex, France
ISSN 0044-586X (print), ISSN 2107-7207 (electronic)

The digitalization of Acarologia papers prior to 2000 was supported by Agropolis Fondation under the reference ID 1500-024 through the « Investissements d’avenir » programme (Labex Agro: ANR-10-LABX-0001-01)

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A NEW GENUS IN THE SUBFAMILY NOTHOPODINAE WITH DESCRIPTIONS OF FOUR NEW SPECIES FROM EAST AFRICA
(ACARI : ERIOPHYOIDEA : ERIOPHYIDAE)

BY B. A. ABOU-AWAD * AND E. M. EL-BANHAWY *

ABSTRACT: A new genus, Neojloracarus and four new species: Neojloracarus guajavae infesting Psidium guajava L., Phyllocoptes lantanae infesting Lantana camara L., Aculus didymbotryae infesting Cassia didymbotrya L., and Vasates rhois infesting Rhus sp. are described from Kenya and Tanzania. Relationships of the new genus and species with the related ones and nature of damages are discussed.

Genera of the subfamily Nothopodinae Keifer, 1956 are classified according to presence or absence of dorsal shield tubercles, dorsal shield tubercles either ahead of rear shield margin and directing setae up and centrad or on rear shield margin and setae divergently to rear, forecoxae either separate or fused across short or moderately long sternal line, first setiferous coxal tubercles and setae either present or absent, and foretibia either completely fused with tarsi or distinct slightly. According to these definitions Neojloracarus gen. n. reported in this work is close to genus Floracarus Keifer which is belonging to Nothopodinae. Also, within the subfamily Phyllocoptinae there are 3 new species belonging to genera Phyllocoptes Nalepa, 1889, Aculus Keifer, 1959, and Vasates Shimer, 1869 recorded from the same locality. These genera, however, have been reported from different geographical localities on economic plants such as Moraceae, Rosaceae, Solanaceae, Myrtaceae, Anacardiaceae, and Fabaceae, and all known as vagrant fusiform pests causing damage. Type materials are in the author's collection.

FAMILY ERIOPHYIDAE NALEPA

SUBFAMILY NOTHOPODINAE KEIFER

Neofloracarus gen. n.

This genus is close to Floracarus Keifer, 1953 in having the dorsal shield tubercles and lacking tibia segments on legs. It can be distinguished by dorsal setae ahead of rear shield margin. It is defined as follows:

Body fusiform; rings subequal dorsoventrally.

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**Genotype**: *Neofloracarus guajavae* sp. n.

**Female**: 140-177 μm long, 50-57 μm wide; fusiform; flattened dorso-ventrally, pale yellowish. Rostrum about 23 μm long, projecting down; chelicera about 17 μm long, antapical seta 3 μm long. Dorsal shield 39 μm long, 58 μm wide, nearly circular, with short anterior lobe; shield area unornamented with incomplete median and undu-
Phyllocopites lan
tagae sp. n.
(Fig. 2)

FEMALE: 193-273 μm long, 70-85 μm wide; elongate spindleform, white to light yellow. Rostrum about 22 μm long, projecting down, chelicera about 17 μm long, antapical seta 3 μm long. Shield 44 μm long, 60 μm wide, oval. Anterior shield lobe projecting shortly over rostrum base but pointed in side view. Shield design of absence median line; complete undulating admedian lines; admedian lines connecting anteriorly at about 1/4 with two incomplete parallel submedian curved lines, extending to rear, forming faint cells at sides of shield; third incomplete submedian line curving around outside of tubercles, connecting between admedian lines at about two thirds and rear margin. Shield laterally with faint broken longitudinal lines and dots at rear. Dorsal tubercles 18 μm apart, ahead of rear margin; dorsal setae 5 μm long, projecting up and centrad. Forelegs 30 μm long; femur 10 μm long; genu 6 μm long, seta about 29 μm long; tibia 5 μm long, seta 6 μm long, tarsus 7 μm long, outside seta about 19 μm long. Claw 6 μm long, with large knob at tip; featherclaw 4-rayed. Hindlegs 28 μm long; femur 9 μm long; genu 5 μm long, seta 11 μm long; tibia 5 μm long, without seta; tarsus 7 μm, outside seta about 21 μm long. Claw 6 μm long, with large knob at tip; featherclaw 4-rayed. Anterior coxae contiguous posteriorly at two thirds, with two setae on each; coxal setae I wider apart than setae 11, which located at anterior ones and each with a single setae, measuring about 30 μm long. All coxae blank. Tergites 50 in number, without microtubercles; sternites about 75 in number, heavily tuberculated with microrounded tubercles. Lateral thanosomal seta 17 μm long, above and behind genital seta, on about sternite 9; 1st ventral seta 57 μm long, surpassing second ventral seta, on about sternite 26; 2nd ventral seta 19 μm long, on about sternite 45; 3rd ventral or telosomal seta 26 μm long, on 6th ring from rear. The thanosome with 44 tergites and about 69 sternites. Telosome with microstriations ventrally. Caudal seta arise from a small lobe.
behind the last tergite, and measures about 54 μm long; accessory seta absent. Female genitalia 17, μm 21 μm wide, without longitudinal ribs, but faint lines on coverts flaps; seta 10 μm long, arising from small tubercele.

