

Species, host range and geographical distribution of powdery mildew fungi in Iran

S.A. KHODAPARAST^{1*} & M. ABBASI²

*Khodaparast@guilan.ac.ir

¹Department of Plant Protection, College of Agriculture, The University of Guilan, Rasht, Iran

²Iranian Research Institute of Plant Protection
Tehran, Iran

Abstract — A comprehensive review of the species, host ranges and geographical distribution of powdery mildew fungi in Iran is presented. The listed fungi belong to eight teleomorphic genera, viz. *Blumeria* (one species), *Erysiphe* sect. *Erysiphe* (14 species), *E.* sect. *Microsphaera* (15 species), *E.* sect. *Uncinula* (six species), *Golovinomyces* (nine species), *Leveillula* (14 species), *Neoerysiphe* (two species), *Phyllactinia* (seven species), *Podosphaera* sect. *Podosphaera* (three species), *P.* sect. *Sphaerotheca* (12 species), and *Sawadaea* (two species); and one anamorphic genus, *Oidium* (five species). The 528 host plant species reported in the checklist pertain to 287 genera. The complete checklist of fungi is available on http://staff.guilan.ac.ir/staff/users/khodaparastm/fckeditor_repo/file/Checklist.pdf.

Key words — biotrophic fungi, biodiversity, *Erysiphaceae*

Introduction

Fungi belonging to the order *Erysiphales* are widely distributed all over the world and cause powdery mildew diseases on numerous wild as well as cultivated plants. The knowledge of the species of powdery mildews in particular area is important concerning the biology and taxonomy of these fungi and for phytopathological purposes. During the past approximately 150 years, many fungal specimens have been collected in and around Iran, and some of them belong to the *Erysiphales*. However, powdery mildews have never been extensively studied in Iran, and information on the species and their host plants is scattered in various plant pathological reports and some general fungal lists (Eskandari 1964a,b; Esfandiari 1946, 1947, 1948, 1951; Petrak 1941, 1949, 1953; Petrak & Esfandiari 1941, Sharif & Ershad 1966; Altman et al. 1972; Ershad 1971, 1995). To our knowledge, the first report of the *Erysiphales* from Iran was made by Rabenhorst (1871), who reported *Erysiphe lamprocarpa* Duby on *Taraxacum denudatum* Boiss. and *Gundelia tournefortii* L. in Lorestan, *T. glaucum* Boiss. et Haussk. close to Hamedan, *Scutellaria multicaulis* Boiss. in Kermanshah, Shahu mount, and

Sphaerotheca castagnei Lév. on *Euphorbia* sp. from Kellal mountains, in southern Iran. Some recent publications provided lists of the powdery mildew fungi from Iran, but these were incomplete and were restricted to some regional studies (Tajik-Ghanbary et al. 2005; Khodaparast et al. 2000b, 2001; Tavanaei et al. 2005). The aim of this paper is to provide a comprehensive review of the species, host range and geographical distribution of powdery mildew fungi in Iran.

Materials and methods

Between 2002 and 2007 numerous new collections and herbarium specimens of *Erysiphales* from Iran were examined using light microscopy. In addition, a list of the species, including their host plant species and geographical distributions, were compiled using data from the literature. The generic taxonomy was based on the new genus concept introduced by Braun (1999), Braun & Takamatsu (2000) and Braun et al. (2002). Until recently, mycologists and plant pathologists have widely used the earlier generic concept applied by Braun (1987, 1995). To avoid confusion, the earlier generic names were also shown in this paper as synonyms similar to some other recent works (e.g., Bolay 2005, Sz. Nagy & Kiss 2006). The species identification was based on Braun's monographs (Braun 1987, 1995) and some recent papers (Khodaparast et al. 2000a, 2002; Shin 2000, Braun et al. 2001, 2006; Takamatsu et al. 2007; Braun & Minnis 2008). The host plant nomenclature follows "The International Plant Names Index" and "Flora Europaea" (Anonymous 2008a,b).

New records of powdery mildew species, their host plant species and/or localities were shown by asterix (*).

Results

A total of eight teleomorphic genera and 90 species of the *Erysiphales* were identified in Iran. In addition, five anamorphic species were identified. According to our results these fungi parasitized approximately 528 host plant species in this country. However, it is expected that more collections and further taxonomic studies will substantially increase our knowledge on the presence of these fungi in Iran.

