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## THE PSEUDOCOCCIDAE SPECIES OF TURKEY

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### Abstract

A great number of specific data [Bodenheimer (1953), Düzgünes (1982), Kaydan *et. al.* (2001 ve 2004)] were given about Pseudococcidae species. There are many Pseudococcidae species distributed in Turkey and many of them cause damage on herbaceous plants. The scientific names, synonyms, distributions and host plants of 50 Pseudococcidae species which are recorded in Turkey up to date are brought together the first time by this study.

**Keywords:** Pseudococcidae, Turkey, Species.

### SUMMARY

The name mealybug is derived from the mealy or waxy secretions which cover the bodies of these insects. These secretions protect them from excessive heat and moisture loss. The body of the female is elongated, segmented and has well-developed legs. Some species lay eggs, while others give birth to living young. Eggs are placed in loose cottony wax. Pseudococcidae species may be found on almost any part of the host plant. They feed on plants by inserting long stylets into plant tissue, at the same time they secrete a sticky honeydew.

Many researchers including Bodenheimer (1953), Duzgunes (1982) and Kaydan *et. al.* (2001 ve 2004) studied on Pseudococcidae species in Turkey. The systematic list of 50 species given in this research is arranged alphabetically. The synonyms are depended on Ben-Dov (1994). The synonyms belonging to every species were given just only they took a part in Turkish literature. The scientific names of host plants and the data concerning their living places are updated.

*Nipaecoccus filamentosus* (Cock.), *N. nipae* (Mask.), *Planococcus vovae* (Nas.), *Pseudococcus longispinus* (Targ.) and *P. viburni* (Sign.) are the species distributed in the European part of Turkey. The other species were only recorded in Anatolia which is Asian part of Turkey.

From the zoogeographical standpoint, *Metadenopus ankaranus* (Bod.), *Pseudococcus caricus* (Genn.) and *P. laingi* Bod. are native species; whereas are *Antonina graminis* (Mask.), *Chaetococcus bambusae* (Mask.), *Nipaecoccus filamentosus* (Cock.), *N. nipae* (Mask.),

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*Phenacoccus graminicola* Leon., *Pseudococcus longispinus* (Targ.) and *P. viburni* (Sign.) are cosmopolitan species and the others are palearctic.

*Planococcus vovae* (Nas.) and *Pseudococcus caricus* (Genn.) cause damage on coniferous trees. Although *Pseudococcus viburni* (Sign.) is a polyphagus species damaging on deciduous trees, also lives on *Cephalotaxus harringtonia* in Turkey.

There are many Pseudococcidae species distributed in Turkey, but many of them cause damage on herbaceous plants. *Nipaeococcus filamentosus* (Cock.) and *Pseudococcus longispinus* (Targ.) cause damage on forest trees, *Planococcus citri* (Ris.) and *P. ficus* (Sign.) on agricultural plants. *Phenacoccus aceris* (Sign.) and *Pseudococcus viburni* (Sign.) cause significant damages on both forest trees and agricultural plants.

The systematic list of 50 Pseudococcidae species of Turkey which are found by various researchers are given below in alphabetical order:

Genus ANTONINA Signoret, 1875

*Antonina graminis* (Maskell, 1897)

*Sphaerococcus graminis* Maskell, 1897, Ent. Monthly Mag. 33, p. 244.

Van on *Lolium multiflorum*.

Kaydan *et al.* 2001: 379.

Genus ASPHODELOCOCCUS Morrison, 1945

*Asphodelococcus asphodeli* (Bodenheimer, 1927)

*Ripersia asphodeli* Bodenheimer, 1927, Bull. Soc. Ent. Fr. p. 178.

Antalya, Adana, Hatay-Iskenderun, Mersin on *Asphodelus aestivus*.

Bodenheimer 1953: 124-125; Ben-Dov 1994: 46.

Genus ATROCOCCUS Goux, 1941

*Atrococcus achilleae* (Kiritshenko, 1936)

*Pseudococcus achilleae* Kiritshenko, 1936, Rev. Ent. USSR 26, p. 146.

Nevşehir, Ankara (Beynam, Kalecik, Sereflikochisar) on *Acantholimon* sp., *Melilotus albus*, *Scabiosa ucranica* and *Asterococcus* plant.

Kaydan *et al.* 2001a: 255; Kaydan *et al.* 2004: 220.

*Atrococcus indigenus* (Borchsenius, 1949)

*Pseudococcus indigenus* Borchsenius, 1949, Fauna SSSR (Nasekom. hobot. 7), n.s.38, p. 126.

Van on *Astragalus* sp.

Kaydan *et al.* 2001: 379.

*Atrococcus paludinus* (Green, 1921)

*Pseudococcus paludinus* Green, 1921, Ent. Monthly Mag. 57, p. 190.

