

# The Genus *Tenuipalpus* (Acari: Tenuipalpidae) in Greece<sup>1</sup>

E.N. HATZINIKOLIS

Acarology Laboratory, Agricultural Research Centre of Athens  
Gr-141 23, Lykovrysi Attiki, Greece

## ABSTRACT

Knowledge of the Greek mites of the genus *Tenuipalpus* was limited to the following two species only: *T. caudatus* (Dugès) and *T. granati* Sayed. Recent studies revealed the presence of another five species namely: *T. crassus* André, *T. pacificus* Baker, *T. punicae* Pritchard and Baker, *T. rosae* Kadzhava and *T. zhizhilashviliae* Reck. A key to the seven species now recorded from Greece is presented. Some information concerning the distribution, economic importance and host plants of the above mentioned *Tenuipalpus* species is also given.

## Introduction

*Tenuipalpus* is a large genus and has a worldwide distribution. The mite fauna of this genus in Greece is poorly known, Pritchard and Baker (1958) reported one species, *T. granati* from grapes and later Hatzinikolis (1970) recorded another species, *T. caudatus* on laurestinus. The genus *Tenuipalpus* Donnadieu, 1875 is recognized by the following characters: the podosoma is usually very broad and the opisthosoma narrow; there is usually a pair of long, flagellate setae on the posterior margin of the body; the palps have one, two, or three segments; the ventral and genital plates may be fused together to form a genitoventral plate or they may be separated; the leg segments are characteristically wrinkled.

## Materials and Methods

The material for this study was collected at the Acarology Laboratory during the period 1966-85 from plant samples, which were sent by Agricultural Institutions, local Agricultural Services, individuals and by the author. Methods of collection, killing, preservation, clearing, pigmentation, fixing and mounting have been described in a previous paper

(Hatzinikolis 1982). The sampling took place mainly in the eastern parts of Greece, including Macedonia and to a lesser extent in Western Greece, Thrace and the Islands. Most of the samples were taken from cultivated fruit-trees, vegetables, ornamental plants, fodder, grapes and crops for the food processing industry. A limited number of samples was also taken from cereals, forest-trees and various wild plants. All the mites mentioned in this paper are kept in the collection of the Acarology Laboratory of the Agricultural Research Centre of Athens.

## Results

The present investigation of the genus *Tenuipalpus* in Greece revealed the following seven species: *T. caudatus*, *T. crassus*, *T. granati*, *T. pacificus*, *T. punicae*, *T. rosae* and *T. zhizhilashviliae*. Brief notes on the symptoms induced by these mites on their host plants, and their host range are also included under each species. A key based on females is provided.

### a. Key to species based on females

1. Hysterosoma with 3 pairs of dorsocentral setae ..... 2
  - Hysterosoma with 1 pair of dorsocentral setae ..... *T. granati*
2. Hysterosoma with 3 pairs of nonflagellate caudolateral setae ..... 3
  - Hysterosoma with 4 pairs of nonflagellate caudolateral setae ..... 4

<sup>1</sup> Received for publication May 5, 1986.

3. Hysterosoma with 3 pairs of posterior medioventral setae ..... *T. crassus*  
 - Hysterosoma with 4 pairs of posterior medioventral setae ..... *T. rosae*  
 4. Hysterosoma with 1 pair of posterior medioventral setae ..... 5  
 - Hysterosoma with 2 pairs of posterior medioventral setae ..... *T. pacificus*  
 5. Four pairs of narrow lanceolate setae caudally ..... 6  
 - Four pairs of very broad lanceolate setae caudally ..... *T. caudatus*  
 6. Propodosoma rugose mediodorsally; genua I and II each with two setae ..... *T. punicae*  
 - Propodosoma smooth mediodorsally; genua I and II each with one seta ..... *T. zhizhilashviliae*

#### b. Notes on the species

##### *Tenuipalpus caudatus* (Dugès)

*Trombidium caudatus* Dygès, 1834.

*Acarus tini* Boisduval, 1867.

*Tenuipalpus palmatus* Donnadieu, 1875.

*Caligonus calyx* Canestrini and Fanzago, 1876.

*Tenuipalpus caudatus* Pritchard and Baker, 1958; Carmona, 1970.

Records: Greece, France, Italy, Portugal.

Hosts: *Citrus* spp., *Laurus nobilis*, *Malus domestica*, *Olea europaea*, *Viburnum tinus*.

New records: Attiki and Corinthos areas on *Viburnum tinus*.

Relation to host: This mite was found feeding on the undersurface of laurestinus foliage. It causes discoloration of the leaves.

##### *Tenuipalpus crassus* André

*Tenuipalpus orchidarum crassum* André, 1953.

*Tenuipalpus crassus* Pritchard and Baker, 1958.

Records: France, India.

Hosts: Cactaceae: *Cereus peruvianus*, *Coryphanta andrea*, *Echinocereus pentalophus*, *Echinopsis rhodotricha*, *Euphorbia echinus*, *Lobinia sanguiflora*.