List of Taxa

Powdery mildew taxa are listed alphabetically and the host plant species names, places of collection and related references follow taxon names. *Oidium* species were added after teleomorphic taxa. In addition, species

names used in the original publications are also shown after the relevant references when these differ from those determined during our identification studies. Due to the presence of some confusing species names in the original references, some records are doubtful. These are shown at the end of the checklist.

Blumeria Golovin ex Speer

Blumeria graminis (DC.) Speer

- Aegilops crassa* Boiss var. *crassa*; Darehgaz, Kalat (Abbasi et al. 2004).
A. tauschii Coss.; Karaj (Hedjaroude & Abbasi 2000).
A. triaristata Willd.; Tehran (Ershad 1971, Amano 1986, Ershad 1995; all records as *E. graminis* DC.).
A. triuncialis L.; Karaj (Hedjaroude & Abbasi 2000).
A. umbellulata Zhuk.; Darab, Laayzangan, Tehran (Abbasi et al. 2004).
Agropyron repens (L.) P. Beauv.; Ardebil (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 all records as *E. graminis*).
Alopecurus sp.; Dezful (Amano 1986, Ershad 1995 all records as *E. graminis*).
Avena sp.; Borujerd, Maraveh tappeh, Loshan-Qazvin road*, Mashhad (Ershad 1971, Amano 1986, Ershad 1995 all records as *E. graminis*, Aeenfar 2006).
A. fatua L.; Isfahan, Karaj, Tabriz-Marand road* (Khabiri 1956, Mohammadi-Doustdar 1967, Daftari & Behdad 1968, Ershad 1971, Amano 1986, Ershad 1995; all records as *E. graminis*).
A. ludoviciana Durieu; Gorgan, Langrood, Jajroud protected region (Ershad 1995 as *E. graminis*, Khodaparast et al. 2001, Kachooeian Javadi et al. 2006).
A. sativa L.; Ahvaz, Azarbaijan, Caspian sea area (Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Ebrahimi & Minassian 1973, Amano 1986, Ershad 1995; all records as *E. graminis*).
Bromus sp.; ? (Ershad 1971, Amano 1986, Ershad 1995; all records as *E. graminis*).
B. danthoniae Trin. ex C.A. Mey.; Fasham (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995; all records as *E. graminis*).
B. gedrosianus Penzes; Golestan national park (Abbasi et al. 2004).
B. japonicus Murray; Amarlu (Khodaparast et al. 2001).
B. japonicus var. *japonicus* Thunb.; Karaj (Hedjaroude & Abbasi 2000).
B. lanceolatus Roth; Polezanguleh (Petraik 1941, Amano 1986, Ershad 1995; all records as *E. graminis*).
B. madritensis L.; Golestan national park, Sharlogh (Abbasi et al. 2004).

- B. rubens* L. var. *rubens*; Khozestan, Behbahan towards Aghajari (Abbasi et al. 2004).
- B. sterilis* L.; Jajroud protected region, Mashhad (Kachooeian Javadi et al. 2006, Aeenfar 2006).
- Catapodium rigidum* (L.) C.E. Hubb. ex. Dony; Khozestan, Sardasht, Tot-e Olia, Mazandaran, Miankaleh protection region, Ghal-e palangan (Abbasi et al. 2004).
- Cynodon dactylon* (L.) Pers.; ? (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995; all records as *E. graminis*).
- Dactylis glomerata* L. subsp. *glomerata*; Golestan national park (Tajik-Ghanbary 1995).
- Elymus hispidus* (Opiz) Melderis subsp. *hispidus*; Karaj (Hedjaroude & Abbasi 2000).
- E. hispidus* (Opiz) Melderis var. *villosus* (Hack.) Assadi; Tehran (Abbasi et al. 2004).
- E. libanoticus* (Hack.) Melderis; Karaj (Hedjaroude & Abbasi 2000).
- E. repens* (L.) Gould.; (Abbasi et al. 2004).
- Festuca* sp.; Mashhad (Aeenfar 2006).
- Hordeum* sp.; Abe ali, Karaj, Mashhad (Esfandiari 1946a, Ershad 1971, Amano 1986, Ershad 1995; all records as *E. graminis*; Aeenfar 2006).
- Hordeum brevisubulatum* Link. subsp. *violaceum* (Boiss. & Huet.) Tzvelev.; Seesakht road, Amirabad (Abbasi et al. 2004).
- H. bulbosum* L.; Karaj, Orumieh, Amarlu (Esfandiari 1946a, Mohammadi-Doustdar 1967, Ershad 1971, Amano 1986, Ershad 1995; all records as *E. graminis*; Khodaparast et al. 2001).
- H. distichon* L.; Amarlu (Khodaparast et al. 2001).
- H. geniculatum* All.; Hamadan, Nahavand (Abbasi et al. 2004).
- H. glaucum* Steud.; Karaj, Ardebil-Khalkhal road*, Jajroud protected region (Hedjaroude & Abbasi 2000, Kachooeian Javadi et al. 2006).
- H. hexasticon* L.; Shariyar, Maragheh (Mohammadi-Doustdar 1967 as *E. graminis*).
- H. murinum* L.; Konartakhte, Bandar gaz, Khom (Petrak 1941, Khabiri 1956, Mohammadi-Doustdar 1967, Ershad 1971, Amano 1986, Ershad 1995 all records as *E. graminis*).
- H. leporinum* Link; Ghom, Karaj, Konartakhteh, Maragheh, South western (Petrak 1941, Khabiri 1956, Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995; all records as *E. graminis*).
- H. spontaneum* K. Koch.; Kermanshah, Gilan-e Gharb, Jajroud protected region (Abbasi et al. 2004, Kachooeian Javadi et al. 2006).
- H. vulgare* L.; all over the country (Esfandiari 1947, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Viennot-Bourgin et al. 1969, Ershad

