

AN ANNOTATED LIST OF MITES ON HAZEL OF TURKEY

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ABSTRACT

Twenty species of phytophagous, predaceous, mycophagous and saprophagous mites were recorded during a survey (1980-1990) in commercial hazel groves and on individual trees in different parts of Turkey.

KEY WORDS: Turkey, hazel trees, Acarina, Phytoseiidae, Tetranychidae, Tydeidae, Eriophyidae, Acaridae.

INTRODUCTION

Very little was known on the hazel (*Corylus*) mites (Acarina) of Turkey prior to the studies of Isik et al. (1987). They recorded only four mite species, namely *Tetranychopsis horridus* (Canestrini and Fanzago), *Tetranychus* sp. (Tetranychidae), filbert big bud mite or nut gall mite, *Phytocoptella avellanae* (Nalepa) (Eriophyidae), and *Allotrombium* sp. (Trombidiidae). *Tetranychus horridus* and *Phytocoptella avellanae* were found on hazel in other parts of the world (Jeppson et al., 1975). *Tetranychus horridus* was known since 1965, but was never considered to be an important hazel pest in Turkey. *Phytocoptella avellanae*, on the other hand, is a serious pest of hazel, filbert and cob nuts and has therefore attracted attention for a long time. This mite evidently occurs wherever these nuts are grown in Eurasia, North America and Australia. *Phytocoptella avellanae* causes "big buds" on native *Corylus* in North America (Jeppson et al., 1975). In Turkey this species is also a very common pest on nuts. Isik et al. (1987) recorded only one predaceous mite, namely *Allotrombium* sp., a very common species feeding on phytophagous mites. Since their work no additional records on hazel mites in Turkey have been published.

During 1980-1990, a countrywide survey was carried out in commercial and noncommercial hazel groves in Turkey. Mites were collected especially in the coastal plain of the Marmara and Black Sea and also in some central parts of the country. The accumulated data enabled me to review some concepts of the systematics and distribution of the various species recorded on hazel. Some mite species are hitherto unrecorded from Turkey.

I also examined some samples collected earlier by Prof. Dr. Z. Duzgunes (Ankara University, Faculty of Agriculture, Plant Protection Department, Ankara) and deposited in our collection.

Mites were preserved in 70% alcohol and mounted in Hoyer's fluid. The setal terminology of Garman (1948), Nesbitt (1951), Chant (1959), Pritchard and Baker (1955) and Baker (1965) has been followed.

The collection sites are shown in Fig. 1.

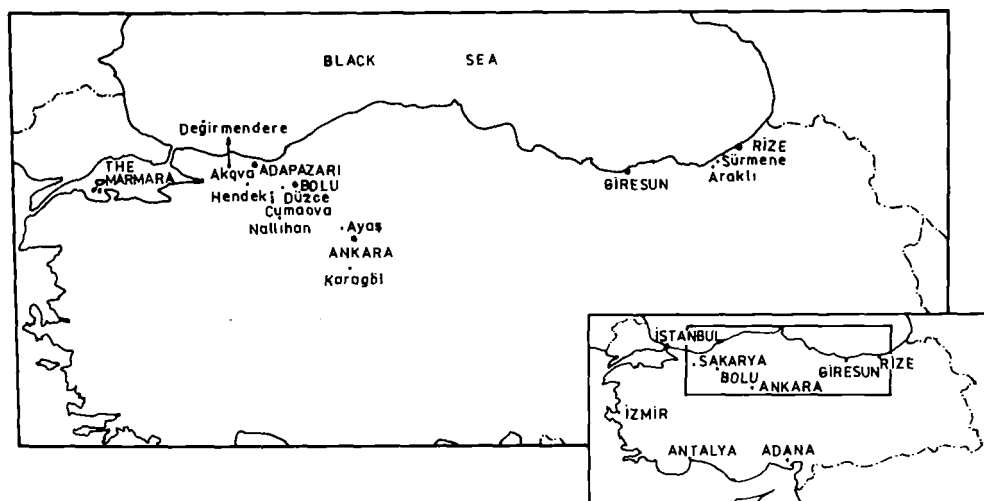


Fig. 1. Collection sites.

