

Amblyseius astutus (Beglarov, 1960) (Acarina: Phytoseiidae), a new record for the predatory mite fauna of Turkey

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Summary

Amblyseius astutus (Beglarov) samples were obtained from the galls of the ***Eriophyes triradiatus*** Nalepa on willow trees during 1998-2000 in Ankara. ***A. astutus*** hibernates inside the hanging galls of the ***E. triradiatus*** and crevices of the trees as females.

Description of the predatory mite: ***A. astutus*** is illustrated. ***A. astutus*** is a new record for the predatory mite fauna of Turkey.

Key words: Acarina, Phytoseiidae, ***Amblyseius astutus***, ***Salix*** sp., Ankara

Anahtar sözcükler: Acarina, Phytoseiidae, ***Amblyseius astutus***, söğüt, Ankara

Introduction

Phytoseiid mites are important and widespread predators of the phytophagous mites and several species have commercial status in the world (Jeppson et al., 1975; Ovemeer, 1985; Mc Murtry, 1982; Kılınçer et al., 1996).

Amblyseius Berlese (Acarina: Phytoseiidae) species are well known predacious mites of world and Turkey. They feed on the Eriophyidae, Tenuipalpidae and Tetranychidae species (Jeppson et al., 1975; Çobanoğlu, 1987, 1989, 1997).

The eriophyids are minute and often host specific mites. These plant pests are known gall, bud, blister or rust mites and some species transmit plant viruses (Jeppson et al., 1975; Gerson & Smiley, 1990).

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Eriophyid mites are widespread and harmful in the parks and recreation areas of many European countries (Kropczynska et al., 1992; Ripka, 1997; Ripka et al., 1997) and Turkey (Alkan, 1952; Toros, 1992; Alaoğlu, 1996).

Eriophoid mites, especially the rust mites are commonly utilized by phytoseiids. Some *Amblyseius* species such as, *Amblyseius hibisci* (Chant), *Amblyseius limonicus* Garman & McGregor and *Amblyseius rubini* Swirski & Amitai feed on the eriophyids (Jeppson et al., 1975).

Eriophyes triradiatus Nalepa, was reported from central Anatolia (Alkan, 1952) while *Phytocoptes populinus* (Nalepa) and *Anthocoptes salicis* Nalepa (Acarina: Eriophyidae) were reported from willow and populus trees in Erzurum and Erzincan (Turkey) (Alaoğlu, 1996).

Kampimodromus aberrans (Oudemans) (Acarina: Phytoseiidae) was observed very common predatory mite inside the "big buds" which was occurred by *Phytoptus avellanae* Nal. (Acarina: Eriophyidae) in hazelnut orchards in the Black sea region of Turkey (Ecevit et al., 1996).

Willow (*Salix babylonica* L.) (Salicaceae) trees were infected heavily with the *E. triradiatus* in Ankara which makes small, brown hard pustules on the leaves for many years (Alkan, 1952; Toros, 1992). Inside these galls the eggs and active stages of the *Eriophyes* sp. can be found. The galls remain hanging most of the year on the plants, even in winter. *Amblyseius astutus* (Beglarov, 1960) (Acarina: Phytoseiidae) is a predatory mite which was observed inside the eriophyid galls while they were feeding on them. It hibernates as a female stage inside the hanging pustules on the willow trees and crevices of the plants. *A. astutus* is a new record for Turkey.

Material and Methods

The galls of *E. triradiatus* were crashed and examined under the stereo microscope. The predatory mites were collected and preserved in the 70 % ethyl alcohol. The preparation is done in Hoyer's medium after clarification in lactophenol solution. The identification of the samples were based on Arutunyan (1977), Kolodochka (1978) and Beglarov (1981). All measurements are given in (µm) and drawings were made by the phase-contrast microscope.

The specimens are kept in a part of author's collection at University of Ankara, Plant Protection Department, Ankara, Turkey.

