

Phytoseiid mites of the genus *Euseius* (Acari: Phytoseiidae) from Sub-Saharan Africa

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Abstract

Forty five species of phytoseiid mites of the genus *Euseius* collected in Sub-Saharan Africa are reported. Eight of these species are new to science, namely: *Euseius neodossei* n. sp., *E. neolokele* n. sp., *E. neomagucii* n. sp., *E. nigeriaensis* n. sp., *E. reticulatus* n. sp., *E. ugandaensis* n. sp., *E. zairensis* n. sp. and *E. zambiaensis* n. sp. All mentioned species are re-described based mostly on specimens collected in this study, and a key is provided to separate their females.

Key words: Acari, Phytoseiidae, *Euseius*, taxonomic revision, new species, Africa

Introduction

The family Phytoseiidae contains mite predators that have been extensively used for the biological control of mite and insect pests on a number of crops world-wide. The ultimate use of each predator for pest control in a given region is commonly the result of a series of studies that starts with the proper identification of the faunistic composition of the group present in that region.

A number of studies have been conducted in different parts of Sub-Saharan Africa on the phytoseiid fauna. Early studies reported species from six countries (Nesbitt 1951; Evans 1954, 1958a, b; Chant 1957, 1959). The most significant early contribution to trigger the interest for those mites in that region was the paper of Pritchard & Baker (1962), reporting 38 species from several countries in central Africa, 31 of which were described as new to science. Later, a significant number of papers reported on the

E. papayana, whose setal pattern is 10A:8A/JV-3:ZV. Posterior margin of sternal shield with a median lobe which may be difficult to discern in weakly sclerotized specimens. Genital shield distinctly wider than ventrianal shield, which is usually vase-shaped and widest at level of anal opening. With three pairs of pre-anal setae (JV1, JV2, ZV2), usually arranged almost in a transverse row, with seta JV1 inserted usually well behind anterior margin of shield. Peritremes most often relatively short, ending behind level of seta j3. Cheliceral digits with inner margins concave in lateral view; fixed digit with 2-7 small to minute teeth, all on the distal portion; movable digit with 1-2 teeth. Macrosetae usually present on genu IV, tibia IV and tarsus IV, often also on genua II and III, and rarely on genu I.

Key to species of *Euseius* treated in this paper

- 1 Seta Z1 absent *E. papayana* (Van der Merwe)
- 1' Seta Z1 present 2
- 2 Peritreme extending anteriorly to level of seta j1 3
- 2' Peritreme extending anteriorly at most slightly beyond level of seta j3 11
- 3 Dorsal shield reticulate, macrosetae of leg IV knobbed, calyx of spermatheca truncate cone-shaped *E. beninensis* Moraes & McMurtry
- 3' Dorsal shield smooth or with light striation, macrosetae of leg IV knobbed or sharp-tipped, calyx of spermatheca variously shaped 4
- 4 Seta j6 and J2 longer than distance between their bases and bases of seta j5 and Z4, respectively, macrosetae of leg IV knobbed *E. eitanae* (Swirski & Amitai)
- 4' Seta j6 shorter than distance between its base and base of seta j5, seta J2 shorter than distance between its base and base of seta Z4, macrosetae of leg IV knobbed or sharp-tipped 5
- 5 Setae S2-S5 each at least half as long as seta Z5 6
- 5' Setae S2-S5 each at most a third as long as seta Z5 7
- 6 Setae j4, j6 and J2 considerably shorter than distance between their bases and bases of same setae on opposite side, "lateral" setae of dorsal shield much shorter than distance between their bases and bases of consecutive setae, macrosetae of leg IV blunt *E. zambiaensis* n. sp.
- 6' Setae j4, j6 and J2 at least as long as distance between their bases and bases of same setae on opposite side, "lateral" setae of dorsal shield almost as long or as long as distance between their bases and bases of consecutive setae, macrosetae of leg IV knobbed *E. hutu* (Pritchard & Baker)
- 7 Calyx of spermatheca truncate-cone shaped *E. batus* (Ueckermann & Loots)
- 7' Calyx of spermatheca elongate 8
- 8 Length of calyx of spermatheca ca. 3 times its diameter near atrium 9
- 8' Length of calyx of spermatheca more than 10 times its diameter near atrium 10