News record: Attiki, Athens 12 July 1976 on *Cereus* sp.

Relation to host: This mite causes dark spots and necrosis of the tissue.

##### *Tenuipalpus granati* Sayed

*Tenuipalpus orchidarum* Sayed, 1942 (misidentification).

*Tenuipalpus granati* Sayed, 1946; Reck, 1951; Baker and Pritchard, 1953; Wainstein, 1956

and 1960; Livshits and Mitrofanov, 1967.

Records: Egypt, Greece, India, U.S.S.R.

Hosts: *Cydonia oblonga*, *Pistacia vera*, *Punica granatum*, *Vitis vinifera*.

New records: In Cyprus, in the regions of Hulu, Kalepia and Pegia of Pafos on *Vitis vinifera* (N. Achillides, Ministry Agriculture and Natural Resources). In Greece, this mite is distributed throughout the warmer and littoral parts of the mainland and Islands. It was found on many cultivated plants, as follows: *Citrus limonium*, *Eriobotrya japonica*, *Ficus carica*, *Hydrangea hortensia* *Juglans regia*, *Pistacia vera*, *P. terevinthus*, *Prunus avium*, *P. cerasus*, *Punica granatum* and *Vitis vinifera*.

Relation to host: This mite has been found on both leaf surfaces. It usually infests leaves, small branches and sometimes the fruit. It is a serious pest of grapes and pomegranate in Greece, where it causes spotting and yellowing of the leaves which later become dry; small spots appear on the fruit.

##### *Tenuipalpus pacificus* Baker

*Brevipalpus pereger* Oudemans, 1928 (misidentification).

*Tenuipalpus orchidarum* Geijskes, 1939; Reck, 1951; André, 1953; Dosse, 1954 (misidentification).

*Tenuipalpus pacificus* Baker, 1945; Pritchard and Baker, 1952; Baker and Pritchard, 1953.

Records: Australia, England, France, Germany, Holland, Java, New Zealand, Panama, Philippines, Thailand, U.S.A.

Hosts: Orchidaceae: *Aerides*, *Cataleya*, *Cypripedium*, *Dendrobium*, *Grammatophyllum*, *Oncidium*, *Phalaenopsis*, *Saccola*.

New records: This mite has been noted only in Athens, Attiki, August 8, 1984, on *Gymbidium* and *Vanda* (Orchidaceae).

Relation to host: This mite has been observed in small populations only. It causes dark spots on the tissues.

##### *Tenuipalpus punicae* Pritchard and Baker

*Tenuipalpus punicae* Pritchard and Baker, 1958; Wainstein, 1960; Livshits and Mitrofanov, 1967.

Records: India, Iraq, Israel, Jordan, Spain, U.S.S.R.

Host: *Punica granatum*.

New records: Beotia, Thiva November 3, 1982, Agios Georgios August 31, 1983; Attiki,

Phylothei August 22, 1985, on pomegranate. Relation to host: This mite has been found on both leaf surfaces and on the fruit. Infested leaves turn yellow, silvery and later become dry. Heavily infested leaves fall off. Spotting of the fruits also occurs.

*Tenuipalpus rosae* Kadzhaja

*Tenuipalpus rosae* Kadzhaja, 1955; Livshits and Mitrofanov, 1967.

Record: Crimea, U.S.S.R.

Host: *Rosa* sp.

New records: Thessaloniki September 15, and Kavala September 22, 1977 on rose.

Relation to host: Small populations of this mite have been found on both leaf surfaces.

*Tenuipalpus zhizhilashviliae* Reck

*Tenuipalpus zhizhilashviliae* Reck, 1953; Livshits and Mitrofanov, 1967.

Record: Georgia, U.S.S.R.

Host: *Diospyros kaki* (lotus).

New record: Beotia, Aliartos July 16, 1978 on lotus.

Relation to host: This mite has been found on the undersurfaces of leaves.

## References

- Andr , M. 1953. Acariens Phytoptipalpidae parasites des Orchid es, Cact es et plantes grasses cultiv es en serres. I. *Tenuipalpus orchidarum* Parfitt. Bull. Mus. Hist. nat. Paris 25: 463-468.
- Baker, E.W. 1945. Mites of the genus *Tenuipalpus* (Acarina: Trichadenidae). Proc. Ent. Soc. Wash. 47: 33-38.
- Baker, E.W. and A.E. Pritchard. 1953. A review of the false spider mite genus *Tenuipalpus* Donnadieu (Acarina: Phytoptipalpidae). Ann. Ent. Soc. Amer. 46: 317-336.
- Boisduval, A. 1867. Essai sur l'entomologie horticole. Paris: 1-648.
- Canestrini, G. and F. Fanzago. 1876. Nuovi Acari Italiani. Att. Acc. Sci. ven. trent. istr. 5: 130-142.
- Carmona, M.M. 1970. Contribuicao para o conhecimento dos Acaros das plantas cultivadas em Portugal-V. Agronomia lusit. 31: 137-183.
- Donnadieu, A.L. 1875. Recherches pour servir   l'histoire des T tranyques. Theses, Facult  des Sciences de Lyon: 1-134.
- Dosse, G. 1954. *Tenuipalpus orchidarum* Parfitt nun auch in deutschen Gew chsh usern. Zeitschr. angew. Ent. 36: 304-315.
- Dug s, A. 1834. Recherches sur l'ordre des Acariens en g n ral et la famille des Trombidi s en particulier. Ann. Sci. nat. Paris 1: 5-46.
- Geijskes, D.C. 1939. Beitr ge zur Kenntnis der europ ischen Spinnmilben (Acari, Tetranychidae), mit besonderer Ber cksichtigung der niederl ndischen Arten. Meded. LanbHoogesch. Wageningen 42: 1-68.
- Hatzinikolis, E.N. 1970. Acariens de la famille des