Aksaray-Ihlara, Ankara (Bala, Kalecik) on *Senecio* sp. and *Teucrium* sp.

Kaydan *et al.* 2001a: 255; Kaydan *et al.* 2004: 220.

**Atrococcus saxatilis** (Ter-Grigorian, 1964)

*Pseudococcus saxatilis* Ter-Grigorian, 1964, Doklady Akad. Nauk Armyan. SSR 38, p. 181.

Van-Ozalp on *Salvia* sp.

Kaydan *et al.* 2001: 379.

Genus **CHAETOCOCCUS** Maskell, 1898

**Chaetococcus bambusae** (Maskell, 1893)

*Sphaerococcus bambusae* Maskell, 1893, Trans. N. Z. Inst. 25, p. 237.

Rize nursery on *Bambusa* sp.

Bodenheimer 1953: 130-131; Hendricks and Kosztarab 1999: 33-40.

**Chaetococcus phragmitis** (Marchal, 1909)

*Antonina phragmitis* Marchal, 1909, Comptes Rendu Acad. Sci. Paris 148, p. 872.

Ankara (Polatli-Haymana road) on *Phragmites* sp.

Kaydan *et al.* 2004: 220.

Genus **EURIPERSIA** Borchsenius, 1948

**Euripersia amnicola** Borchsenius, 1948

*Euripersia amnicola* Borchsenius, 1948, Doklady Akad. Nauk SSSR Moskow (n.s.)61, p. 956.

Van-Ozalp on *Stipa holosenicea*.

Kaydan *et al.* 2001: 379.

Genus **HELIOCOCCUS** Sulc, 1912

**Heliococcus bohemicus** Sulc, 1912

*Heliococcus bohemicus* Sulc, 1912, Acta Soc. Ent. Bohem. 9, p. 40.

Van-Gurpınar on *Phlomis* sp.

Kaydan *et al.* 2001: 379.

**Heliococcus radicolica** Goux, 1931

*Heliococcus radicolica* Goux, 1931, Bull. Soc. Ent. France 8, p. 113.

Aksaray-Guzelyurt, Ankara-Bala on *Dianthus* sp. and Brassicaceous plant.

Kaydan *et al.* 2001a: 255; Kaydan *et al.* 2004: 220.

**Heliococcus saxatilis** Borchsenius, 1949

*Heliococcus saxatilis* Borchsenius, 1949, Fauna SSSR (Nasekom. hobot. 7), n.s. 38, p. 276.

Van-Catak on *Nepeta* sp.

Kaydan *et al.* 2001: 379.

Genus **METADENOPUS** Sulc, 1933

**Metadenopus ankaranus** (Bodenheimer, 1953)

*Ripersia ankarana* Bodenheimer, 1953, Rev. Istanbul Univ. Fac. Sci., B, 18, p. 125.

Ankara on *Festuca ovina*.

Bodenheimer 1953: 125-127; Ben-Dov 1991: 10; Ben-Dov 1994: 229.

Genus **MIROCOCCUS** Borchsenius, 1947

**Mirococcus inermis** (Hall, 1925)

*Phenacoccus inermis* Hall, 1925, Bull. Minist. Agric. Egypt 64, p. 7.

Van, Burdur-Aziziye on *Chenopodium album*, *Heliotropium europaeum*, *Polygonum* sp. and *Salsola kali*.

Kaydan *et al.* 2001: 379; Kaydan *et al.* 2004: 220; Ulgenturk *et al.* 2004: 367.

Genus **NIPAECOCCUS** Sulc, 1945

**Nipaecoccus filamentosus** (Cockerell, 1893)

*Dactylopius filamentosus* Cockerell, 1893, Ent. News 4, p. 268.

Istanbul on *Robinia pseudoacacia*.

Bodenheimer 1953: 119.

**Nipaecoccus nipae** (Maskell, 1893)

*Dactylopius nipae* Maskell, 1893, Trans. N. Z. Inst. 25, p. 232.

Istanbul on *Latania lontaroides* and palm.

Bodenheimer 1953: 119; Ben-Dov 1994: 253-255.

Genus **PELIOCOCCUS** Borchsenius, 1948

**Peliococcus chersonensis** (Kiritshenko, 1936)

*Phenacoccus chersonensis* Kiritshenko, 1936, Rev. Ent. USSR 26, p. 138.

Ankara (Bala, Beynam, Kalecik), Van (Ercis, Catak) on *Artemisia* sp., *A. fragrans*, *Globularia* sp., *Polygonum* sp. and *Solanum tuberosum*.

Bodenheimer 1953: 123; Ben-Dov 1994: 292; Kaydan *et al.* 2001: 380; Oncuer *et al.* 2001: 399; Kaydan *et al.* 2004: 220.