MALE: Unknown.


HOST: Lantana camara L. (Verbenaceae).

RELATION TO HOST: Leaves vagrants among the dense compound hairs, preferring the lower surfaces and causing rusting symptoms.

REMARKS: *P. lantanae* is similar to *P. calisorbi* Keifer (1965), but differs in the design of dorsal shield; 1st ventral seta surpassing the 2nd ventral seta; tergites without microtubercles, and nature of injury to the host. *Calisorbi* forms erineum, the new species is a leaf vagrant. *L. camara* as a preferable host plant are also infested with two other species: *Eriophyes lantanae* Cook (1909), distortion of flower buds, Cuba, and *Rhynacus kraussi* Keifer (1962), vagrant, Calif., Colombia.
_Aculus didymbotryae_ sp n.

(Fig. 3)

**FEMALE:** 195-205 μm long, 63-68 μm wide, elongate fuiform, yellowish. Rostrum 21 μm long, projecting down, chelicera 14 μm long, antapical seta 3 μm long. Shield 35 μm long, 55 μm wide, subtriangular; anterior lobe over rostrum acute. Shield design an indication of an incomplete median line; admedian lines sinuate, arising from tip of anterior lobe, extends divergently backwards the rear shield margins; median and admedians are connected posteriorly to each other by transverse line forming anchor-shaped caudally; submedian lines sinuate, arising from the sides of anterior shield, run backwards and bifurcated, inner fork free, outer fork connected with dorsal tubercles on rear shield margin; admedian and submedian lines are connected anteriorly ½ to each other by two short diagonal lines; sides of shield with faint broken lines; dorsal tubercles at rear shield margin, 20 μm apart; dorsal setae 26 μm long. Forelegs 32 μm long; femur 8 μm long; genu 5 μm long, seta 20 μm long; tibia 7 μm long, seta 6 μm long; tarsus 6 μm long, outside seta about 20 μm long. Claw 8 μm long, loosely curved, without clear knob at tip. Featherclaw 7-rayed.

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**Fig. 3:** _Aculus didymbotryae_ n. sp.

DA) Anterior dorsal shield; SA) Side view of anterior section of mite; GFI) Female genitalia and anterior section of mite; S) Side view of adult mite; F) Featherclaw; GM) Male genitalia; ES) Side skin structure.
Hindlegs 27 μm long; femur 7 μm long; genu 4 μm long, seta 13 μm long; tibia 6 μm long, without seta; tarsus 6 μm long, outside seta about 19 μm long. Claw 8 μm long, loosely curved, without clear knob at tip. Featherclaw 7-rayed. Coxae blank; anterior coxae contiguous at posterior two thirds with two setae on each; coxal seta; tarsus 6 μm long, anterior coxae contiguous at posterior two thirds knob at tip. Featherclaw 7-rayed. Coxa ornamented with lines of granules; anterior coxae with sternal line between dorsal tubercles, forming nearly V-shaped. Dorsal tubercles 29 μm apart, elongate, little ahead of rear shield margin, the seta 17 μm long, thick and directed caudad convergently. Forelegs 25 μm long; femur 9 μm long; genu 4 μm long; tibia 3.5 μm long; femur 8 μm long; genu 4 μm long, seta 3 μm long; tarsus 5 μm long, outside seta about 16 μm long. Claw 7 μm long, loosely curved, with slight knob at tip. Featherclaw 4-rayed. Hindlegs 23 μm long; femur 8 μm long; genu 4 μm long, seta 5 μm long; tibia 3.5 μm long, without seta; tarsus 4.5 μm long, outside seta about 15 μm long. Claw 7 μm long, loosely curved, with slight knob at tip. Featherclaw 4-rayed. Coxa ornamented with lines of granules; anterior coxae with sternal line between. First setiferous coxal tubercles farther apart than second ones; posterior coxae contiguous with anterior ones, with single seta of about 38 μm long. Stermites much wider than sternites, 24 tergites and about 64 ventrally. Telosome with fine striations ventrally. Caudal seta about 45 μm long. The first 9 rings with fine striations ventrally. Caudal seta about 19 μm long, 22 μm wide, subtriangular. Lateral thanosomal seta about 17 μm long, outside seta about 15 μm long, anterior ones, with single seta; posterior coxae contiguous with anterior ones, each with single seta; seta of second coxa about 23 μm long. Abdomen with 36 tergites and about 58 sternites. Rings completely microtuberculate; microtubercle rounded, located on rear margin of annular rings, similar dorsally and ventrally, but varying in size. Lateral thanosomal seta 18 μm long, on about sternite 10; 1st ventral seta 38 μm long, on about sternite 20; 2nd ventral seta 13 μm long, on about sternite 35; 3rd ventral or telosomal seta 25 μm long, on 6th ring from rear. The thanosome with 30 tergites and about 52 sternites. The last 9 rings with fine striations ventrally. Caudal seta arise from a moderate lobe behind the last tergite. Caudal seta about 55 μm long; accessory seta 4 μm long. Female genitalia 12 μm long, 20 μm wide; cover flap with 12 longitudinal ribs; seta 25 μm long.

