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An annotated catalogue of the Iranian Tingidae (Hemiptera: Heteroptera)

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Abstract

An updated list of Iranian Tingidae Laporte is presented and discussed in this paper. For Iranian fauna, there are records of 74 species and subspecies of tingids distributed in 20 genera and subgenera, of which 72 of them belong to the subfamily Tinginae and 2 species to the subfamily Cantacaderinae (tribe Cantacaderini). In some species we list host plants, in Iran.

Key words: Heteroptera, Tingidae, catalogue, Iran, Palaearctic region

Introduction

Lace bugs (Tingidae) are phytophagous and they always feed on the same plant or on a group of closely related ones (Drake & Ruhoff 1965; Schaefer & Panizzi 2000; Montemayor & Coscarón 2005). This group is distributed worldwide and consists of approximately 2600 species (Zhang *et al.* 2005). The pronotum and forewings of the adult have a delicate and intricate network of divided areas that resemble a lace. Their body appearance is flattened dorso-ventrally and they can be broadly oval or slender (Froeschner 2001). Both the adults and nymphs are usually found on the undersides of leaves, where they feed on the sap of living plants by piercing the epidermis of the leaves with their very slender stylets. These stylets are protrusile and retractile, and can easily penetrate the cellular tissue to extract the sap. Their feeding activities may cause great injury to and plasmolysis of the foliage (Drake & Ruhoff 1965).

The traditional classification for lace bugs was proposed by Drake & Davis (1960). They consider that the family Tingidae is composed by three subfamilies. The subfamily Tinginae, later divided into the tribes Ypsotringini, Litadeini, and Tingini (Drake & Ruhoff 1965); the subfamily Cantacaderinae with two tribes, Cantacaderini and Phatnomatini; and the subfamily Vianaidinae. This classification has been widely accepted, although several authors have considered Vianaidinae to be a family by itself (Kormilev 1955; Štys & Kerzhner 1975; Froeschner 1996; Lis 1999; Guilbert 2001; Montemayor & Carpintero 2007). Several authors have considered Ypsotringini a valid tribe after Péricart & Golub (1996); for example, Lis (1999), Guilbert (2001), Froeschner (2001), Wappler (2003). This classification has been revisited by Lis (1999) on the basis of morphological characters. Her analysis leads to a new classification in which Cantacaderini is raised to family level and Phatnomatini is considered closer to Tinginae than to Cantacaderini, forming a new subfamily that together with Tinginae constitute the family Tingidae.

Up to now all information about lace bugs remains fragmentary for Iran, and no attempt has been made to present it in a unified compilation of species and associated host plants. This could be the basis for a taxonomic analysis of Tingidae and studies considering their associated plants, which would be very useful not only for the knowledge of the group but also for preventing possible effects on plants of economic importance. In this paper we present such a compilation of Iranian Tingidae, based on extensive bibliographical research as well as material deposited in entomological collections. This paper is a continuation of the series of annotated catalogues of Heteroptera of Iran (see Ghahari *et al.* 2009a,b, 2010a,c).



FIGURE 1. Map of Iran with boundaries of provinces.

Results

In this paper, 74 tingid species and subspecies from 20 genera and subgenera and 2 subfamilies (Tinginae Laporte and Cantacaderinae Stål) are listed in the fauna of Iran. The subfamily Cantacaderinae is represented by only one genus (*Cantacader*) and 2 species in the tribe Cantacaderini Stål, and the other taxa belong to subfamily Tinginae. The list of species is given below. Classification, nomenclature, and distributional data of Tingidae as suggested by Péricart (1983); Péricart & Golub (1996); and Guilbert (2001, 2005) have been followed.

Subfamily Tinginae Laporte, 1833

Genus *Acalypta* Westwood, 1840

Acalypta sejuncta Horváth, 1905

Distribution in Iran. Golestan (Heiss 2002).

General distribution. Asian Turkey, Armenia, Turkmenistan (Péricart & Golub 1996).

Acalypta subtilis (Reuter, 1882)

Distribution in Iran. Guilan (Péricart 1983).

General distribution. Azerbaijan (Péricart & Golub 1996), Iran.

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Genus *Agramma* Stephens, 1829***Agramma (Agramma) atricapillum* (Spinola, 1837)**

Distribution in Iran. Khorasan (Linnavuori & Modarres Awal 1999), East Azarbaijan (Samin & Linnavuori 2011).

Host records from Iran. *Juncus* sp. (Juncaceae) (Linnavuori & Modarres Awal 1999), Typhaceae, Cyperaceae (Péricart 1983).

General distribution. Holomediterranean extending from Atlantic coast to Central Asia and Mongolia (Péricart & Golub 1996).