- 43' Ventrianal shield wider at level of anus than at level of ZV2, peritreme extending forward up to region between z2 and j3, seta j3 at least ca. as long as seta j1. 44
 44 Seta j3 slightly shorter than seta j1, seta s4 shorter than seta Z5, calyx of spermatheca inflate near atrium *E. neolokele* n. sp.
 44' Seta j3 slightly longer than seta j1, seta s4 longer than seta Z5, calyx of spermatheca not inflated near atrium *E. pafuriensis* (Van der Merwe)

***Euseius africanus* (Evans) (Fig. 1)**

Typhlodromus africanus Evans, 1954: 524

Euseius africanus, Moraes & McMurtry, 1988: 15

FEMALE (Specimens measured - Kenya: 4, Burundi: 1).

Dorsum - Dorsal shield with few striae anterior to Z1, 338(328-355) long and 226(221-232) wide. Setae j1 29(27-30), j3 34(27-38), j4 6(5-6), j5 6, j6 8(6-10), J2 8(8-10), J5 5, z2 13(10-16), z4 11(10-14), z5 6(6-8), Z1 8(6-11), Z4 8(8-11), Z5 59(56-66), s4 51(45-56), S2 11(8-16), S4 13(10-16), S5 10(8-13), r3 13(10-14), R1 8(6-10). Dorsal setae smooth, except Z5 which are serrate.

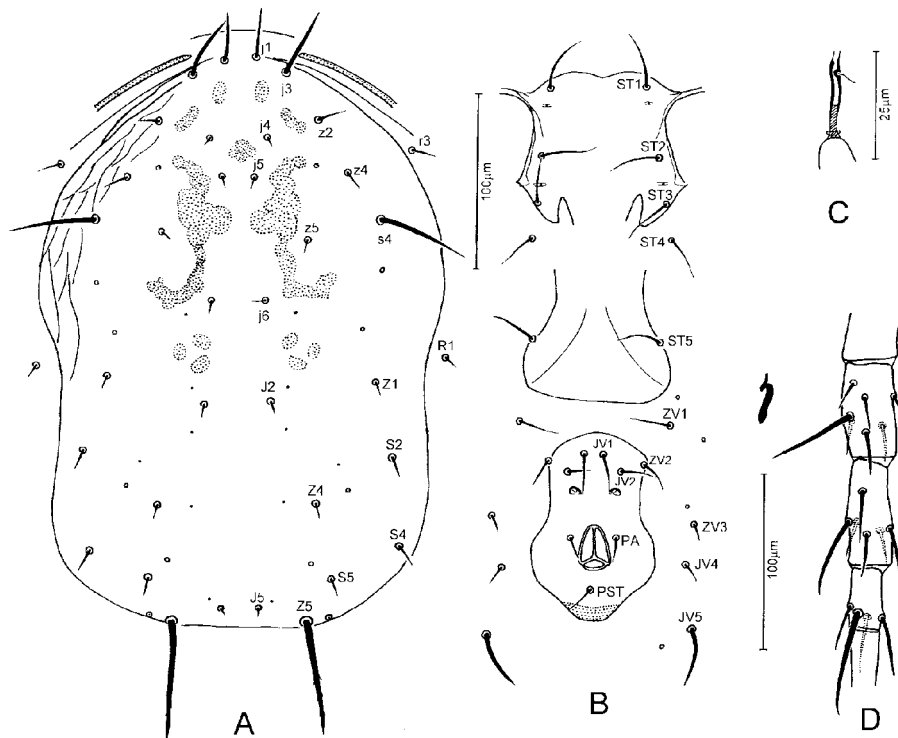


FIGURE 1. *Euseius africanus* (Evans) (female): A. Dorsal shield; B. Ventral surface; C. Spermatheca; D. Leg IV.