**Peliococcus kimmericus** (Kiritshenko, 1940)

*Phenacoccus kimmericus* Kiritshenko, 1940, Biol. Ser. Odessa Univ. 4, p. 189.

*Peliococcus bitubulatus* Borchsenius, 1949, Fauna SSSR (Nasekom. hobot. 7), n.s. 38, p. 251.

Van on *Cuminum cyminum*.

Kaydan *et al.* 2001: 380.

**Peliococcus manifestus** Borchsenius, 1949

*Peliococcus manifestus* Borchsenius, 1949, Fauna SSSR (Nasekom. hobot. 7), n.s. 38, p. 245.

Van (Muradiye, Saray) on *Euphorbia* sp. and *Turgenia latifolia*.

Kaydan *et al.* 2001: 380.

**Peliococcus turanicus** (Kiritshenko, 1932)

*Phenacoccus turanicus* Kiritshenko, 1932, Trudy Zool. Inst. Akad. Nauk SSSR, p. 137.

*Peliococcus terrestris* Borchsenius, 1949, Fauna SSSR (Nasekom. hobot. 7), n.s. 38, p. 254.

*Peliococcus unispinus* Borchsenius and Ter-Grigorian, 1956, Akad. Nauk Armanian. SSRR. Izv. Biol. Sel'Sk. Nauk 9, p. 23.

Van (Baskale, Saray, Gevas, Ercis) on *Achillea* sp., *Euphorbia* sp., *Falcaria vulgaris*, *Lepidium draba*, *Senecio* sp., *Tragopogon* sp. and *Turgenia latifolia*.

Kaydan *et al.* 2001: 380.

Genus **PHENACOCCLUS** Cockerell, 1893

**Phenacoccus aceris** (Signoret, 1875)

*Pseudococcus aceris* Signoret, 1875, Ann. Soc. Ent. Fr. (ser. 5), 4, p. 329

Nigde, Ankara (Bey pazari, Golbasi, Eymir, Haymana), Isparta-Yalvac, Burdur, Kayseri on *Acer* sp., *A. pseudoplatanus*, *Aesculus hippocastaneum*, *Carpinus betulus*, *Corylus avellana*, *Crataegus oxyacantha*, *Cydonia oblonga*, *Fraxinus* sp., *F. excelsior*, *Juglans regia*, *Malus communis*, *M. sylvestris*, *Morus alba*, *Platanus* sp., *Prunus* sp., *P. domestica*, *Pyrus communis*, *P. malus*, *Quercus* sp., *Salix* sp., *Sorbus* sp., *Tilia* sp. and *Ulmus* sp.

Bodenheimer 1953: 122-123; Duzgunes 1982: 25-27; Ben-Dov 1994: 304-306; Uygun *et al.* 1998: 187; Kaydan *et al.* 2004: 221, Ulgenturk *et al.* 2004: 366-368.

**Phenacoccus asphodeli** Goux, 1942

*Phenacoccus asphodeli* Goux, 1942, Bull. Mus. Hist. Nat. Marseille 2, p. 33.

Central Anatolia on *Asphodelus microcarpus*.

Oncuer *et al.* 2001.

**Phenacoccus avenae** Borchsenius, 1949

*Phenacoccus avenae* Borchsenius, 1949, Fauna SSSR (Nasekom. hobot. 7) n.s. 38, p. 217.

On *Chinodoxa luciliae*, *Crocus* sp., *Fritillaria* sp., *Galanthus elwesii*, *Hyacinthus azureus*, *Iris x germanica*, *Leucojum* sp., *Narcissus* sp., *Scilla bifolia*, *Sternbergia* sp. and *Tulipa* sp.

Williams and Miller 1985: 671-674; Ben-Dov 1994: 309; Jansen 1995: 133; Jansen 2004: 155.

**Phenacoccus bicerarius** Borchsenius, 1949

*Phenacoccus bicerarius* Borchsenius, 1949, Fauna SSSR (Nasekom. hobot. 7) n.s. 38, p. 225.

Ankara (Beynam, Kalecik, Sereflikochisar) on *Cynodon dactylon* and *Lolium* sp.

Kaydan *et al.* 2001a: 254; Kaydan *et al.* 2004: 221-222.

**Phenacoccus emansor** Williams and Kozarzhevskaya, 1988

*Phenacoccus emansor* Williams and Kozarzhevskaya, 1988, Ent. Obozr. 68, 4, p. 760.

On *Iris reticulata*.

Williams and Kozarzhevskaya 1988: 760-762; Ben-Dov 1994: 316; Jansen 1995: 133; Jansen 2004: 155.