***Agramma (Agramma) confusum* (Puton, 1879)**

Distribution in Iran. Fars (Linnavuori 2011).

General distribution. European species, extending to Asian Turkey, Armenia, and Azerbaijan; records from Asian part of Kazakhstan need confirmation (Péricart & Golub 1996).

***Agramma (Agramma) laetum* (Fallén, 1807)**

Distribution in Iran. Khorasan (Linnavuori & Modarres Awal 1999), Golestan (Samin & Linnavuori 2011).

Host records from Iran. *Juncus* sp. (Juncaceae) (Linnavuori & Modarres Awal 1999).

General distribution. Northern, Western and Central Europe, Italy (Péricart & Golub 1996).

Comment. This is certainly an erroneous indication. Most likely, it refers to a sub-brachyptera form of *A. confusum*. *A. laetum* is actually the European boreo-mountain species (Golub 1990).

***Agramma (Agramma) minutum* Horváth, 1874**

Distribution in Iran. East Azarbaijan (Ghahari *et al.* 2010b), Khorasan (Linnavuori & Modarres Awal 1999).

Host records from Iran. *Juncus* sp. (Juncaceae) (Linnavuori & Modarres Awal 1999), often in steppic conditions (Péricart 1983).

General distribution. Euro-Siberian, nearest records are from Asian part of Kazakhstan (Péricart & Golub 1996).

***Agramma (Agramma) subnotatum* Péricart, 1981**

Distribution in Iran. Fars (Linnavuori 2011).

General distribution. Iraq, Saudi Arabia (Péricart & Golub 1996).

***Agramma (Lisia) hirta* Lis, 2001**

Distribution in Iran. Bushehr (Lis 2001a).

General distribution. Endemic of Iran.

Comment. Lis (2003b) assigned *A. hirta* to a new subgenus, *Paragramma* Lis, 2003b. Koçak & Kemal (2010) recognized *Paragramma* Lis, 2003b as a junior homonym of *Paragramma* Warren, 1905 and proposed a new substitute name for it – *Lisia* Koçak & Kemal, 2010.

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Genus *Campylosteira* Fieber, 1844***Campylosteira heissi* Péricart, 1981**

Distribution in Iran. Bushehr (Linnavuori 2011), East Azarbaijan (Ghahari *et al.* 2010b), Fars (Linnavuori 2011), Hormozgan (Linnavuori 2004), Khorasan (Linnavuori & Modarres Awal 1999), Khuzestan (Linnavuori 2011).

General distribution. Eremian, known from Spain, Sudan, Saudi Arabia, and Iraq (Péricart & Golub 1996).

***Campylosteira parvula* Ferrari, 1874**

Distribution in Iran. Iran (no locality cited) (Ferrari 1874; Péricart & Golub 1996), Golestan (Péricart 1983).

General distribution. North Caucasus, Azerbaijan, Iran, Asian part of Kazakhstan; doubtfully recorded in Greece (Péricart & Golub 1996).

Genus *Catoplatus* Spinola, 1837***Catoplatus carthusianus* (Goeze, 1778)**

Distribution in Iran. Iran (no locality cited) (Oshanin 1908; Péricart & Golub 1996).

General distribution. West-Palaearctic, distributed in Europe, North Africa, Asian Turkey, Georgia, Azerbaijan, and Iran (Péricart & Golub 1996).

***Catoplatus citrinus* Horváth, 1897**

Distribution in Iran. East Azarbaijan (Ghahari *et al.* 2010b), Khorasan (Linnavuori & Modarres Awal 1999), Kurdestan (Linnavuori 2011).

Host records from Iran. *Lycium depressum* (Solanaceae) (Linnavuori & Modarres Awal 1999).

General distribution. Irano-Turanian, known from Asian Turkey, Iraq, Iran, and Central Asia (Péricart & Golub 1996).

***Catoplatus crassipes* (Fieber, 1861)**

Distribution in Iran. Mazandaran, Tehran (Péricart 1983).

General distribution. Ponto-East-Mediterranean (Balkan Peninsula, Ukraine, South European Territory of Russia, Transcaucasia, Asian Turkey, Cyprus, Israel, Syria, Iraq, and Iran (Péricart & Golub 1996).

***Catoplatus fulvicornis* (Jakovlev, 1889)**

Distribution in Iran. Semnan (Golub 1974a; Péricart 1983), Iran (no exact locality) (Péricart & Golub 1996).

General distribution. Russia (South European Territory), Armenia, Asian Turkey, Syria, Afghanistan, Transcaucasia, Turkmenistan, Uzbekistan.

***Catoplatus hilaris* Horváth, 1906**

Distribution in Iran. Kermanshah (Péricart 1983)

General distribution. Asian Turkey, Armenia, Georgia, Lebanon, Syria, Jordan, and Iran (Péricart & Golub 1996).

