OLIGONYCHUS ARANEUM SP.N. AND *OLIGONYCHUS DIGITATUS* DAVIS (ACARINA: TETRANYCHIDAE) AS PESTS OF GRASSES IN EASTERN AUSTRALIA

By J. J. DAVIS*

[*Manuscript received April* 5, 1968]

Abstract

Oligonychus araneum sp. n. is described, and host and locality records given for this species and *Oligonychus digitatus* Davis, which are pests of lawns and pastures in eastern Australia.

Two species of the *pratensis* species group of the genus *Oligonychus* Berlese (as defined by Pritchard and Baker 1955) are here recorded as pests of grasses in eastern Australia. The mites may occur in very large populations, yellowing the grass in a ring shaped area as the infestation spreads outwards, and spinning conspicuous webbing.

The two species sometimes occur together. The females are indistinguishable from one another or from those of other species of the *pratensis* species group but males are readily identified by the shape of the aedeagus.

Oligonychus araneum sp.n. (Figs. 1-6)

Types

QUEENSLAND: *Holotype* male, *allotype* female, *paratypes* ten males, thirteen females, from *Pennisetum clandestinum* Hochst. (kikuyu grass), Mapleton, 1.xii.1966 (J. J. Davis).

Holotype (Reg. No. W3025) and allotype (Reg. No. W3026) in the Queensland Museum; paratypes in the Department of Primary Industries Queensland.

Male

Mounted holotype, length 300 μ (to tip of palpi), width 165 μ; mounted paratypes, length 300 μ to 360 μ, width 165 μ to 195 μ; palpus with terminal sensillum about twice as long as wide (Fig. 1); peritreme straight distally, ending in a slightly expanded simple bulb; empodium I with proximoventral spurs larger than dorso-median claw (Fig. 2); four tactile and two or three sensory setae proximal to duplex setae on tarsus I; nine tactile and three or four sensory setae on tibia I; seven or eight tactile setae on tibia II, empodia II, III and IV each with three pairs of proximoventral hairs longer than the dorso-median claw; six tactile setae on tibia III, seven on tibia IV; aedeagus bent dorsad, the abruptly upturned portion slender, evenly tapering, very slightly sigmoid and about as long as the dorsal margin of the shaft (Fig. 3).

Female

Mounted allotype, length 525 μ (to tip of palpi), width 255 μ; mounted paratypes, length 420 μ to 525 μ, width 225 μ to 300 μ; dorsal setae finely tapering, pubescent, dorso-centrals at least half as long again as intervals between setae; stylophore evenly rounded in front; dorsal striae mostly transverse, but longitudinal between inner sacral setae; lobes on dorsal striae variable in size—mostly semi-circular, a few nearly oblong, each with a dense basal spot (Fig. 4); ventral hysterosomal striae lobed similarly, the lobes becoming irregular and ill defined just forward of the first pair of ventral hysterosomal setae, the ventral propodosoma being mostly without lobes; peritreme straight distally, ending in a simple slightly expanded bulb (Fig. 5); terminal sensillum of palpus only slightly longer than broad (Fig. 6); each empodium with long slender dorso-median claw and three pairs of proximoventral hairs; four tactile setae proximal to duplex setae on tarsus I; eight or nine tactile setae and one sensory seta on tibia I; six or seven tactile setae on tibia II, six on tibia III, seven on tibia IV.

Living adult females are pale green or yellowish with dark spots along each side, the eggs spherical and translucent white to yellow-amber. The species spins very copious webbing.

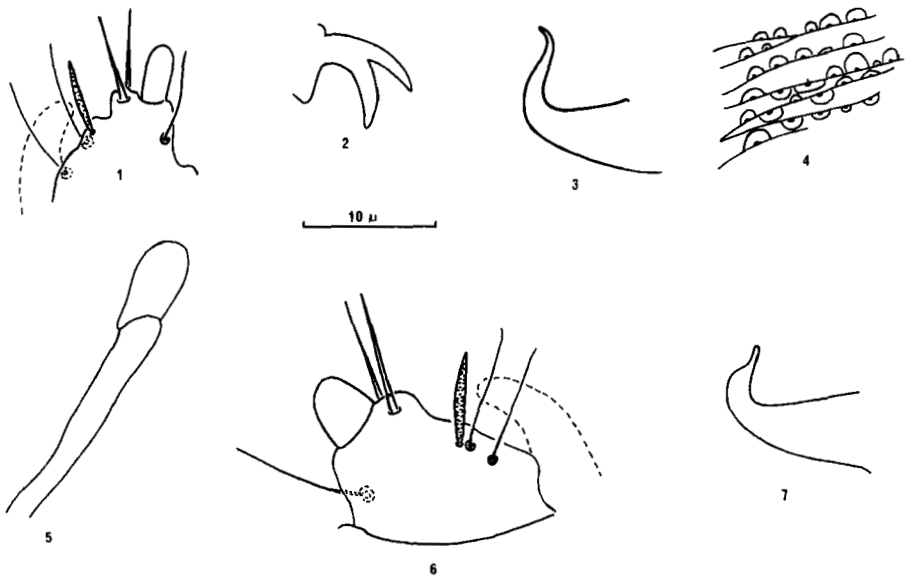
*Department of Primary Industries, Nambour, Queensland.