1971, Ebrahimi & Minassian 1973, Amano 1986; all records as *E. graminis*).

Koeleria phleoides (Vill.) Pers. (Linn.) Tzvelev; Behbahan (Ebrahimi & Minasian 1973 as *E. graminis*).

Lolium sp.; Mashhad (Aeenfar 2006).

L. persicum Boiss & Hohen.: Boiss.; Tehran (Abbasi et al. 2004).

Lophochloa pumila (Desf.) Bor.; Busher, Tangastan (Abbasi et al. 2004).

Parapholis incurva (L.) C. E. Hubb.; Rasht, Gorgan (Esfandiari 1948, Ershad 1971, Ershad 1995; all records as *E. graminis*).

Phalaris sp.; Safi abad (Ershad 1971, Ebrahimi and Minasian 1973, Amano 1986, Ershad 1995; all records as *E. graminis*).

P. minor Retz.; Ahvaz, Karaj, Susangerd (Khabiri 1956, Ershad 1971, Ebrahimi & Minassian 1973, Amano 1986, Ershad 1995; all records as *E. graminis*).

Phleum paniculatum Huds.; Amarlou (Khodaparast et al. 2001).

Poa annua L.; Karaj (Esfandiari 1946a, Amano 1986, Ershad 1995; all records as *E. graminis*).

P. araratica Trautv.; Khorasan, Shirvan (Abbasi et al. 2004).

P. bulbosa L.; Gachsar, Garmsar, Karaj, Tabriz, Jajroud protected region (Khabiri 1956, Mohammadi-Doustdar 1967, Ershad 1971, Amano 1986, Ershad 1995; all records as *E. graminis*; Kachooeian Javadi et al. 2006).

P. nemoralis L.; Lahijan (Khodaparast et al. 2001).

P. sinaica Steud.; Kerman (Magnus 1899, Amano 1986, Ershad 1995; all records as *E. graminis*).

P. trivialis L.; Lahijan (Khodaparast et al. 2001).

Secale cereale L.; ? (Amano 1986, Ershad 1995; both records as *E. graminis*).

S. montanum Guss.; Hamedan (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995; all records as *E. graminis*).

Taeniatherum caput-medusae (L.) Nevski; Tehran, Jajroud protected region (Abbasi et al. 2004, Kachooeian Javadi et al. 2006).

Triticum sp.; Azarbaijan, Caspian sea area, Central provinces, Fars, Khorasan, Khuzestan, Tehran vicinity (Esfandiari 1946a, Scharif & Ershad 1966, Amano 1986, Ershad 1995; all records as *E. graminis*).

T. aestivum L.; Isfahan, Gorgan, Karaj, Shiraz, Tarom (Manuchehri 1964, Mohammadi-Doustdar 1967, Daftari & Behdad 1968, Amano 1986, Ershad 1995; all records as *E. graminis*).

T. thaouard Reut. ex Hausskn.; Qazvin (Abbasi et al. 2004, host name as *T. boeoticum* Boiss. subsp. *thaouard* (Reut.) Schieman).

***Erysiphe* DC.**

***Erysiphe* sp.**

Glycine max (L.) Merr.; Northern Iran (Majidieh-Ghassemi 1986, Ershad 1995).

Vigna unguiculata (L.) Walp.; Mazandran (Kaiser et al. 1968, Ershad 1995; host name as *V. sinensis* (L.) Endl.).

