

A REVIEW OF PHILIPPINE TUCKERELLA (TUCKERELLIDAE, ACARI)¹

L. A. Corpuz-Raros²

ABSTRACT

Previous records of *Tuckerella ornata* (Tucker) on *Thuja orientalis* from Luzon Is. are reviewed and found to include a mixture of three species, including as new records, *T. flabellifera* Miller and *T. knorri* Baker & Tuttle. *T. ornata* is also found in Leyte Is. on cypress and guava, as the two other species occur also on other host plants in Luzon.

Key words: Tuckerellidae, Acari, *Tuckerella ornata*, *Tuckerella flabellifera*, *Tuckerella knorri*

INTRODUCTION

In 1953, Baker and Pritchard first reported the occurrence of *Tuckerella ornata* (Tucker) in the Philippines based on specimens from *Phalaenopsis* sp. intercepted at quarantine in San Francisco, California, USA. Rimando (1962) subsequently collected the species on *Thuja orientalis* from the campus of the University of the Philippines at Los Baños (UPLB), College, Laguna, Luzon Is.

Recent interest generated by the collection of *T. ornata* on cypress in the Visayas State College of Agriculture (VISCA) campus, Baybay, Leyte Is., prompted the author to review Rimando's collections on which his 1962 report was based, as well as collections of the author from Luzon. Rimando's specimens proved to be a mixture of three species, namely, *T. ornata*, *T. flabellifera* Miller, and *T. knorri* Baker & Tuttle. The latter two species constitute new records for the Philippines.

Some 18 species of *Tuckerella* have been reported worldwide from both temperate and tropical areas (Chaudhri, 1974; Ehara, 1975; McDaniel, Morihara and Lewis, 1975). They are stem feeders but some species have been collected beneath the soil surface where they probably feed on underground roots of their host plant (e.g., *T. hypoterra* McDaniel, et al.).

¹ Received April 1989; accepted July 1989.

² Department of Plant Protection, Visayas State College of Agriculture, Baybay, Leyte.

DESCRIPTION OF SPECIES

1. *Tuckerella flabellifera* Miller Fig. 1
Tuckerella flabellifera Miller, 1964. Pap. Proc. Roy. Soc. Tasmania
 98: 79. Type: Mt. Wellington, Tasmania, on *Bedfordia salicina*.

Specimens examined. All from LUZON IS.: 4 females (F) and 1 nymph (N), UPLB campus, College, Laguna, 6.iii.1962, P.M. Ramirez, on *Thuja orientalis* 1N, Mt. Makiling, Puting Lupa, Calamba, Laguna, 3.xi.1976, J.M. Sotto, on *Psychotria luzoniensis*; and 1F, Pantabangan, Nueva Ecija, 6.xi.1976, L.C. Raros, on *Mezonerum* sp. growing in cogon grassland.

Distribution. Tasmania (New Zealand), Philippines (*new record*).

Remarks. This species was recovered among specimens of *T. ornata* in Rimando's collection. It is easily recognized by the inner pair of posterior palmate opisthosomal setae being more posteriorly situated and only about half the size of the outer pair. Five pairs of flagellate and 3 pairs of small foliate caudal setae are present and the genito-anal setae number 9 pairs.

2. *Tuckerella knorri* Baker & Tuttle Fig. 2
Tuckerella knorri Baker and Tuttle, 1975. U.S. Dept. Agr. Coop. Ins.
 Rept. 25: 337. Type: Bangkok, Thailand, on roots of *Pandanus odoratissimus*.

Specimens examined. All from the UPLB campus, College, Laguna, LUZON IS.: 5F on 6.iii.1962, 1F on 8.iii.1962, and 1F on 13.iii.1962, P.M. Ramirez, on *Thuja orientalis*; 1F, 26.xii.1966, L.C. Rimando, on *Elephantopus scaber*; and 9.ii.1978, R.C. Garcia, on cypress.

Distribution. Thailand, Philippines (*new record*).