**Phenacoccus evelinae** Tereznikova, 1968

*Paroudablis graminis* Tereznikova, 1968, Akad. Nauk. Ukr. RSR Dopov. Ser. B 5, p. 472.

*Phenacoccus evelinae* Tereznikova, 1975, Arad. Nauk. Ukr. SSR Inst. Zool. 20 (Pt.18), p. 211.

Ankara-Kalecik on *Lolium* sp.

Kaydan *et al.* 2004: 222.

**Phenacoccus graminicola** Leonardi, 1908

*Phenacoccus graminicola* Leonardi, 1908, Boll. Lab. Ent. Agr. Portici, p. 160.

Izmir-Bornova on *Dactylis* sp., *D. glomerata*, *Hordeum vulgare* and *Melilotus* sp.

Iyriboz and Ileri 1941: 119; Aysu 1950: 114; Oncuer *et al.* 2001: 399.

**Phenacoccus hordei** (Lindeman, 1886)

*Westwoodia hordei* Lindeman, 1886, (Notes) Imp. Obssshch. Sel. Khoz., p. 367.

Izmir-Bornova, Aksaray-Guzelyurt on *Cynodon dactylon* and *Dactylis glomerata*.

Gul-Zumreoglu 1972: 26; Kaydan *et al.* 2001a: 255.

**Phenacoccus karaberdii** Borchsenius and Ter-Grigorian, 1956

*Phenacoccus karaberdii* Borchsenius and Ter-Grigorian, 1956, Akad. Nauk Armanian. SSSR.zv. Biol. Sel'Sk. Nauk 9, p. 20.

*Phenacoccus affinis* Ter-Grigorian, 1963, Akad. Nauk Armyan. SSSR.36, p. 123.

Van (Muradiye-Saray) on *Beta vulgaris* and *Triticum aestivum*.

Kaydan *et al.* 2001: 380.

**Phenacoccus pumilus** Kiritshenko, 1931

*Phenacoccus pumilus* Kiritshenko, 1931, Zashita Rastenii, Leningrad 7, p. 314.(nomen nudum)

Aksaray-Guzelyurt, Ankara (Haymana, Kalecik, Polatli) on *Torilis* sp.

Kaydan *et al.* 2001a: 255; Kaydan *et al.* 2004: 222.

**Phenacoccus tergrigorianae** Borchsenius, 1956

*Phenacoccus tergrigorianae* Borchsenius in Borchsenius and Ter-Grigorian, 1956, Akad. Nauk Armanian. SSSR.Izv. Biol. Sel'sk. Nauk 9, p. 21.

Aksaray-Guzelyurt, Ankara (Bala, Beynam, Celtikli, Cubuk, Kizilcahamam, Polatli), Van (Gevas, Ercis, Muradiye, Ozalp, Gulpinar) on *Achillea* sp., *Artemisia* sp., *Beta vulgaris*, *Chenopodium* sp., *C. album*, *Cichorium* sp., *Hordeum vulgare*, *Melilotus* sp., *Onobrychis vicifolia*, *Scabiosa* sp., *Xanthium* sp. and *Zygophyllum fabago*.

Kaydan *et al.* 2001: 380-381; Kaydan *et al.* 2001a: 255; Kaydan *et al.* 2004: 222.

Genus **PLANOCOCCUS** Ferris, 1950

**Planococcus citri** (Risso, 1813)

*Dorthisia citri* Risso, 1813, Ann. Mus. Nat. Hist. Nat. Paris 20, p. 416.

Antalya (Alanya, Manavgat), Gaziantep, Elazig, Malatya, Adiyaman, Sanliurfa, Mardin, Diyarbakir, Eskisehir-Sivrihisar, Kirikkale, Amasya, Konya-Meram, Izmir (Bornova, Narlidere, Cesme), Manisa, Ankara-Beypazari, Adana-Balcali, Mersin (Silifke, Aslankoy, Anamur), Hatay (Dortyol, Erzin), Istanbul-Erenkoy, Aydin-Nazilli, Kocaeli (Cayirova, Golcuk), Rize, Mugla (Koycegiz, Fethiye, Dalaman) on *Adiantum capillus-veneris*, Cactaceae sp., *Ceratonia siliqua*, *Citrus* sp., *C. aurantium*, *C. limon*, *C. x paradisi*, *C. sinensis*, *Coleus* sp., *Diospyros kaki*, *Ficus carica*, *Fragaria* sp., *Galanthus ehwesii*, *Morus* sp., *M. alba*, *Prunus laurocerasus*, *Punica granatum*, *Solanum tuberosum* and *Vitis vinifera*.