***E. adunca* (Wallr.) Fr.**

syn.: *Uncinula adunca* (Wallr. : Fr.) Lév.

Populus nigra L.; Damavand, Fasham, Karaj (Scharif & Ershad 1966, as *U. salicis* (DC.) Wint.; Viennot-Bourgin 1958, as *U. salicis*; Mohammadi-Doustdar 1967, as *U. salicis*; Amano 1986, as *U. salicis*; Ershad 1995, as *U. adunca*).

Salix sp.; Damavand, Hamedan, Kashan, Mazandran (Petraik 1953, as *U. salicis*; Mohammadi-Doustdar 1967 as *U. salicis*; Ershad 1971, Amano 1986, as *U. salicis*; Ershad 1995, as *U. adunca*).

S. aegyptiaca L.; Abbas abad, Karaj, Nur, Masuleh, Damavand, Kashan, Mazandran, Golestan national park (Petraik & Esfandiari 1941 as *U. salicis*; Esfandiari 1946a as *U. salicis*; Amano 1986, Scharif & Ershad 1966 as *U. salicis*; Mohammadi-Doustdar 1967 as *U. salicis*; Ershad 1995, Tajik-Ghanbary 1995, Khodaparast et al. 2000 as *U. adunca*).

S. babylonica L.; Karaj (Mohammadi-Doustdar 1967 as *U. salicis*, Amano 1986 as *U. salicis*, Ershad 1995 as *U. adunca*).

S. triandra L.; Astara (Mohammadi-Doustdar 1967 as *U. salicis*, Amano 1986 as *U. salicis*, Ershad 1995 as *U. adunca*).

E. adunca* (Wallr.) Fr. var. *adunca

syn.: *U. adunca* (Wallr. : Fr.) Lév. var. *adunca*

Populus nigra L.; Tabriz (Niknam & Guya 1999 as *U. adunca* var. *adunca*).

***E. alphitoides* (Griffon & Maubl.) U. Braun & S. Takam.**

syn.: *M. alphitoides* Griffon & Maubl.

Quercus sp.; Bisheh, Caspian sea area, Ziyarat (Esfandiari 1946a as *M. alni* (DC.) Wint. var. *extensa*, Mohammadi-Doustdar 1967, Ershad 1971, Amano 1986 as *M. alni*, Ershad 1995 as *M. alphitoides*).

Q. castaneifolia C. A. Mey.; Astara, Gorgan, Lorestan, Mazandran, Pole zanguleh, Ramsar, Shirgah (Esfandiari 1946a as *M. alphitoides*, Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Scharif and Ershad 1966 as *M. alni* var. *quercina* Neg., Ershad 1971, 1995 as *M. alphitoides*, Amano 1986 as *M. alphitoides*).

Q. infectoria Oliv.; Lorestan (Sepahvand 2000).

Q. macranthera Fisch. & Mey. ex Hohen.; Arasbaran forest (Tavanaei et al. 2002b).

Q. petraea (Matt.) Liebl.; Arasbaran forest (Tavanaei et al. 2001).

***E. aquilegiae* DC.**

Aquilegia vulgaris L.; Karaj (Amano 1986, Ershad 1971, Ershad 1995).

Delphinium sp.; Hezar masjed, Khorassan (Petrak 1949 as *E. nitida* (Wallr.) Rabh., Esfandiari 1951 as *E. nitida*, Amano 1986 as *E. ranunculi* Greville, Scharif & Ershad 1966 as *E. nitida*, Ershad 1995 as *E. ranunculi*).

D. saniculifolium Boiss.; Sabz pushan (Jørstad 1960 as *E. nitida*, Amano 1986 as *E. ranunculi*, Ershad 1995 as *E. ranunculi*).

Paeonia sp.; Khalkhal (Ershad 1971, Amano 1986 as *E. communis*, Ershad 1995 as *E. ranunculi*).

Thalictrum minus L.; Golestan national park (Tajik-Ghanbary 2005).

E. aquilegiae* var. *ranunculi (Grev.) R.Y. Zheng & G.Q. Chen
syn.: *E. ranunculi* Grev.

Ranunculus constantinopolitanus (DC.) d'Urv.; Marand, Masuleh (Khodaparast et al. 2000).

Thalictrum minus L.; Meshkinshar-Ahar road*.

E. astragali DC.
syn.: *M. astragali* (DC.) Trev.

Astragalus sp.; Deileman (Amano 1986, Ershad 1995, Khodaparast et al. 2000; all records as *M. astragali*).