Remarks. *T. knorri* is distinctive in having 6 pairs flagellate and 2 pairs small, foliate caudal setae, as well as subequal and transversely aligned posterior palmate opisthosomals. Tibia II bears 3 palmate setae, and the genito-anal setae are 9 pairs. This species was the most numerous of *Tuckerella* specimens in Rimando's collection.

3. *Tuckerella ornata* (Tucker) Fig. 3
Tenuipalpus ornatus Tucker, 1926. Union S. Afr. Dept. Agr. Div. Ent.
 Mem. 5: 4. Types: Western Cape province, Africa, on orange.
Tuckerella ornata. Pritchard and Baker, 1953. Ann. Ent. Soc. Amer.
 46: 251; Rimando, 1962. Univ. Philipp. Coll. Agr. Tech. Bull.
 11: 33.

Specimens examined. LUZON IS. 1F and 1N, UPLB campus, College, Laguna, 6.iii.1962, P.M. Ramirez, on *Thuja orientalis*; 2F and 2N, same data but collected 8.iii.1962; and 1N, same locality, 19.i.1978, R.C. Garcia, on cypress; 1F, Pantabangan, Nueva Ecija, 6.xi.1976, L.C. Raros, on *T. orientalis*. LEYTE IS.: 20F and 17N, VISCA campus, Baybay, Leyte, 12.ix.1988, L.C. Raros, on cypress and 2F and 1N, same data but collected 27.ix.1988 on guava.