- Tenuipalpidae observ s sur des plantes cultiv es en Gr ce. Annls Inst. Phytopath. Benaki 9: 242-244.
- Hatzinikolis, E.N. 1982. New phytophagous mites found in Greece. Agricultural Research 6: 67-76.
- Kadzhaja, G.S. 1955. Novy vid kleshcha-ploskotelki (Pseudoleptidae). Sbor. Nauk Stud. Tbil. Gos. Univ. Stalina 7: 65-69.
- Livshits, I.Z. and V.I. Mitrofanov. 1967. Materials to the cognition of the Acariformes: Tenuipalpidae fauna. Proc. Nikitsky Botanic Garden 39: 1-72.
- Oudemans, A.C. 1928. Acarologische Aanteekeningen XCV. Ent. Ber. 7: 393-399.
- Pritchard, A.E. and E.W. Baker. 1952. The false spider mites of California (Acarina: Phytoptidae). Univ. Calif. Publ. Ent. 9: 1-93.
- Pritchard, A.E. and E.W. Baker. 1958. The false spider mites (Acarina: Tenuipalpidae). Univ. Calif. Publ. Ent. 14: 175-274.
- Reck, G.P. 1951. Kleshchi rodov *Tenuipalpus*, *Brevipalpus* i *Brevipalpoides* (Trichadenidae, Acarina) po materialam iz gruzii. Trudy Zool. Inst. Akad. Nauk gruz. S.S.R. 10: 289-297.
- Reck, G.P. 1953. K izucheniu fauni tetranichovick kleshchei gruzii. Trudy Inst. Zool. Akad. Nauk Gruz. S.S.R. 11: 167-171.
- Sayed, M.T. 1942. Contribution to the knowledge of the Acarina of Egypt: II. The genus *Tenuipalpus* Donnadieu (Tetranychidae). Bull. Soc. Fouad 1er Ent. 26: 93-113.
- Sayed, M.M. 1946. Description of *Tenuipalpus granati* nov. spes. and *Brevipalpus pyri* nov. spec. Bull. Soc. Fouad 1er Ent. 30: 99-104.
- Wainstein, B.A. 1956. K faune tetranichovick kleshhohei ushnovo kazakhstana. Zool. Jour. Akad. Nauk S.S.R. 35: 384-391.
- Wainstein, B.A. 1960. Tetranychoid mites of Kazakhstan (with revision of the family). Kazakh. Akad. Sel'sk. nauk. Nauch.-Issled. Inst. Zash. Rast. Trudy 5: 1-276 (in Russian).

KEY WORDS: Acari, Tenuipalpidae, *Tenuipalpus*, *Tenuipalpus* in Greece, *T. caudatus*, *T. crassus*, *T. granati*, *T. pacificus*, *T. punicae*, *T. rosae*, *T. zhizhilashviliae*

## Το Γένος *Tenuipalpus* (Acari: Tenuipalpidae) στην Ελλάδα

E.N. ΧΑΤΖΗΝΙΚΟΛΗΣ

Εργαστήριο Ακαρολογίας, Κέντρο Γεωργικής Ερεύνης Αθηνών  
Υπουργείο Γεωργίας

### ΠΕΡΙΛΗΨΗ

Οι γνώσεις μας για τα Ελληνικά ακάρεα του γένους *Tenuipalpus* περιορίζοντο μόνο στα δύο είδη: *T. caudatus* (Dugès) και *T. granati* Sayed. Πρόσφατες έρευνες αποκάλυψαν την παρουσία πέντε ακόμη ειδών: *T. crassus* Andrè, *T. pacificus* Baker, *T. punica* Pritchard και Baker, *T. rosae* Kadzhava και *T. zhizhilashviliae* Reck. Επίσης παρουσιάζεται ένα κλειδί διαχωρισμού για τα επτά ανευρεθέντα είδη στην Ελλάδα και δίνονται πληροφορίες σχετικά με την εξάπλωση, οικονομική σημασία και ξενιστές των.