Astragalus basineri Trautv.; Golestan national park (Tajik-Ghanbary 2005 as *M. astragali*).

E. berberidis DC.
syn.: *M. berberidis* (DC.) Lév.

Berberis vulgaris L.; Damavand, Fasham, Karaj, Ghachsar, Mazanderan, Arasbaran forest (Esfandiari 1948, Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995; all records as *M. berberidis* (DC.) Lév.).

E. betae (Vaňha) Weltzien
Beta vulgaris L.; all over the country (Petrak & Esfandari 1941 as *E. communis* (Wallr.) Link, Esfandiari 1946a as *E. communis*, Khabiri 1956 as *E. communis*, Viennot-Borgin 1958 as *E. communis*, Eskandari 1964 as *E. polygoni*, Amano 1986, Scharif & Ershad 1966 as *E. polygoni*, Mohammadi-Doustdar 1967 as *E. communis*, Daftari & Behdad 1968 as *E. communis*, Eskandari et al. 1969 as *E. polygoni*, Altman et al. 1972 as *Erysiphe* sp., Ahmadi-Nejad 1973, Ebrahimi & Minassian 1973, as *E. polygoni*, Ershad 1971, 1995 as *E. polygoni*).

B. vulgaris var. *cicla* Moq.; ? (Amano 1986 as *E. communis*).

E. bivonae U. Braun & Minnis var. *bivonae*
syn.: *E. clandestina* Biv. non *E. clandestine* (Wallr. : Fr.) Lév., *U. clandestina* (Biv.) J. Schröt. var. *Clandestina*.

Ulmus minor Mill.; Damavand, Gorgan, Karaj, Shemiran, Sumaehsara (Petrak & Esfandiari 1941, Khabiri 1952, 1958, Viennot-Bourgin

1958, Scharif and Ershad 1966, Amano 1986, Ershad 1995, Khodaparast et al. 2000; all records as *U. clandestina*).

U. glabra Huds.; Arasbaran forest*, Ziarat (Esfandiari 1946a, Amano 1986 both records as *U. clandestina*).

E. bremeri U. Braun
syn.: *M. alhagi* (Golovin) U. Braun
Alhagi sp.; Roodbar, Orumieh-Mahabad road* (Khodaparast et al. 2000 as *M. alhagi*).

A. maurorum Medic.; Kordestan (Rabenhorst 1871 as *E. martii* Lév., Amano 1986 as *E. alhagi*, Ershad 1995 as *E. martii*).

E. buhrii U. Braun
Acanthophyllum microcephalum Boiss.; Karaj (Abbasi and Khodaparast 2003).

Minuartia lineata (Boiss.) Bornm.; Eastern Alborz, Nizva (Abbasi and Khodaparast 2003).

Silene latifolia Poir.; Meshkinshahr-Ahar road*.

E. caulicola (Petr.) U. Braun
syn.: *M. caulicola* Petr.
Astragalus sp.; Bastam (Petrak 1949, Esfandiari 1951, Ershad 1995 all records as *M. caulicola*).

A. glycyphyllos L.; Golestan national park (Tajik-Ghanbary 1995).

E. celtidis (Shvartsman & Kusnezowa) U. Braun & S. Takam.
syn.: *U. celtidis* Shvartsman & Kusnezowa
Celtis caucasica Willd.; Arasbaran forest (Tavanaei et al. 2001).

E. circaeae L. Junell
Circaea lutetiana L.; Talesh (Khodaparast et al. 2000).

E. coluteae (Kom.) U. Braun & S. Takam.
syn.: *M. coluteae* Kom.
Colutea arborescens L.; Fasham (Viennot-Bourgin 1958., Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995; all records as *M. coluteae*).

C. buhsei (Boiss.) Shapar.; Golestan national park (Tajik-Ghanbary 2005).

E. convolvuli DC.
Convolvulus sp.; Rasht (Rostrup 1908, Amano 1986, Ershad 1995).

C. arvensis L.; Widespread (Esfandiari 1946a, Khabiri 1956 as *E. communis* Wall.: Fr., Mohammadi-Doustdar 1967, Amano 1986, Ebrahimi & Minassian 1973, Ershad 1971, 1995, Tajik-Ghanbary 1995, Niknam & Guya 1996, Khodaparast et al. 2001, Kachooeian Javadi et al. 2006).

C. dorycnium L. subsp. *subbirsutus* (Regl. et Schalh.) Saad; Golestan national park (Tajik-Ghanbary 2005).

C. pilosellifolius Desr. In Lam.; Mashad (Amano 1986, Ershad 1971, 1995).

Calystegia sepium (L.) R. Br.; Hamedan, Lahijan (Khabiri 1956 as *E. communis*, Mohamadi-Doustdar 1967, Amano 1986, Ershad 1995).