ASTIGMATA

Acaridae

Suidasia nesbitti Hughes, 1948

In Turkey, *Suidasia nesbitti* is particularly associated with stored products, such as wheat, bran, corn and barley seeds (Özer et al., 1989). This species was recorded from England, Portugal, Finland, Belgium, Italy, Crete, North America, South Africa and West Indies (Hughes, 1976).

RECORDS. Hazel leaves, Adapazari, 17.7.1990 (1 ♀), feeding on mold fungi. It was also found on citrus.

CRYPTOSTIGMATA

Oribatulidae

Phauloppia sp.

RECORDS. Hazel leaves, Bolu, 19.4.1990 (2 ♀), feeding on mold fungi, which develop in the moist areas of the tree.

MESOSTIGMATA

Phytoseiidae

In Turkey phytoseiids are regarded as important factors in the natural control of various phytophagous mites.

Kampimodromus aberrans (Oudemans, 1930)

This species is very common in Turkey on various plants, such as apples, *Morus* sp. (Düzgüneş and Kiliç, 1983; Swirski and Amitai, 1982).

RECORDS. Hazel leaves, Nallihan (Ankara), 15.6.1980 (2 ♀). Hendeke (Bolu), 17.7.1990 (10 ♀).

Adapazari, 17.7.1990 (7 ♀, 4 ♂, one nymph). Düzce-Cumaova (Bolu), 19.4.1990 (1 ♀, 1 ♂). Değirmendere (Adapazari), 25.8.1989 (28 ♀, 5 ♂), common.

Amblyseius potentillae (Garman, 1958)

This species is found in Turkey not only on trees, such as apple and citrus, but also on vegetables (Düzgüneş and Kiliç, 1983; Çobanoğlu, 1989, 1989a).

RECORDS. Hazel leaves, Bolu, 19.4.1990 (9 ♀, 1 ♂). Hendek (Bolu), 17.7.1990 (8 ♀, 1 ♂).

Amblyseius massei (Nesbitt, 1951)

This rare species is newly recorded from Turkey.

RECORDS. Hazel leaves, Giresun, 15.7.1980 (1 ♀).

Euseius finlandicus (Oudemans, 1915)

This species is very common in Turkey on various plants (Düzgüneş and Kiliç, 1983; Çobanoğlu, 1989).

RECORDS. Hazel leaves, Karagol (Ankara), 15.7.1964 (4 ♀) (coll. Prof. Dr. Z. Düzgüneş).

Phytoseius finitimus Ribaga, 1902

This species is very common on various plants in Turkey (Düzgüneş and Kiliç, 1983; Çobanoğlu, 1989), and in Israel (Swirski and Amitai, 1961, 1968, under the name *P. plumifer* Canestrini and Fanzago).

RECORDS. Hazel leaves, Arakli (Rize), 12.5.1990 (11 ♀). Rize, 21.12.1989 (22 ♀). Sürmene (Rize), 12.5.1990 (4 ♀). Akova (Adapazari), 28.4.1990 (8 ♀, 1 ♂, 1 L, 1 N). Hendek (Bolu), 28.4.1990 (4 ♀, 2 N); 17.7.1990 (9 ♀). Düzce (Bolu), 19.4.1990 (1 ♀). Adapazari, 17.7.1990 (10 ♀). Giresun, 15.7.1990 (2 ♀). Değirmendere, 25.8.1989 (62 ♀, 8 ♂).

Phytoseius (Dubininellus) echinus Wainstein and Arutunian, 1970

This species is very common in orchards of northern Turkey (Düzgüneş and Kiliç, 1983).

RECORDS. Hazel leaves, Hendek (Bolu), 17.7.1990 (8 ♀).

Typhlodromus longipilis Nesbitt, 1951

This species was recorded from many parts of Canada, USA (Chant, 1959) and Europe (Karg, 1971). It is recorded from Turkey for the first time.

RECORDS. Hazel leaves. Değirmendere (Adapazari), 25.8.1989 (3 ♀).

Amblydromella rhenana (Oudemans, 1905), sensu latiore

In Turkey *Amblydromella rhenana* is rare on hazel, but it was found on apples (Ecevit, 1977) and vegetables (Çobanoğlu, 1989a). In Israel *A. recki* (Wainstein) was named *Typhlodromus rhenanus* Oudemans, sensu latiore (Swirski and Amitai, 1961; Porath and Swirski, 1965).