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***Catoplatus minor* Štusák, 1975**

Distribution in Iran. Fars (Péricart 1983).

General distribution. Ponto-Mediterranean (Bulgaria, Macedonia, Asian Turkey, Iraq and Iran) (Péricart & Golub 1996).

***Catoplatus nigriceps* Horváth, 1905**

Distribution in Iran. East Azarbaijan (Ghahari *et al.* 2010b), Kurdestan (Sakenin *et al.* 2010; Samin *et al.* 2011).

General distribution. Euro-Siberian (Central Europe, Balkan Peninsula, Ukraine, South European Territory of Russia, Transcaucasia, Asian Turkey, Israel, Kazakhstan, Siberia, Japan) (Péricart & Golub 1996).

Genus *Copium* Thunberg, 1822***Copium teucrii iranum* Wagner, 1969**

Distribution in Iran. Fars (Wagner 1969), Khorasan (Linnauori & Modarres Awal 1999).

Host records from Iran. *Teucrium polium* (Lamiaceae) (Linnauori & Modarres Awal 1999).

General distribution. Endemic of Iran.

***Copium teucrii teucrii* (Host, 1788)**

Distribution in Iran. Fars (Linnauori 2011), Northern and Southern Iran (Péricart 1983).

General distribution. Holomediterranean, extending to Central Europe, Iraq, Iran, and Turkmenistan (Péricart & Golub 1996).

Genus *Corythucha* Stål, 1873***Corythucha arcuata* (Say, 1832)**

Distribution in Iran. Ardabil (Ghahari *et al.* 2010b, Sakenin *et al.* 2011), Kermanshah (Sakenin *et al.* 2010; Samin *et al.* 2011), West Azarbaijan (Samin & Linnauori 2011).

General distribution. Native of North America; introduced to Italy (Bernardinelli 2000), Switzerland (Forster *et al* 2005), and Asian Turkey (Mutun 2003).

Genus *Derephysia* Spinola, 1837***Derephysia (Derephysia) rectinervis kiritshenkoi* Josifov, 1969**

Distribution in Iran. Semnan (Josifov 1969, holotype *D. kiritshenkoi*).

General distribution. Armenia, Israel, Iran, Central Asia, Mongolia (Péricart & Golub 1996).

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Genus *Dictyla* Stål, 1874***Dictyla echii* (Schrank, 1782)**

Distribution in Iran. East Azarbaijan (Baroughi 1978; Modarres Awal 1997a,b), Kurdestan (Linnavuori 2011), West Azarbaijan (Samin & Linnavuori 2011); Iran (no locality cited) (Oshanin 1908; Lindeberg 1938).

General distribution. West- and Central-Palaearctic (Europe, North Africa, Near East, Central Asia, West Siberia and North-West China) (Péricart & Golub 1996).

***Dictyla eudia* Drake & Quadri, 1964**

Distribution in Iran. Hormozgan (Linnavuori 2004).

Host records from Iran. Sandy habitats with *Heliotropium* sp. (Boraginaceae) (Linnavuori 2004).

General distribution. Oriental Region, Pakistan (Linnavuori 2004).

***Dictyla humuli* (Fabricius, 1794)**

Distribution in Iran. Iran (no exact locality) (Péricart & Golub 1996), Northern Iran (Péricart 1983).

General distribution. Euro-Siberian (Europe, Asian Turkey, Transcaucasia, Iran, Siberia) (Péricart & Golub 1996).

***Dictyla nassata* (Puton, 1874)**

Distribution in Iran. Khorasan (Modarres Awal 1997b).

Host records from Iran. On grasses (Poaceae) (Modarres Awal 1997b) and several Boraginaceae (Péricart 1983)

General distribution. Afrotropical Region, West and Central Palaearctic Region (towards South-West China), India (Péricart & Golub 1996).

***Dictyla platyoma* (Fieber, 1861)**

Distribution in Iran. Golestan (Heiss 2002).

General distribution. From Central Europe and Balkan Peninsula to Central Asia and Russian Far East, also known from Cyprus; record from Egypt seems doubtful (Péricart & Golub 1996).

***Dictyla sahlbergi* (Horváth, 1906)**

Distribution in Iran. East Azarbaijan (Ghahari *et al.* 2010b), Mazandaran, Tehran (Lis 2001a).

General distribution. Asian part of Kazakhstan, Tajikistan, Uzbekistan, and Iran (Péricart & Golub 1996, Golub 1997, Lis 2001a).

***Dictyla subdola* (Horváth, 1905)**

Distribution in Iran. Semnan (Golub 1977), Northern Iran (Péricart 1983), Iran (no locality cited) (Péricart & Golub 1996).