E. cruchetiana S. Blumer
Ononis sp.; Hamedan (Mohammadi-Doustdar 1967, Ershad 1995).
O. spinosa L.; Hamedan (Amano 1986, Ershad 1971, 1995).

E. cruciferarum Opiz ex L. Junell
Alliaria petiolata (M. B.) Cavara et Grande; Karaj (Mohamadi-Doustdar 1967, Amano 1986, Ershad 1995 all records as *E. communis*).
Alyssum sp.; Lighvan (Viennot-Bogin 1958, Mohamadi-Doustdar 1967, Amano 1986, Ershad 1995 all records as *E. communis*).
A. dasycarpum Steph. ex Willd.; ? (Ershad 1971, 1995 as *E. communis*).
A. hirsutum M.Bieb.; ? (Amano 1986, Ershad 1971, 1995 as *E. communis*).
A. strigosum Banks & Sol.; Amarlu (Khodaparast et al. 2000).
A. repens Baumg.; ? (Amano 1986).

Brassica sp.; Karaj (Amano 1986, Mohamadi-Doustdar 1967 as *E. communis*, Ershad 1995 as *E. communis*).

B. oleracea L.; Abadan (Mohammadi-Doustdar 1967 as *E. communis*).
B. napus L.; Dezful (Amano 1986, Ershad 1995 as *E. polygona*).
B. rapa L.; Dezful (Amano 1986, Ershad 1995 as *E. polygona*).

Cardaria draba (L.) Desv.; Manjil, Mashhad (Khodaparast et al. 2000, Aeenfar 2006).

C. draba (L.) subsp. *chalapensis* (L.) O.E.S.Chulz.; Golestan national park (Tajik-Ghanbary 1995).

Conringia planisiligua Fish. & C.A. Mey; Masuleh (Khodaparast et al. 2000, host name as *Coringia planisiligua* Fish. & C.A. Mey).

Crambe sp., Jajroud protected region (Kachooeian Javadi et al. 2006).

C. orientalis L.; Fasham, Golestan national park (Ershad 1971 as *E. communis*, Amano 1986, Ershad 1995 as *E. communis*, Tajik-Ghanbary 1995).

Descurainia sophia (L.) Webb et Prantl; Lahijan, Tabriz*, Ardebil-Meshkinshar road*, Ardebil Khalkhal road* (Viennot-Bourgin 1958 as *E. communis*, Mohammadi-Doustdar 1967 as *E. communis*, Amano 1986, Ershad 1971, 1995 as *E. communis*).

Fumaria sp.; ? (Mohammadi-Doustdar 1967 as *E. communis*, Ershad 1995 as *E. communis*).

Iberis sp. Dezful; (Amano 1986, Ershad 1995 as *E. polygona*).

Lepidium campestre L.; ? (Amano 1986, Ershad 1995 as *E. communis*).

L. latifolium L.; Karaj, Rude hen, Golestan national park, Jajroud protected region, Sothern Khorasan, Sar-Bisheh (Viennot-Bourgin 1958 as *E. communis*, Mohamadi-Doustdar 1967 as *E. communis*, Amano 1986, Ershad 1995 as *E. communis*, Tajik-Ghanbary 1995, Kachooeian Javadi et al. 2006).

L. sativum L.; ? (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 both records as *E. communis*).

Raphanus sativus L.; Sarab, Tabriz (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995 all records as *E. communis*).

Rapistrum rugosum (L.) All.; Ardebil, Gorgan, Golestan national park, Ardebil-Khalkhal road*, Orumieh-Sero road* (Mohammadi-Doustdar 1967 as *E. communis* (Wallr.) Fr., Amano 1986, Ershad 1995 as *E. communis*, Khodaparast et al. 2000, Tajik-Ghanbary 1995).

Sinapis arvensis L.; Gorgan, Khalkhal-Ardebil road* (Amano 1986, Ershad 1971, 1995 as *E. communis*).

Sisymbrium irio; Tabriz (Niknam & Guya 1996).