Bodenheimer 1935: 10-14; Iyriboz 1940: 59; Iyriboz 1942: 173-177; Aysu 1950: 114; Bodenheimer 1953: 119; Alkan 1962: 14; Kisakurek 1970: 64; Cengiz and Oncag 1971: 46; Aykac and Erguden 1972: 43; Gul-Zumreoglu 1972: 26; Gunaydin 1972: 42; Iren *et al.* 1973: 38-39; Erkam 1974: 26-27; Iren 1976: 201-222; Iren 1977: 141-143; Soylu and Urel 1977: 77, 78, 82-93, 100-102; Tuncyurek 1976: 14-15; Dikyar *et al.* 1977: 63; Keles 1979: 101; Duzgunes 1982: 29-32; Turkyilmaz and Ciftci 1995: 52-53; Ben-Dov 1994: 355-358; Jansen 1995: 133; Uygun *et al.* 1995: 241; Karsavuran *et al.* 1998: 366; Karsavuran *et al.* 2001: 223; Uygun *et al.* 1998: 186; Yigit and Canhilar 1998: 23-41; Jansen 2004: 155; Karsavuran *et al.* 2004: 380; Yigit *et al.* 2004: 383-387.

**Planococcus ficus** (Signoret, 1875)

*Dactylopius ficus* Signoret, 1875, Ann. Soc. Ent. Fr. (ser.5) 5, p. 315.

Izmir (Bornova, Odemis, Selcuk), Nigde, Ankara, Burdur, Rize-Pazar, Adana-Balcali, Aydin-Erbeyli on *Ficus* sp., *F. carica*, *Glycyrrhiza glabra*, *Malus* sp., *Punica granatum*, *Vitis* sp., *V. vinifera*.

Aysu 1950: 114; Duzgunes 1982: 32-34; Uygun *et al.* 1998: 186; Karsavuran *et al.* 2001: 223; Karsavuran *et al.* 2004: 380; Kaydan *et al.* 2004: 222; Ulgenturk *et al.* 2004: 366.

**Planococcus vovae** (Nasonov, 1909)

*Pseudococcus (Dactylopius) vovae* Nasonov, 1909, Ann. Mus. Zool. Acad. Sci. St. Petersburg 13, p. 484.

Istanbul (Fenerbahce, Buyukada, Kinaliada), Edirne-Ezine, Bursa, Usak, Antalya, Isparta, Burdur (Sobia Forest, Aziziye, Egirdir, Kocapinar, Kovada), Adana (Solakli, Imamoglu), Mersin-Karacailyas, Hatay (Dortyol, Erzin) on *Calocedrus decurrens*, *Cupressus* sp., *C. goveniana*, *C. sempervirens*, *Juniperus* sp., *J. excelsa*, *J. virginiana*, *Thuja occidentalis* and *Taxus baccata*.



Canakcioglu 1972: 84; Canakcioglu 1977: 52; Selmi 1979: 109; Canakcioglu *et al.* 1982: 48; Duzgunes 1982: 17; Williams 1984: 227-228; Cox and Ben-Dov 1986: 481-489; Sengonca *et al.* 1998: 129; Ben-Dov 1994: 369-370; Uygun *et al.* 1998: 187; Yigit and Canhilal 1998: 23-41; Williams and Moghaddam 1999: 35-39; Japoshvili and Karaca 2002: 372; Kaydan *et al.* 2004: 222; Ulgenturk *et al.* 2004: 366.

Genus **PSEUDOCOCCUS** Westwood, 1840

**Pseudococcus caricus** (Gennadius, 1883)

*Dactylopius caricus* Gennadius, 1883, Ann. Soc. Ent. Fr. 3, p. 51.

Mugla-Milas on *Pinus nigra* subsp. *pallasiana*.

Gennadius 1883: 51; Ben-Dov 1994: 382.

**Pseudococcus laingi** Bodenheimer, 1953

*Pseudococcus laingi* Bodenheimer, 1953, Rev. Istanbul Univ. Fac. Sci., B, 18, p. 121.

Nigde-Kayaardi on undetermined grass.

Bodenheimer 1953: 121-122.

**Pseudococcus longispinus** (Targioni-Tozzetti, 1867)

*Dactylopius longispinus* Targioni-Tozzetti, 1867, Mem. Soc. Ital. Sci. Nat. Milano 3, 3, p. 75.

*Pseudococcus adonidum* Westwood, 1840, Synopsis Brit. Insects, London, p. 118.

Istanbul-Beyoglu, Izmir-Bornova, Antakya, Ordu, Rize on *Acacia* sp., *Acer* sp., *Albizia julibrissin*, *Dianthus* sp., *D. caryophyllus*, *Ficus carica*, *Hedera helix*, *Nerium oleander*, *Robinia pseudoacacia*.

Aysu 1950: 114; Bodenheimer 1953: 119; Alkan 1962: 14; Gul-Zumreoglu 1972: 26; Duzgunes 1982: 35-37; Ben-Dov 1994: 397-400.