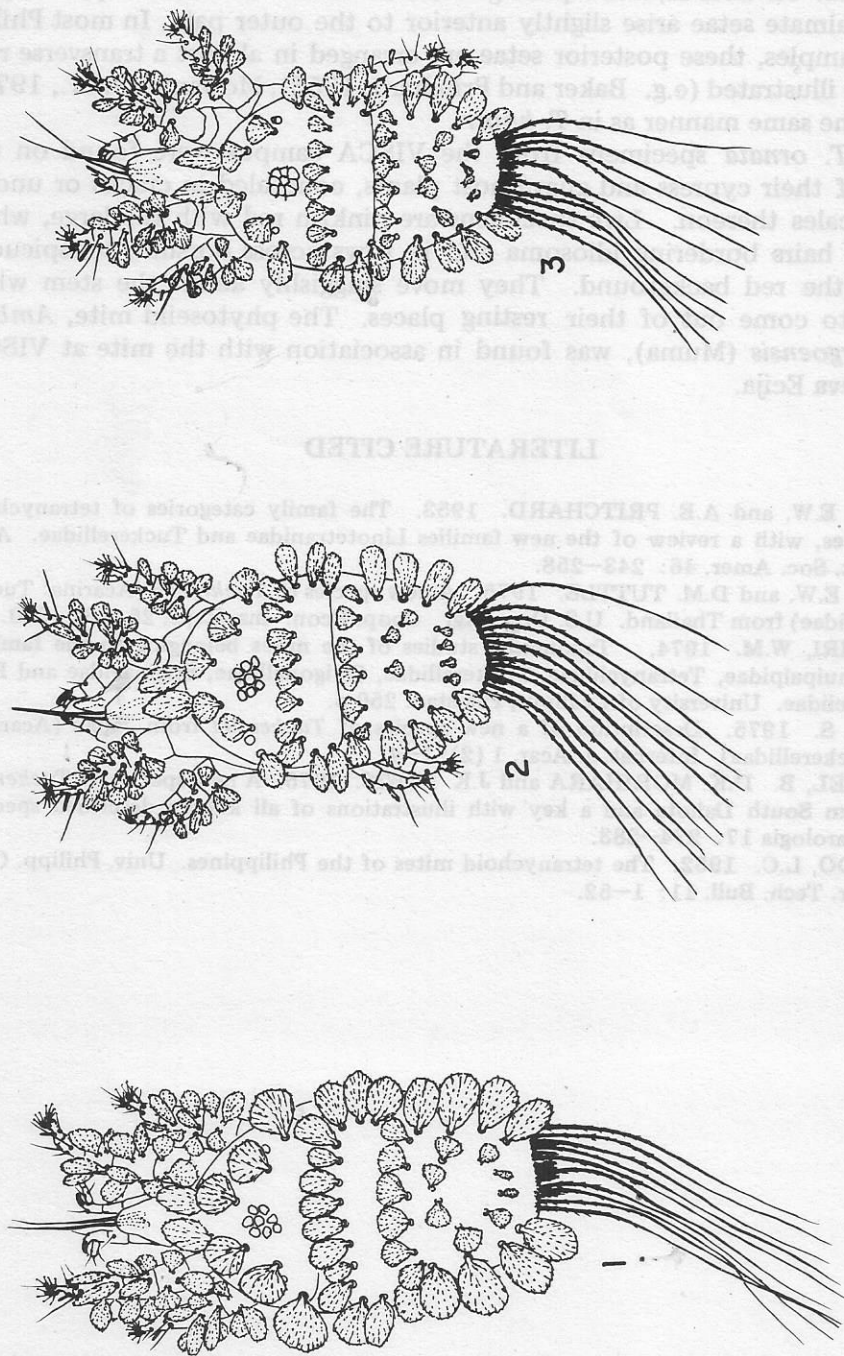


Fig. 1 3. Females of Philippine *Tuckerebella* species: 1. *T. knorri* Baker & Tuttle; 2. *T. ornata* (Tucker); 3. *T. flabellifera* Miller; 2. *T.*

Distribution. Africa, China, Guatemala, Philippines, USA (Florida).

Remarks. *T. ornata* is distinct in having 5 pairs flagellate and 3 pairs small foliate caudal setae, subequally large posterior opisthosomals, 3 palmate setae on tibia II, and 9 pairs genito-anal setae. The median pair of posterior palmate setae arise slightly anterior to the outer pair. In most Philippine examples, these posterior setae are arranged in almost a transverse row as often illustrated (e.g. Baker and Pritchard, 1953); McDaniel, *et al.*, 1975), and in the same manner as in *T. knorri*.

T. ornata specimens from the VISCA campus were found on the stems of their cypress and guava host plants, concealed in cracks or underneath scales thereon. Live specimens are pinkish red with the large, white palmate hairs bordering idiosoma and in rows across dorsum, conspicuous against the red background. They move sluggishly about the stem when caused to come out of their resting places. The phytoseiid mite, *Amblyseius largoensis* (Muma), was found in association with the mite at VISCA and Nueva Ecija.

LITERATURE CITED

- BAKER, E.W. and A.E. PRITCHARD. 1953. The family categories of tetranychoid mites, with a review of the new families Linotetranychidae and Tuckerellidae. *Ann. Ent. Soc. Amer.* 46: 243-258.
- BAKER, E.W. and D.M. TUTTLE. 1975. A new species of *Tuckerella* (Acarina: Tuckerellidae) from Thailand. *U.S. Dept. Agr. Coop. Econ. Ins. Rept.* 25: 337-340.
- CHAUDHRI, W.M. 1974. Taxonomic studies of the mites belonging to the families Tenuipalpidae, Tetranychidae, Tuckerellidae, Caligonellidae, Stigmaeidae and Phytoseiidae. University of Lyallpur, Pakistan. 250 p.
- EHARA, S. 1975. Description of a new species of *Tuckerella* from Japan (Acarina: Tuckerellidae). *Internat. J. Acar.* 1 (2): 1-4.
- McDANIEL, B. D.K. MORIHARA and J.K. LEWIS. 1975. A new species of *Tuckerella* from South Dakota and a key with illustrations of all known described species. *Acarologia* 17: 274-283.
- RIMANDO, L.C. 1962. The tetranychoid mites of the Philippines. *Univ. Philipp. Coll. Agr. Tech. Bull.* 11: 1-52.