S. cf. orientale L.; Amarlu (Khodaparast et al. 2000).

E. erlangshanensis (Y.N. Yu) U. Braun & S. Takam.
syn.: *M. erlangshanensis* Y. N. Yu
Lonicera sp.; Ardebil, Heruabad*.

L. numularifolia Joub & Spach.; Deileman-Amarlu road (Khodaparast et al. 2000 as *M. erlangshanensis*).

E. euonymi-japonici (Vienn.-Bourg.) U. Braun & S. Takam.
syn.: *M. euonymi-japonici* Vienn-Bourg.

Euonymus japonicus L.; All over the country (Esfandiari 1948 as *Oidium evonymi-japonici* (Arcang.) Sacc., Khabiri 1956, Eskandari 1964 as *O. evonymi-japonici*, Scharif & Ershad 1966 as *O. evonymi-japonici*, Mohammadi-dousdar 1967 as *O. evonymi-japonici*, Daftari & Behdad 1968 as *O. evonymi-japonici*, Viennot-Bourgin et al. 1969 as *O. evonymi-japonici*, Amano 1986 as *M. euonymi-japonici*, Ershad 1971, 1995 as *M. euonymi-japonici*).

E. heraclei DC.

Ammi majus L.; Rostam abad (Khodaparast et al. 2000).

Anethum graveolens L.; Ahvaz, Isfahan (Ebrahimi and Minasian 1973, Amano 1986, Sharifnabi & Nakuei 1996).

Bifora testiculata (L.) Spreng.; Amarlu (Khodaparast et al. 2001).

Carum persicum Boiss.; Kuhe jupar (Magnus 1899, Amano 1986, Ershad 1995).

Coriandrum sp.; Ahar, Mashhad, Orumieh (Petraik 1953, Amano 1986, Ershad 1971, Ershad 1995).

C. sativum L.; Mashhad (Amano 1986, Ershad 1971, 1995).

Chaerophyllum aureum L.; Amarlu (Khodaparast et al. 2000).

Conium maculatum L.; Deileman (Khodaparast et al 2001).

Daucus carota L.; Caspian sea area, Central province, Dezful, Isfahan, Karaj, Mashhad, Tabriz, Varamin, Tehran vicinity, Meshkinshahr-Ahar road*, Orumieh, Orumieh-Mahabad road* (Esfandiari 1946a as *E. umbelliferarum*, Scharif & Ershad 1966 as *E. umbelliferarum* de Bary,

- Mohammadi-Doustdar 1967 as *E. umbelliferarum*, Daftari & Behdad 1968, Ebrahimi & Minassian 1973 as *Erysiphe* sp., Amano 1986, Ershad 1971, 1995).
- D. carota* L. subsp. *maximus* (Desf.) Ball; Aghghalleh, Gorgan, Tehran, (Amano 1986, Mohammadi-Doustdar 1967, Ershad 1971, 1995, host name as *Daucus maximus* Desf.).
- Eryngium* sp.; Ardebil-Meshkinshar road*, Zanjan*, Takhte soleiman*.
- E. caucasicum* Trautv.; Deileman-Asiabar Road (Khodaparast et al. 2000).
- Falcaria* sp.; ? (Amano 1986).
- F. vulgaris* Bernh.; Hamedan, Karaj, Kermanshahan, Tehran, Toyserkan, Golestan national park, Zanjan-Miyaneh road*, Orumieh-Mahabad road*, Shahindej-Takab road*, Khalkhal-Ardebil road*, Sofian-Shabastar road*, Meshkinshahr-Ahar road*, Orumieh-Sero road* (Wettstein 1885, Khabiri 1956, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, Ershad 1995, Tajik-Ghanbary 1995, Hedjaroude & Abbasi 2000).
- Ferula* sp.; ? (Amano 1986, Ershad 1995).
- Heraclium persicum* Desf.; Fasham (Amano 1986, Ershad 1971, 1995).
- H. sphondylium* L.; ? (Amano 1986).
- Pastinaca sativa* L.; ? (Amano 1986, Ershad 1995).
- Petroselinum sativum* Hoffm.; Kashan (Mohammadi-Doustdar 1967 as *E. umbelliferarum*, Amano 1986, Ershad 1995).
- Pimpinella affinis* Ledeb.; Amarlu, Sofian-Shabastar road* (Khodaparast et al. 2001).
- P. tragium* Vill.; Ghamsar, Kandevar (Mohammadi-Doustdar 1967, as *E. umbelliferarum*, Amano 1986, Ershad 1995).
- Scandix* sp.; Amarlu (Khodaparast et al. 2001).
- S. pecten-veneris* L.; Jupar (Magnus 1899, Amano 1986, Ershad 1995).
- Torilis leptophylla* (L.) Rchb.f.; Masuleh (Amano 1986, Ershad 1971, 1995, Khodaparast et al. 2000).
- T. nodosa* (L.) Gaertn.; Rostam abad (Khodaparast et al. 2001).
- Turgenia latifolia* (L.) Hoffm.; Bastam, Marand, Iasuj, Tabriz (Bornmuller 1908, Mohammadi-Doustdar 1967 as *E. umbelliferarum*, Amano 1986, Ershad 1971, Ershad 1995, Niknam & Guya 1996).
- E. hyperici*** (Wallr.) S. Blumer
syn.: *M. hypericacearum* U. Braun
Hypericum sp.; (Amano 1986).
- Hypericum perforatum* L.; ? (Amano 1986, Braun 1987 as *M. hypericacearum*, Ershad 1995).
- E. limonii*** L. Junell
Limonium meyeri (Boiss.) Kuntze; Tabriz (Tavanaei and Khodaparast 2007).
- E. lonicera*** DC. var. *lonicera*