**Male**: 175-185 μm long, 61-63 μm wide, male genitalia 13 μm long, 15 μm wide; seta 20 μm long.


**Host**: *Cassia didymbotrya* L. (Fabaceae).

**Relation to Host**: The mites are vagrant among the dense compound hairs on the upper surfaces of new and well developed leaves in fairly large numbers, causing rustlike discoloration known as russetting.

**Remarks**: *A. didymbotryae* resembles *A. cassiae* Mondal & Chakrabarti (1980) and *A. cercidii* Keifer (1965). It is distinguished by the nature of shield design, in addition, 7-rayed featherclaw, blank coxae, and tergites with rounded microtubercles.

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**Vasates rhois** sp. n.

(Fig. 4)

**Female**: 175-187.5 μm long, 53-57.5 μm wide, spindeliform; light yellow to yellowish white in colour. Rostrum about 23 μm long, curved downwards, chelicera 21 μm long; antapical seta 3 μm long. Shield 45 μm long, 53 μm wide, subtriangular. Anterior shield lobe projecting shortly over rostrum base, but thick in side view. Shield design obsolete except for rear part of incomplete connecting admedian lines between dorsal tubercles, forming nearly V-shaped. Dorsal tubercles 29 μm apart, elongate, little ahead of rear shield margin, the seta 17 μm long, thick and directed caudad convergently. Forelegs 25 μm long; femur 9 μm long; genu 4 μm seta 19 μm long; tibia 4.5 μm long, seta 3 μm long; tarsus 5 μm long, outside seta about 16 μm long. Shield 45 μm long, loosely curved, with slight knob at tip. Featherclaw 4-rayed. Hindlegs 23 μm long; femur 8 μm long; genu 4 μm long, seta 5 μm long; tibia 3.5 μm long, without seta; tarsus 4.5 μm long, outside seta about 15 μm long. Claw 7 μm long, loosely curved, with slight knob at tip. Featherclaw 4-rayed. Coxa ornamented with lines of granules; anterior coxae with sternal line between. First setiferous coxal tubercles farther apart than second ones; posterior coxae contiguous with anterior ones, with single seta of about 38 μm long. Termites much wider than sternites, 24 tergites and about 69 sternites present. Abdomen with microtubercles on sternites only; microtubercles similar in size and beadlike, located on posterior margins. Lateral thanosomal seta about 17 μm long, on about sternite 10; 1st ventral seta 40 μm long, surpassing 2nd ventral seta, on about sternite 27; 2nd ventral seta 22 μm long, on about sternite 41; 3rd ventral or telosomal seta 15 μm long, on 5th ring from rear. The thanosome with 19 rings dorsally and about 64 ventrally. Telosome with fine striations ventrally. Caudal seta about 45 μm long; accessory seta 3 μm long. Female genitalia 12 μm long, 22 μm wide, with about 12 irregular furrows which are either longitudinal or curved; seta about 13 μm long, arising from moderate tubercle.
FIG. 4: *Vasates rhois* sp. n.

DA) Anterior dorsal shield; F) Featherclaw; SA) Side view of anterior section of mite; GFI) Female genitalia and anterior section of mite; D) Dorsal view of mite; GM) Male genitalia; S) Side view of adult mite.

**MALE:** 150 μm long, 45 μm wide. Male genitalia 9 μm long, 12 μm wide; seta about 10 μm long.

**TYPE LOCALITY:** Dar El-Salam, Tanzania. Collected February 15, 1986. (Holotype, allotype slides and 5 paratype slides).

**HOST:** *Rhus* sp. (Anacardiaceae).

**RELATION TO HOST:** These mites are usually found on the upper surface only, around mid-vein of leaves, together with eggs and young ones. In some cases, severe rustings of leaves turned to pale brown were observed.

**REMARKS:** Position of dorsal tubercles, 4-rayed featherclaw and the nature of coxae design bring *V. rhois* sp. n. close to *V. physenae* Keifer (1973). However, the present new species remains distinct by its shield design in addition to other characters in detail.

**ACKNOWLEDGEMENT**

We would like to thank Mr. Ehab H. YOUSEF, African fund expert in Tanzania who devoted himself for several weeks to collect and ship the
specimens on this own. Also, thanks are due to Prof. Dr. H. S. SALAMA, President of the National Research Centre, Cairo, for including this work under umbrella of N.R.C. interest.

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