Comments

O. araneum is similar to those species of the *pratensis* species group in which the aedeagus is slender tapering and slightly sigmoid. It resembles most closely *O. velascoi* Rimando (Philippines), but the two species differ in the shape of the aedeagus—that of *O. velascoi* has the dorsally directed part nearly straight, ending in a sharply turned dorso-caudally directed tip, while in *O. araneum* the dorsally directed part is more curved, though still only very slightly sigmoid, and the tip is not sharply tapered nor abruptly turned. The host range of *O. velascoi* would appear to be unusual for, while the type host is *Pennisetum purpureum* Schum. (elephant grass), it is reported also from coconut and plantain (Rimando 1960). The morphological distinction between the two species was confirmed by examination of the holotype of *O. velascoi* deposited in the United States National Museum.

Other Records

QUEENSLAND: couch grass *Cynodon dactylon* Pers., Caboolture, December 1966 (J. H. Barrett); Queensland blue couch *Digitaria didactyla* Willd., Currumbin, June 1959 (A. R. Brimblecombe); kikuyu grass *Pennisetum clandestinum* Hochst., Toowoomba, 2.iv.1965 (T. Passlow), Glencoe, 7.xii.1966 (J. W. Turner), Dalby, 17.vii.1968 (T. Passlow). NEW SOUTH WALES: buffalo grass *Stenotaphrum secundatum* (Walt.) Kuntze, Blacktown, 17.xi.1948 (F. A. Gibson).



FIGS. 1-7.—(1-6) *Oligonychus araneum* sp. n.: (1) male, palpus terminal segment; (2) male, empodium I; (3) male, aedeagus; (4) female, dorsal cuticular lobes in region of third pair of dorso-central hysterosomal setae; (5) female, distal end of peritreme; (6) female, palpus, terminal segment; (7) *Oligonychus digitatus* Davis, male, aedeagus.

Oligonychus digitatus Davis (Plate I, Fig. 7)

Records

QUEENSLAND: Queensland blue couch *Digitaria didactyla* Willd., Ipswich (Types, Davis 1966); pasture grasses, Peak Crossing, (Davis 1966); kikuyu grass *Pennisetum clandestinum* Hochst., Toowoomba, (Davis 1966), Glencoe, 7.xii.1966 (J. W. Turner), Mulgildie, 24.xi.1967 (L. W. Rigby), Goondiwindi, 5.iv.1968 (J. W. Turner). NEW SOUTH WALES: kikuyu grass *Pennisetum clandestinum*

Hochst., Auburn, 30.xi.1964 (F. A. Gibson), Narrabri (Davis 1966), Quirindi (Davis 1966); buffalo grass *Stenotaphrum secundatum* (Walt.) Kuntze, Blacktown, 17.xi.1948 (F. A. Gibson). VICTORIA: buffalo grass *Stenotaphrum secundatum* (Walt.) Kuntze Melbourne, March 1942 (R. T. M. Pescott) (Womersley 1942, Pritchard and Baker 1955—misidentifications); kikuyu grass *Pennisetum clandestinum* Hochst., Glenmaggie, 18.iii.1968 (M. Lee).

The identification of the specimens from Melbourne which Womersley, and Pritchard and Baker recorded as *Septanychus tumidus* (Banks) and *Allonychus braziliensis* McGregor respectively, is based on material in the South Australian Museum.

PLATE I

Oligonychus digitatus Davis: (top) infestation in a kikuyu grass lawn, Narrabri, New South Wales, February 1965; (bottom) webbing on kikuyu grass, Auburn, New South Wales, December 1964.

Oligonychus sp.

Specimens from the following collections are believed referable to one or other of the two species already treated but cannot be identified specifically because of the absence of males.

Records

QUEENSLAND: kikuyu grass, *Pennisetum clandestinum* Hochst., St. George, 20.v.1961 (L. H. Arnold), Hermitage, 10.iii.1965 (J. W. Turner), Blackall, 24.iv.1967 (G. R. Lee); pasture grasses, Glamorgan Vale, 26.ix.1955 (E.E.).

ACKNOWLEDGMENTS

The author is indebted to the following persons and institutions for advice, comparison of specimens with types, or for the loan of material: Professor H. Bruce Boudreaux, Louisiana State University; Dr. E. W. Baker, United States Department of Agriculture; Dr. Magdalena K. P. Meyer, South African Department of Agriculture; Dr. R. E. Crabill Jr., Smithsonian Institution, United States National Museum; South Australian Museum; New South Wales Department of Agriculture; Victorian Department of agriculture. Photographs for Plate I are by Mr. A. Searle, through the courtesy of the New South Wales Department of Agriculture.

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