General distribution. Russia (South European Territory, West Siberia), Transcaucasia, Central Asia, Iran, Mongolia, and North China) (Péricart & Golub 1996).

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***Dictyla triconula* (Seidenstücker, 1954)**

Distribution in Iran. East Azarbaijan (Sakenin *et al.* 2011; Samin & Linnauori 2011).

General distribution. Ponto-Mediterranean (Bulgaria, Ukraine, Asian Turkey, Israel) (Péricart & Golub 1996).

Genus *Dictyonota* Curtis, 1827***Dictyonota horvathi* (Kiritshenko, 1914)**

Distribution in Iran. Hormozgan (Lis 2001a; Linnauori 2004), Khuzestan (Linnauori 2011).

Host records from Iran. *Anabasis aphylla*, *Suaeda vermiculata* (Chenopodiaceae) (Linnauori 2004).

General distribution. Irano-Turanian (Armenia, Iraq, Asian part of Kazakhstan, Turkmenistan, Uzbekistan, and Mongolia) (Péricart & Golub 1996).

***Dictyonota opaca* (Linnauori, 1965)**

Distribution in Iran. East Azarbaijan (Samin & Linnauori 2011), Hormozgan (Linnauori 2004), Khorasan (Linnauori & Modarres Awal 1999), Khuzestan (Linnauori 2011).

Host records from Iran. *Suaeda monoica*, *S. fruticosa* (Chenopodiaceae) (Linnauori 2004).

General distribution. Eremian, known from Algeria, Israel, Yemen, Saudi Arabia, Iraq, Iran, and Turkmenistan (Péricart & Golub 1996).

***Dictyonota strichnocera* Fieber, 1844**

Distributon in Iran. Hamadan (Samin *et al.* 2011), North Iran (Putchkov 1974), Iran (no locality cited) (Péricart 1983; Péricart & Golub 1996).

General distribution. European, extending to Asian Turkey, Asian part of Kazakhstan, and Iran (Péricart & Golub 1996).

Genus *Elasmotropis* Stål, 1874***Elasmotropis testacea selecta* (Horváth, 1891)**

Distribution in Iran. Fars (Pericart 1983; Linnauori 2011), Mazandaran (Heiss 2002), Semnan (Pericart 1983), Tehran (Pericart 1983; Heiss 2002).

Host records from Iran. *Echinops* sp. (Asteraceae) (Heiss 2002).

General distribution. Transcaucasia, Syria, Jordan, Saudi Arabia, Yemen, and Iran (Péricart & Golub 1996; Carapezza 2002).

Genus *Galeatus* Curtis, 1833***Galeatus cellularis* Jakovlev, 1884**

Distribution in Iran. Semnan (Golub 1974b), Iran (no locality cited) (Péricart 1983; Péricart & Golub 1996).

General distribution. Ukraine, European and Asian part of Kazakhstan, Asian Turkey, Iraq, Iran, Afghanistan, Central Asia and Mongolia (Péricart & Golub 1996).

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***Galeatus scrophicus* Saunders, 1876**

Distribution in Iran. East Azarbaijan (Ghahari *et al.* 2010b), Golestan (Heiss 2002), Hormozgan (Linnauori 2004), Kerman (Barkhordari *et al.* 1981), Khorasan (Linnauori & Modarres Awal 1999), Khuzestan (Linnauori 2011).

Host records from Iran. *Tamarix* (Barkhordari *et al.* 1981), *Helianthus* sp., *Chrysanthemum* sp. (Linnauori & Modarres Awal 1999), *Artemisia* sp., *Echinops* sp., *Launaea* sp. (Linnauori 2004).

General distribution. Spain, Greece, Southern European Territory of Russia, North Africa, Asian Turkey, Cyprus, Transcaucasia, Near East, Arabian Peninsula, Iran, and Central Asia (Péricart & Golub 1996).

Genus *Hyalochiton* Horváth, 1905***Hyalochiton komaroffii* (Jakovlev, 1880)**

Distribution in Iran. Semnan (Péricart 1983)

General distribution. North-Mediterranean extending from France to Iran (Péricart & Golub 1996).

***Hyalochiton multiseriatus* (Reuter, 1888)**

Distribution in Iran. Iran (no locality) (Péricart & Golub 1996); Khuzestan (Linnauori 2011).

General distribution. Syrio-Anatolian, known from Greece, Turkey, Armenia, Iran, Iraq, Israel, and Syria (Péricart & Golub 1996).

Genus *Kalama* Puton, 1876***Kalama beckeri* (Jakovlev, 1871)**

Distribution in Iran. Semnan (Péricart 1983)

General distribution. Romania, South European Territory of Russia, Armenia, Azerbaijan, and Iran (Péricart & Golub 1996).