Results and Discussion

Family: Phytoseiidae

Genus: *Amblyseius* Berlese, 1915

Species: *Amblyseius astutus* (Beglarov, 1960)

Synonyms: according to Wainstein (1975)

Amblyseius pepperi Specht, 1968

Amblyseius danilevskyi Wainstein & Arutunjan, 1970

Typhlodromus astutus Beglarov, 1960

Female (Fig.1-2)

Dorsum: Body length 370 ± 3.63 and width 225.8 ± 3.47 μm ($n=9$). Dorsal scutum is well sclerotised, reticulated and with lateral notches, it bears six pairs of dorsal pores in which four of them very distinct and 17 pairs of dorsal setae (Fig. 1a). The first and second pair of anterior lateral setae are in equal length. The last lateral seta crenate and others smooth. The peritremes extend beyond the level of the second lateral setae. The length of dorsal setae as follows: j1:25; j3:31.5; j4:18.3; j5: 17.5; j6:26.5; J2: 28.3; J5:12.5; Z2: 24.6; z4: 30; z5:15.7; s4:44.1; Z1: 39; S2: 48.5; S4: 45.5; S5: 29.5; Z4: 55.0; Z5: 63.5 μm .

The length of dorsal shield was measured 415 μm , its width is 180 μm by Kolodochka (1978).

Chelicera: fixed digit have four teeth on the base and plus pilus dentilis. The mobile digit of the chelicerae has one tooth (Fig. 1b).

Ventrum: The sternal scutum have three pairs of setae and two pairs slit like pores. The metasternal setae are placed on small platlets. Linear plates occur between the genital and ventroanal scutum. The ventrianal plate is elongate with lateral notches and bears three pairs of preanal setae and one pair of small, round pores that are set wide apart (Fig. 2a). Ventrianal scutum is 124.0 length and width 81.6 μm .

Spermatheca: with a long, narrow cervix, slightly widening cup shaped (Fig. 2b).

Leg IV: with three small macrocheatae on genu, tibia and tarsus, of which the longest one is on the tibia (Fig. 2c).

Male: has not been found.

Material examined: It was collected from the willow trees *S. babylonica* inside the *E. triradiatus* galls in Ankara (9.2. 1999; 22 10.2000).

This is a new record for the fauna of Turkey.

It was obtained on pear leaves damaged by the mining moth (there is no indication about the species) from Erevan (Arutunyan, 1977). This species was reported from Ukrainian forest steppe zone on oak, black poplar (*Populus nigra* L.) and apple trees as a very rare species (Kolodochka, 1978). It was also reported from apples in Yaroslavl district of European part of USSR (Wainstein, 1975). Later it was reported on apple, pear, mulberry, cotton plant, herbaceous plants and poplar trees from USSR, Moldavia, Azerbaidzhan, Armenia and Ukraine (Beglyarov, 1981). *A. astutus* was also reported on *Salix* spp. and *Populus* spp. and additional 13 phytoseiids were reported on Salicaceae from Hungary (Ripka, 1998).