RECORDS. On hazel, Değirmendere (Adapazari), 25.8.1989 (1 ♀).

Typhlodromus pyri Scheutén, 1857, sensu Abbasova, 1970

This predaceous mite is very common in Turkey, especially on apples (Düzgüneş and Kiliç, 1983).

RECORDS. Hazel leaves, Ayaş (Ankara), 15.6.1980 (2 ♀).

Typhlodromus sp.

RECORDS. This undetermined species is apparently known only from a single female, on hazel, Değirmendere, 1976 (coll. Prof. Dr. Z. Düzgüneş).

Typhlodromus sp.

RECORDS. This species is similar to the former one and also has the same collection data.

Typhloctonus tiliarum (Oudemans, 1930)

In Turkey this species is very common on apple leaves (Düzgüneş and Kiliç, 1983).

RECORDS. Hazel leaves, Nallihan (Ankara). 23.5.1980 (2 ♀). Ayaş (Ankara), 15.6.1980 (1 ♀).

PROSTIGMATA

Eriophyoidea

Nalepellidae

Phytocoptella avellanae (Nalepa, 1889)

Phytocoptella avellanae is a serious pest of hazel, filbert and cob nuts. Bud injury is the most serious result of its attack. Terminal buds are the favorite site of invasion and infested buds become swollen, deformed and pinkish. Owing to these symptoms *P. avellanae* is called filbert big bud mite, or nut gall mite (Jeppson et al., 1975).

RECORDS. Hazel leaves, Düzce (Bolu), 17.4.1990; Bolu, 19.4.1990. Very common.

Tarsonemoidea

Tarsonemidae

Tarsonemid mites are known to feed on various molds and on living green plants. This group is poorly known in Turkey.

Pseudotarsonemoides sp.

RECORDS. Hazel leaves, Arakli (Rize), 12.5.1990 (3 ♀).

Polyphagotarsonemus sp.

Mites of this species and the former one were never observed to prey on *Phytocoptella avellanae*.

RECORDS. On hazel leaf, Değirmendere (Adapazari), 22.8.1989 (1 ♀).

Tetranychoida

Tetranychidae

Eotetranychus coryli (Reck, 1950)

This species is found in Europe and USA. It is a pest of apple, cherry, prune, grapes and some species of shade and forest trees (Jeppson et al., 1975). This species has been known in Turkey for a long time, but no data on its economic importance were recorded. It feeds on hazel leaves, especially on the young ones.

RECORDS. Hazel leaves, Karagöl (Ankara), 15.7.1964 (2 ♀, 2 ♂) (coll. Prof. Dr. Z. Düzgüneş). Ankara, 24.8.1982 (2 ♂); 25.8.1982 (5 ♀, 14 ♂).

Tetranychopsis horridus (Canestrini and Fanzago, 1876)

This species feeds typically on the surface of hazel leaves. It was recorded from Italy, England, Georgia (USSR) and California (Pritchard and Baker, 1955). *T. horridus* is not very common in Turkey.

RECORDS. Hazel leaves, Akova (Bolu), 28.4.1990 (1 ♀). Hendek (Bolu), 28.4.1990 (2 ♀); 17.7.1990 (8 ♀). Adapazari, 17.7.1990 (1 ♀).

Tydeoidea

Tydeidae

Tydeid mites are probably the most common plant-inhabiting Acari. They have variously been stated as predators, plant feeders, saprophagans and mycophagists. Most of the species are of no economic importance, probably feeding on fungi, honeydew, etc. (Muma, 1961; Baker, 1965; Jeppson et al., 1975).

Tydeus californicus (Banks, 1904)

Jeppson et al. (1975) reported that this species is common on citrus, often living in southern countries in dense groups on the underside of leaves. *T. californicus* is commonly found on fruit trees and ornamentals and is of minor importance as a plant feeder (Baker, 1970). In Turkey it is very common on various plants, especially apple and citrus. Although over hundred mites per leaf could be found, no damage to any plant was recorded.

RECORDS. Karagöl (Ankara), 15.7.1964 (2 ♀) (coll. Prof. Dr. Z. Düzgüneş).

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