**Pseudococcus viburni** (Signoret, 1875)

*Dactylopius viburni* Signoret, 1875, Ann. Soc. Ent. Fr. (ser.5) 5, p. 323.

*Dactylopius affinis* Maskell, 1894, Trans. N. Z. Inst. 26, p. 90.

*Pseudococcus obscurus* Essig, 1909, Pomona Coll. Journ. Ent. 1, p. 43.

Istanbul (Belgrad Forest, Fenerbahce, Suadiye, Princes Islands), Izmit, Bursa, Hatay-Samandag, Trabzon, Artvin on *Albizia julibrissin*, *Begonia* sp., *Cactus* sp., *Cephalotaxus harringtonia*, *Citrus* sp., *Clivia miniata*, *Cydonia* sp., *Dianthus* sp., *Euphorbia* sp., *Hoya carnosa*, *Laurus nobilis*, *Liquidambar orientalis*, *Malus sylvestris*, *Mimosa* sp., *Pellaea rotundifolia*, *Phoenix* sp., *Prunus laurocerasus*, *Pyrus communis*, *Quercus* sp., *Salix* sp. and *Schefflera elegantissima*.

Canakcioglu 1972: 84-85; Canakcioglu 1977: 52-53; Selmi 1979: 109-110; Canakcioglu *et al.* 1982: 48; Duzgunes 1982: 39-42; Uygun *et al.* 1998: 186.

Genus **PUTO** Signoret, 1875

**Puto pilosellae** (Sulc, 1898)

*Ceroputo pilosellae* Sulc, 1898, Sitzungsber. K. Bohmisch Gesellsch. Wissensch. (1897) 66 p. 2.

Ankara (Bala, ODTU) on Poaceous plants.

Kaydan *et al.* 2004: 222.

**Puto superbus** (Leonardi, 1907)

*Macrocerococcus superbus* Leonardi, 1907, Boll. Lab. Zool. Gen. Agr. R. Scu. Sup. Agr. Portici I, p. 152.

Afyon-Cay, Burdur-Sogut, Isparta (Sutculer, Kovada) on *Gallium* sp., *Quercus* sp. and Poaceous plant.

Kaydan *et al.* 2004: 222-223.

Genus **RHODANIA** Goux, 1935

**Rhodania porifera** Goux, 1935

*Rhodania porifera* Goux, 1935, Bull. Soc. Entom. France 39, p. 291.

Ankara-Beynam on *Festuca* sp.

Kaydan *et al.* 2004: 223.

Genus **RIPERSIELLA** Tinsley, 1899

**Ripersiella kaydani** Konczné Benedicty and Kozar, 2004

*Ripersiella kaydani* Konczné Benedicty & Kozar in Kozar & Konczné Benedicty, 2004, Boll. Zool. Agr. Bach. (Milano) 36, 3, p. 307.

Izmir-Bornova on *Narcissus* sp.

Kozar and Konczné Benedicty 2004: 307-309.

**Ripersiella periolana** Goux, 1985

*Ripersiella periolanus* Goux, 1985, Bull. Mus. Hist. Nat. Marseille 45, p. 119.

On *Chrysanthemum leucanthemum* and *Stipa* sp.

Kozar and Konczné Benedicty 2004: 316-318.

Genus **SPINOCOCCUS** Borchsenius, 1949

**Spinococcus morrisoni** (Kiritshenko, 1936)

*Phenacoccus morrisoni* Kiritshenko, 1936 (1935), Rev. Ent. USSR 26, p. 141.

Ankara-Beynam on *Artemisia* sp.

Kaydan *et al.* 2004: 223.

Genus **TRABUTINA** Marchal, 1904

**Trabutina crassispinosa** Borchsenius, 1941

*Trabutina crassispinosa* Borchsenius, 1941, Izv. Kurs. Prikl. Zool. Fitopath. Leningrad 12, p. 133.

Mugla-Fethiye on *Tamarix* sp. and *T. laxa*.

Danzig and Miller 1996: 28-31.

**Trabutina mannipara** (Hemprich and Ehrenberg, 1829)

*Coccus manniparus* Hemprich and Ehrenberg in Ehrenberg, 1829, Sym. Phys. Icon. Descript. Insect. Afric. boreal. Asiam occid. p. 1.

*Trabutina palestina* Bodenheimer, 1927, Agr. Records, Tel Aviv 2, p. 179.

Anatolia on *Tamarix* sp.

Lindinger 1912: 319-320.

Genus **TRIONYMUS** Berg, 1899

**Trionymus aberrans** Goux, 1938

*Trionymus aberrans* Goux, 1938, Bull. Mensuel Soc. Linn. Lyon 7, p. 166.