***Kalama lugubris* (Fieber, 1861)**

Distribution in Iran. Khuzestan, Lorestan (Lis 2001a).

General distribution. Ponto-East-Mediterranean (Libya, Malta, Serbia, Greece, Turkey, Cyprus, and Israel (Péricart & Golub 1996).

***Kalama tricornis* (Schrank, 1801)**

Distribution in Iran. Iran (no locality cited) (Horváth 1906; Péricart & Golub 1996).

General distribution. Eurosiberian, distributed from Ireland and Portugal to West Siberia, Mongolia, and North China; also in North America (Péricart & Golub 1996).

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Genus *Monosteira* A. Costa, 1862

Monosteira discoidalis (Jakovlev, 1883)

Distribution in Iran. Ardabil (Samin & Linnauori 2011), East Azarbaijan (Modarres Awal 1997a; Dordaei *et al.*, 2000; Ghahari *et al.* 2010b), Fars, Guilan, Isfahan, Mazandaran, West Azarbaijan (Modarres Awal 1997a), Khorasan (Linnauori & Modarres Awal 1999), Sistan & Baluchestan (Kiritshenko 1966), Tehran (Hoberlandt 1959; Babmorad 1993; Modarres Awal 1997a).

Host records from Iran. *Populus diversifolia* (Salicaceae) (Kiritshenko 1966), *Populus* sp. (Khial & Sadraei 1984; Modarres Awal 1997a; Linnauori & Modarres Awal 1999), *Salix* sp. (Modarres Awal 1997a).

General distribution. From South European Territory of Russia to Iraq, Iran, Pakistan, North-West China, and Mongolia (Péricart & Golub 1996; Lis 2001a).

Monosteira inermis Horváth, 1899

Distribution in Iran. East Azarbaijan, Isfahan, Kerman, Kermanshah, Mazandaran, Tehran, West Azarbaijan (Modarres Awal 1997a), Fars (Modarres Awal 1997a; Falamarzi *et al.* 2009), Guilan (Modarres Awal 1997a; Samin & Linnauori 2011), Khorasan (Modarres Awal 1997a; Linnauori & Modarres Awal 1999).

Host records from Iran. *Populus*, *Salix*, *Tamarix* (Modarres Awal 1997a).

General distribution. Central Asia (Asian Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan) (Péricart & Golub 1996).

Monosteira lobulifera Reuter, 1888

Distribution in Iran. East Azarbaijan (Sakenin *et al.* 2011), Fars (Linnauori 2011), Kurdestan (Sakenin *et al.* 2010; Samin *et al.* 2011), Mazandaran (Samin & Linnauori 2011).

General distribution. East-Mediterranean extending to Central Asia (Greece, Egypt, Asian Turkey, Cyprus, Near East, Turkmenistan) (Péricart & Golub 1996).

Monosteira tuberculata Péricart, 1981

Distribution in Iran. Kerman (Péricart 1981).

General distribution. Afghanistan, Iran (Péricart 1981; Péricart & Golub 1996).

Monosteira unicostata (Mulsant & Rey, 1852)

Distribution in Iran. Golestan (Heiss 2002), Isfahan (Jafari *et al.* 2002), Kerman (Barkhordari *et al.* 1981), Khorasan (Modarres Awal 1997a; Linnauori & Modarres Awal 1999), Mazandaran (Heiss 2002; Samin & Linnauori 2011), Tehran (Babmorad *et al.* 2000, 2002, 2007; Babmorad & Sadeghi 2004; Ahadiyat *et al.* 2010a).

Host records from Iran. *Tamarix* (Barkhordari *et al.* 1981; Modarres Awal 1997a), *Populus alba* (Salicaceae) (Linnauori & Modarres Awal 1999), *Salix* sp. (Heiss 2002), *P. nigra*, *P. deltoides*, *P. alba*, *P. x. euramericana* (Babmorad & Sadeghi 2004; Babmorad *et al.* 2002, 2007, 2008); *Populus alba*, *P. deltoides missouriensis*, *P. euramericana grandis*, *P. < marilandica*, *P. nigra*, *Salix acmophylla*, *S. alba*, *S. elbursensis*, *S. fragilis* (Ahadiyat *et al.* 2010a,b, tolerance studies).

General distribution. Holomediterranean, extending to Central Asia and North-East China; in South Africa probably introduced (Péricart & Golub 1996).

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Genus *Phaenotropis* Horváth, 1906***Phaenotropis cleopatra* (Horváth, 1905)**

Distribution in Iran. Ardabil (Ghahari *et al.* 2010b), East Azarbaijan (Ghahari *et al.* 2010b), Hormozgan (Linnavuori 2004).