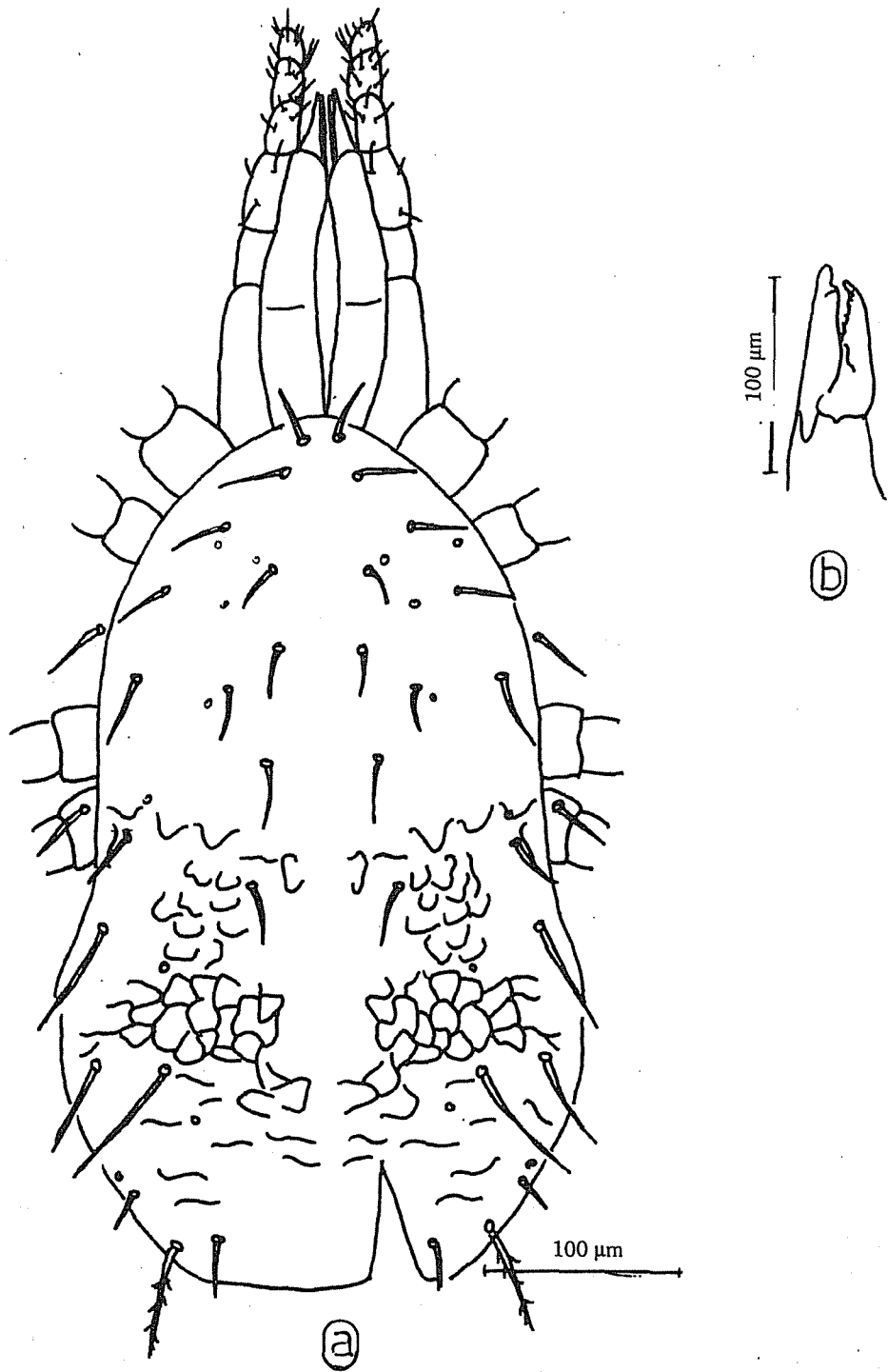


Figure 1. *Amblyseius astutus* (Beglarov, 1960): female; a. Dorsum b. Chelicera

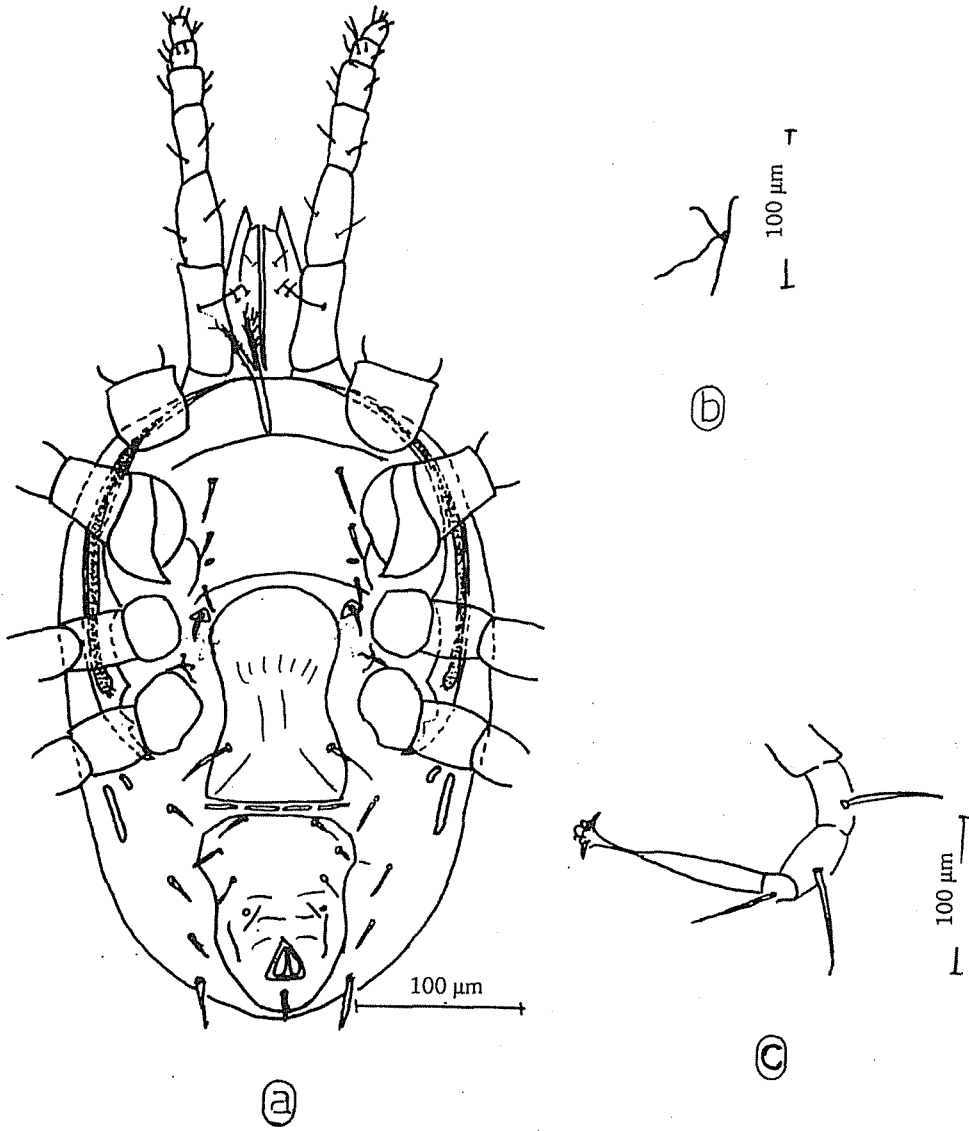


Figure 2. *Amblyseius astutus* (Beglarov, 1960): female; a. Ventrum b. Spermatheca, c. Leg IV.

Özet

Amblyseius astutus (Beglarov, 1960) (Acarina: Phytoseiidae): Türkiye faydalı akar faunası için yeni bir kayıt

Amblyseius astutus (Beglarov) Ankara ilindeki söğüt ağaçlarından *Eriophyes triradiatus* Nalepa galleri içinden, 1998-2000 yılları arasında elde edilmiş ve Türkiye faydalı akar faunası için yeni kayıt olarak belirlenmiştir.

A. astutus, gelişimini *E. triradiatus* galleri içinde tamamlamaktadır. Bu avcı akar, ağaç üzerindeki asılı kalan galler ve çatlaklar arasında dişi olarak kışı geçirmektedir. *A. astutus*'a ait taksonomik karakterler şekillerle açıklanmıştır.

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