Nevsehir (Urgup, Goreme), Aksaray (Guzelyurt, Ihlara), Ankara (Haymana, Sereflikochisar), Van-Gevas on *Aegilops* sp., *Agropyron* sp., *Avena* sp., *Elytrigia repens* and *Triticum* sp.

Kaydan *et al.* 2001: 381; Kaydan *et al.* 2001a: 255; Kaydan *et al.* 2004: 223.

**Trionymus cressae** (Hall, 1927)

*Phenacoccus hirsutus cressae* Hall, 1927 (1926), Bull. Soc. Ent. Egypte, p. 270.

Central Anatolia on *Euphorbia* sp.

Oncuer *et al.* 2001.

**Trionymus multivorus** (Kiritshenko, 1936)

*Pseudococcus multivorus* Kiritshenko, 1936, Rev. Ent. USSR 26, p. 151.

Antalya, Osmaniye, Nevsehir, Ankara (Beynam, Celtikci, Cubuk), Van (Gevas, Catak) on *Bunium* sp., *Cicer* sp., *Daucus guttatus*, *Echinophora tenuifolia*, *Eryngium* sp., *Malva* sp., *Medicago sativa* and *Nepeta* sp.

Bodenheimer 1953: 120-121; Canakcioglu 1977: 53; Ben-Dov 1994: 136-137; Kaydan *et al.* 2001: 381; Kaydan *et al.* 2001a: 255; Kaydan *et al.* 2004: 223.

**Trionymus perrisii** (Signoret, 1875)

*Westwoodia perrisii* Signoret, 1875, Ann. Soc. Ent. Fr. (ser.59), 5, p. 337.

*Pseudococcus graminellus* Borchsenius, 1949, Fauna SSSR (Nasekom.hobot.7) n.s.38, p. 145.

Van-Catak on *Caucalis platycarpus*.

Kaydan *et al.* 2001: 381.

## TÜRKİYE PSEUDOCOCCIDAE TÜRLERİ

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### Kısa Özet

Pseudococcidae familyası türlerine ilişkin oldukça fazla [Bodenheimer (1953), Düzgünes (1982), Kaydan ve ark. (2001 ve 2004)] araştırma yapılmıştır. Türkiye'de Pseudococcidae türleri sayıca fazla olmakla beraber türlerin büyük bir çoğunluğu otsu bitkiler üzerinde zarar yapmaktadır. Bugüne kadar çeşitli araştırmacılar tarafından yurdumuzda tespit edilen 50 Pseudococcidae türünün isimleri, sinonimleri, yayılışları ve konukçu bitkileri ilk kez bu çalışma ile toplu olarak ele alınmıştır.

**Anahtar Kelimeler:** Pseudococcidae, Türkiye, Türler

### ÖZET

Unlubit terimi, bu böceklerin vücutlarını çevreleyen unlu veya mumsu salgılardan kaynaklanmaktadır. Bu salgılar onları aşırı ısı ve nem kaybından korur. Uzunlamasına oval olan dişinin vücudu segmentli olup bacakları iyi gelişmiştir. Bazı türleri yumurta koyarken diğerleri canlı doğururlar. Yumurtalar gevşek yapılı pamuksu mum tabakası içine konur. Pseudococcidae türleri hemen hemen konukçu bitkinin her yerinde bulunabilir. Onlar uzun styletlerini bitki dokusunun içine sokarak beslenirler, bu esnada yapışkan bir balşebnemi de salgırlarlar.

Bodenheimer (1953), Düzgünes (1982), Kaydan ve ark. (2001 ve 2004) Türkiye Pseudococcidae familyası türleri üzerine yayınlar yapmışlardır. Ayrıca pek çok çalışmada Pseudococcidae türlerine başkaca yazarlar tarafından da yer verilmiştir. Türkiye'de Pseudococcidae familyasından şimdiye kadar çeşitli araştırmacılar tarafından saptanan 50 türün sıralamasında alfabetik esas gözönünde tutulmuştur. Türlerin sinonimleri Ben – Dov (1994)'den alınmıştır. Her türe ait sinonimlerden sadece Türkiye'ye ait eserlerde kullanılanlara yer verilmiştir. Ayrıca literatürden elde edilen konukçu bitkilerin bugün geçerli olan bilimsel adları ile yayılış alanlarına ait bilgiler de güncelleştirilmiştir.

Türkiye'nin Avrupa'da kalan kısmında tespit edilen türler *Nipaecoccus filamentosus* (Cock.), *N. nipae* (Mask.), *Planococcus vovae* (Nas.), *Pseudococcus longispinus* (Targ.) ve *P. viburni* (Sign.)'dir. Diğer türler sadece Anadolu'da bulunmaktadır.