Host records from Iran. Sandy habitats with *Tephrosia* sp. (Fabaceae) (Drake & Ruhoff 1965; Linnavuori 2004).

General distribution. Tropical Africa, Libya, Egypt, Georgia, Israel, Yemen, the United Arab Emirates, Turkmenistan, Pakistan, and India (Péricart & Golub 1996; van Harten 2005; Weill 2007).

Genus *Physatocheila* Fieber, 1844***Physatocheila confinis* Horváth, 1905**

Distribution in Iran. Ilam (Samin *et al.* 2011), West Azarbaijan (Sakenin *et al.* 2010), Iran (no locality) (Péricart & Golub 1996).

General distribution. Europe, Asian Turkey, Transcaucasia, Israel, Syria, Iraq, Iran, and Kirgizia (Péricart & Golub 1996).

***Physatocheila municeps* Horváth, 1903**

Distribution in Iran. Golestan (Heiss 2002).

Host records from Iran. *Acer monspessulanum* subsp. *turcomanicum* (Sapindaceae), *Crataegus* sp. (Rosaceae) (Heiss 2002).

General distribution. Ponto-East-Mediterranean: Algeria, Morocco (Atlantic cost)

Genus *Stephanitis* Stål, 1873***Stephanitis (Stephanitis) oschanini* Vasiliev, 1935**

Distribution in Iran. East Azarbaijan (Baroughi 1978; Modarres Awal 1997a; Hassanzadeh *et al.* 2009a,b, all as *S. pyri*; Golub 2002; Samin & Linnavuori 2011), Guilan (Kment & Jindra 2005), Khorasan (Shahrokhi 1988; Modarres Awal 1997b, all as *S. pyri*), Manzandaran (Kment & Jindra 2005), Tehran (Hoberlandt 1959, as *S. pyri*; Golub 2002, Kment & Jindra 2005), West Azarbaijan (Gharaat *et al.* 2009, as *S. pyri*), Zanjan (Askari *et al.* 2009, as *S. pyri*), Iran (no locality cited) (Dourindich 1962), Iran (generally distributed) (Modarres Awal 1997a, as *S. pyri*).

Host records from Iran. Apple (*Malus pumila* Mill.) (Shahrokhi 1988; Modarres Awal 1997a; Askari *et al.* 2009; Hassanzadeh *et al.* 2009a,b), pear (*Pyrus communis* (L.)) (Modarres Awal 1997a,b), wild pear (*Pyrus pyraster* L.), cherry (*Prunus avium* (L.)), sour-cherry (*Prunus cerasus* L.), peach (*Prunus persica* (L.)), Japan quince (*Chaenomeles japonica* (Thunb.)), apricot (*Prunus armeniaca* (L.)), quince (*Cydonia oblonga* Mill.), white-thorn (*Crataegus monogyna* Jacq.), Plum (*Prunus domestica* L.)), medlar (*Mespilus germanica* L.), roses (*Rosa* spp.), alder (*Alnus* sp), oak (*Quercus* sp) (Modarres Awal 1997a).

General distribution. East Turkey, Georgia, Armenia, Azerbaijan, Israel, Iraq, Iran, Central Asia, and Afghanistan (Lis 2002; Golub 2002; Kment & Jindra 2005).

Comment. Some papers (see above) mention *Stephanitis (Stephanitis) pyri* as a species widely distributed in Iran, but the identity of this species has been confused with *S. oschanini*. The species distributed in Iran is *S. oschanini* (Golub 2002, Kment & Jindra 2005). For identification of *S. oschanini* and *S. pyri* see Lis (2002).

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Genus *Tingis* Fabricius, 1803***Tingis (Neolasiotropis) ottomana* Péricart & Önder, 1982**

Distribution in Iran. North Iran (Golub 1995), East Azarbaijan, Fars (Linnauori 2011).

General distribution. Asian Turkey, Iran, Afghanistan (Péricart & Golub 1996).

***Tingis (Neolasiotropis) pauperata* (Puton, 1879)**

Distribution in Iran. East Azarbaijan (Ghahari *et al.* 2010b), Khorasan (Linnauori & Modarres Awal 1999).

General distribution. Mediterranean Region, Transcaucasia, Iran, North China, Mongolia, and Siberia (Péricart & Golub 1996).

***Tingis (Neolasiotropis) pilosa* Hummel 1825**

Distribution in Iran. East Azarbaijan (Samin & Linnauori 2011), Hamadan (Samin *et al.* 2011), West Azarbaijan (Sakenin *et al.* 2010).

General distribution. Austria, Belgium, Bulgaria, China, former Czechoslovakia, France, Germany, Greece, Hungary, Italy, Morocco, Netherlands, Poland, Portugal, Rumania, Slovenia, Spain, Switzerland, Turkey, U.S.S.R. (Caucasus, Transcaucasus, Turkestan, Turkmen, Siberia) and former Yugoslavia.

***Tingis (Neolasiotropis) reuteri* Horváth, 1906**

Distribution in Iran. Khorasan (Linnauori & Modarres Awal 1999).

Host records from Iran. *Lamium album* (Lamiaceae) (Linnauori & Modarres Awal 1999).

General distribution. Asian, Turkey, Lebanon, Iran, Afghanistan, Central Asia, North China, and Mongolia (Péricart & Golub 1996).

***Tingis (Neolasiotropis) valida* (Puton, 1878)**

Distribution in Iran. Fars (Pericart 1983), Iran (no locality cited) (Horváth 1906; Péricart & Golub 1996).

General distribution. Asian Turkey, Israel, Lebanon, Syria, Jordan, and Iran (Péricart & Golub 1996; Carapezza 2002).

***Tingis (Tingis) angustata* (Herrich-Schaeffer, 1838)**

Distribution in Iran. Northern Iran (Putchkov 1974), Iran (no locality) (Péricart & Golub 1996).

General distribution. Europe, Asian Turkey, Transcaucasia, Cyprus, Israel, Iraq, and Iran (Péricart & Golub 1996).

***Tingis (Tingis) auriculata* (A. Costa, 1847)**

Distribution in Iran. East Azarbaijan (Samin & Linnauori 2011), Khorasan (Linnauori & Modarres Awal 1999), Kurdestan and West Azarbaijan (Linnauori 2011).

General distribution. Holomediterranean extending from Portugal and Morocco to Afghanistan and Central Asia (Péricart & Golub 1996).

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***Tingis (Tingis) brevicornis* (Horváth, 1902)**

Distribution in Iran. Fars (Linnavuori 2011), Semnan (Péricart 1983).

General distribution. Armenia, Iran, Asian part of Kazakhstan, Turkmenistan, Uzbekistan, and Mongolia (Péricart & Golub 1996).

***Tingis (Tingis) capillata* Kiritshenko, 1914**

Distribution in Iran. Lorestan (Pericart 1983), Hormozgan (Linnavuori 2004).

General distribution. Afghanistan, Tajikistan, Uzbekistan (Péricart & Golub 1996) and Iran.

***Tingis (Tingis) cardui* (Linnaeus, 1758)**

Distribution in Iran. Iran (no locality cited) (Flor 1860), East Azarbaijan (Sakenin *et al.* 2011).

General distribution. Holopalaearctic (Péricart & Golub 1996).

***Tingis (Tingis) demissa* Horváth, 1906**

Distribution in Iran. Fars (Péricart 1983)

General distribution. Asian Turkey, Armenia, Iraq, and Iran (Péricart & Golub 1996).

***Tingis (Tingis) elongata* (Fieber, 1861)**

Distribution in Iran. Iran (no locality) (Péricart & Golub 1996), Fars (Linnavuori 2011).

General distribution. Balkan Peninsula, North Africa, Asian Turkey, Cyprus, Jordan, and Iran (Péricart & Golub 1996).

***Tingis (Tingis) kerzhneri* Golub, 2006**

Distribution in Iran. Isfahan (Golub 2006).

General distribution. Armenia, Azerbaijan, Kazakhstan, Tajikistan, Turkmenistan and Iran (Golub 2006).

***Tingis (Tingis) leptochila* Horváth, 1906**

Distribution in Iran. Khorasan (Linnavuori & Modarres Awal 1999).

General distribution. Central Asia and Iran (Péricart & Golub 1996).

***Tingis (Tingis) pusilla* (Jakovlev, 1873)**

Distribution in Iran. Semnan (Golub 1977; Péricart 1983).

General distribution. South European Territory of Russia, Armenia, Iran, Central Asia, Mongolia and North China (Péricart & Golub 1996).

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[*Tingis (Tingis) stepposa* Golub, 1977]

Distribution in Iran. Péricart & Golub (1996) listed the occurrence of this species in Iran as doubtful; its confirmation is necessary.

General distribution. Ukraine, Asian Turkey, Kazakhstan, North China, and Iran? (Péricart & Golub 1996).

***Tingis (Tropidochela) ciliaris* (Puton, 1879)**

Distribution in Iran. Kurdestan (Wagner 1961).

General distribution. Balkan Peninsula, Ukraine, South European Territory of Russia, Transcaucasia, Asian Turkey, Israel, Lebanon, Syria, Jordan, and Iran (Péricart & Golub 1996; Carapezza 2002).