Zoocoğrafik bakımdan, endemik türler *Metadenopus ankaranus* (Bod.), *Pseudococcus caricus* (Genn.) ve *P. laingi* Bod.; kozmopolit türler *Antonina graminis* (Mask.), *Chaetococcus bambusae* (Mask.), *Nipaecoccus filamentosus* (Cock.), *N. nipae* (Mask.), *Phenacoccus graminicola* Leon., *Pseudococcus longispinus* (Targ.) ve *P. viburni* (Sign.)'dir, saptanan diğer türler ise palearktik türlerdir.

İğne yapraklı ağaçlarda zarar yapan türler *Planococcus vovae* (Nas.) ve *Pseudococcus caricus* (Genn.)'dur. *Pseudococcus viburni* (Sign.) ise yapraklı ağaçlarda polifag zararlı olmasına karşın, *Cephalotaxus harringtonia* üzerinde de zarar yapmaktadır.

Türkiye'de Pseudococcidae türleri sayıca fazla olmakla beraber türlerin büyük bir çoğunluğu otsu bitkiler üzerinde zarar yapmaktadır. *Nipaecoccus filamentosus* (Cock.) ve *Pseudococcus longispinus* (Targ.) orman ağaçlarında, *Planococcus citri* (Ris.) ve *P. ficus* (Sign.) tarım bitkilerinde, *Phenacoccus aceris* (Sign.) ve *Pseudococcus viburni* (Sign.) hem orman, hem de tarım bitkilerinde önemli zararlar oluşturmaktadır.

Türkiye'de çeşitli araştırmacılar tarafından tespit edilen 50 Pseudococcidae türü aşağıda alfabetik sıraya göre verilmiştir:

- Antonina graminis* (Maskell, 1897)
- Asphodelococcus asphodeli* (Bodenheimer, 1927)
- Atrococcus achilleae* (Kiritchenko, 1936)
- Atrococcus indigenus* (Borchsenius, 1949)
- Atrococcus paludinus* (Green, 1921)
- Atrococcus saxatilis* (Ter-Grigoryan, 1964)
- Chaetococcus bambusae* (Maskell, 1893)
- Chaetococcus phragmitis* (Marchal, 1909)
- Euripersia amnicola* Borchsenius, 1948
- Heliococcus bohemicus* Sulc, 1912
- Heliococcus radicolica* Goux, 1931
- Heliococcus saxatilis* Borchsenius, 1949
- Metadenopus ankaranus* (Bodenheimer, 1953)
- Mirococcus inermis* (Hall, 1925)
- Nipaecoccus filamentosus* (Cockerell, 1893)
- Nipaecoccus nipae* (Maskell, 1893)
- Peliococcus chersonensis* (Kiritshenko, 1936)
- Peliococcus kimmericus* (Kiritshenko, 1940)
- Peliococcus manifestus* Borchsenius, 1949
- Peliococcus turanicus* (Kiritshenko, 1932)
- Phenacoccus aceris* (Signoret, 1875)
- Phenacoccus asphodeli* Goux, 1942
- Phenacoccus avenae* Borchsenius, 1949
- Phenacoccus bicerarius* Borchsenius, 1949
- Phenacoccus emansor* Williams and Kozarzhevskaya, 1988
- Phenacoccus evelinae* Tereznikova, 1968
- Phenacoccus graminicola* Leonardi, 1908
- Phenacoccus hordei* (Lindeman, 1886)
- Phenacoccus karaberdi* Borchsenius and Ter-Grigoryan, 1956
- Phenacoccus pumilus* Kiritshenko, 1931
- Phenacoccus tergrigoryanae* Borchsenius, 1956
- Planococcus citri* (Risso, 1813)
- Planococcus ficus* (Signoret, 1875)
- Planococcus vovae* (Nasonov, 1909)
- Pseudococcus caricus* (Gennadius, 1883)
- Pseudococcus laingi* Bodenheimer, 1953
- Pseudococcus longispinus* (Targioni-Tozzetti, 1867)
- Pseudococcus viburni* (Signoret, 1875)

- Puto pilosellae* (Sulc, 1898)  
*Puto superbus* (Leonardi, 1907)  
*Rhodania porifera* Goux, 1935  
*Ripersiella kaydani* Konczné and Kozár, 2004  
*Ripersiella periolana* Goux, 1985  
*Spinococcus morrisoni* (Kiritshenko, 1936)  
*Trabutina crassispinosa* Borchsenius, 1941  
*Trabutina mannipara* (Hemprich and Ehrenberg, 1829)  
*Trionymus aberrans* Goux, 1938  
*Trionymus cressae* (Hall, 1927)  
*Trionymus multivorus* (Kiritshenko, 1936)  
*Trionymus perrisii* (Signoret, 1875)

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