***Tingis (Tropidochela) geniculata* (Fieber, 1844)**

Distribution in Iran. Fars (Linnavuori 2011).

General distribution. Europe, North-West Africa, Asian Turkey, and Transcaucasia (Péricart & Golub 1996) and Iran (Linnavuori 2011).

***Tingis (Tropidochela) liturata* (Fieber, 1844)**

Distribution in Iran. Fars (Péricart 1983), Iran (no locality) (Péricart & Golub 1996).

General distribution. Iberian Peninsula, Sicily, North Africa, Syria, Saudi Arabia, Iraq, and Iran (Péricart & Golub 1996).

[*Tingis (Tropidochela) maculata* (Herrick-Schaeffer, 1838)]

= *Tingis (Tropidochela) stachydis* (Fieber, 1844)

Distribution in Iran. Fars (Wagner 1968, as *T. stachydis*). Péricart & Golub (1996) listed occurrence of this species in Iran as doubtful, its confirmation is necessary.

General distribution. Europe, Armenia and Iran? (Péricart & Golub 1996).

***Tingis (Tropidochela) ragusana* (Fieber, 1861)**

= *Monanthia ovatula* Jakovlev, 1877

Distribution in Iran. Semnan (Jakovlev 1877, types of *Monanthia ovatula*).

General distribution. Europe, Morocco, Transcaucasia, Asian Turkey, Cyprus, Syria, and Iran (Péricart & Golub 1996).

***Tingis (Tropidochela) ribesi* Golub & Linnavuori, 2011**

Distribution in Iran. Fars (Golub & Linnavuori 2011).

General distribution. Iran (Golub & Linnavuori 2011).

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***Tingis (Tropidocheila) seidenstueckeri* Péricart, 1981**

Distribution in Iran. East Azarbaijan (Ghahari *et al.* 2010b), Hormozgan (Linnauori 2004).

Host records from Iran. *Indigofera* sp. (Fabaceae), *Phlomis* sp. (Lamiaceae) (Linnauori 2004).

General distribution. Syria (Péricart & Golub 1996) and Iran.

Genus *Urentius* Distant, 1903***Urentius nanus* (Schumacher, 1913)**

Distribution in Iran. Hormozgan (Linnauori 2004), Khorasan (Linnauori & Modarres Awal 1999), West Azarbaijan (Ghahari *et al.* 2010b).

Host records from Iran. *Prosopis farcta* (Fabaceae) (Linnauori & Modarres Awal 1999), *Abutilon* sp., *Althaea* sp. (Malvaceae) (Linnauori 2004).

General distribution. Algeria, Israel, Iraq, Iran, Saudi Arabia (Péricart & Golub 1996), Jordan (Carapezza 2002), Yemen (Linnauori & van Harten 2002), and tropical Africa (Deckert & Göllner-Scheiding 2006).

Subfamily Cantacaderinae Stål, 1873**Tribe Cantacaderini Stål, 1873****Genus *Cantacader* Amyot & Serville, 1843*****Cantacader iranicus* Lis, 2001**

Distribution in Iran. Kerman (Lis 2001b, 2003a).

General distribution. Iran, Iraq (Lis 2001b), Afghanistan, and Sudan (Lis 2003a).

***Cantacader quadricornis* (Lepeletier & Serville, 1828)**

Distribution in Iran. Fars (Lis 2001b, 2003a; Linnauori 2011), Golestan (Kiritshenko 1966), Guilan (Wagner 1961), Khuzestan, Lorestan (Linnauori 2011), Mazandaran (Wagner 1961; Lis 2001b, 2003a; Linnauori 2011); Iran (no locality cited) (Péricart 1983).

General distribution. North Africa, Iberian Peninsula, France, Italy, Ukraine, South European Territory of Russia, Transcaucasia, Asian Turkey, Cyprus, Israel, Iraq, Iran, and Afghanistan (Péricart & Golub 1996; Lis 2001b, 2003a).

Discussion

The present article puts together the information held in more than 80 papers published over a hundred years, and information obtained from the examination of specimens, giving an updated perspective on the diversity of Iranian tingids and their host plants. This information is important not only to consider the scientific value of this group but also because of its economic implications. However, because of the diverse flora and various geographical climates in Iran, many other new records and species are expected to be discovered. We estimate a total of 90 tingid species for the fauna of Iran.

Among the Iranian tingids, *S. oschanini* is widely distributed and is the most important pest, with 15 host plants. This species has been confused with West-Palaearctic *S. pyri* previously. Also, it seems that tingid pests in Iran are controlled by natural factors, especially natural enemies, because no control method is used by the Iranian farmers. We encourage studying the natural enemies of Iranian Tingidae.

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