syn.: *M. lonicera* (DC.) G. Winter var. *lonicera*
Lonicera caucasica Pall. subsp. *caucasica*; Arasbaran forest (Tavanaei et al. 2002a)
L. iberica M.Bieb.; Arasbaran forest (Tavanaei et al. 2002)
E. lycopsidis R.Y. Zheng & G.Q. Chen
Anchusa italica Retz.; Tabriz (Khabiri 1958 as *E. horridula* (Wallr.) Lév., Amano 1986 as *E. horridula* and host name as *A. azurea* Mill., Ershad 1995 as *E. asperifoliorum* Grev., Niknam & Guya 1996).
A. ovata Lehm.; Amarlu, Ardebil*, Khalkhal-Ardebil road*, Ardebil-Meshkinshahr road* (Khodaparast et al. 2000).
Alkanna orientalis (L.) Boiss.; Tabriz (Niknam & Guya 1996).
E. multappendicis (Z.Y. Zhao & Y.N. Yu) U. Braun & S. Takam.
syn.: *M. multappendicis* Z.Y. Zhao & Y.N. Yu
Berberis vulgaris L.; Deileman-Kalishom road (Khodaparast et al. 2000 as *M. multappendicis*).
B. thunbergii DC.*; Rasht*, Astrara*, Ardebil*.
E. necator Schwein.
syn.: *U. necator* (Schwein.) Burrill.
Parthenocissus quinquefolia (L.) Planch.; Tehran (Scharif & Ershad 1966 host name as *Ampelopsis quinquefolia*, Ershad 1995).
Vitis sp.; Karaj, Qazvin, Shareiar (Esfandiari 1946a as *U. necator*).
V. vinifera L.; All over the country (Khabiri 1958, Viennot-Bourgin 1958, Manuchehri 1964 as *Oidium tuckeri* Berk., Boubals & Nazemille 1966, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Ershad 1971, Altman et al. 1972, Ebrahimi & Minassian 1973, Amano 1986, Ershad 1995, Karimi & Hajian 1998, Hajian et al. 2005, all records as *U. necator*).
V. vinifera L. subsp. *sylvestris* (C.C. Gmel.) Hegi; Golestan national park (Tajik-Ghanbary 1995 host name as *Vitis sylvistris* C.C. Gmel).
E. paradoxa (Simonyan) U. Braun & S. Takam.
syn.: *U. paradoxa* Simonyan
Acer hyrcanum Fisch. & C.A. Mey.; Arasbaran forest (Tavanaei et al. 2000).
A. monspessulanum L.; Golestan national park, Arasbaran forest (Tavanaei et al. 2000, Tajik-Ghanbary 1995 both record as *U. paradoxa*).
A. monspessulanum L. subsp. *turcomanicum*; Golestan natiuonal park (Tajik-Ghanbary 2005 as *U. paradoxa*).
E. penicillata (Wallr. : Fr.) Link
syn.: *M. penicillata* (Wallr. : Fr.) Lév.
Alnus cordifolia Ten.; ? (Amano 1986 as *M. alni*, Ershad 1995 as *M. penicillata*).
A. glutinosa (L.) Gaertn.; Caspian sea area, Gorgan, Mazanderan, Ziyarat (Esfandiari 1946a as *M. alni* (DC.) G. Wint., Mohammadi-Doustdar

1967 as *M. alni*, Scharif & Ershad 1966 as *M. alni*, Amano 1986 as *M. alni*, Ershad 1995 as *M. penicillata*.

***E. pisi* DC.**

Medicago coronata (L.) Bartal.; Fasham (Khabiri 1956 as *E. polygoni*, Amano 1986, Ershad 1995).

M. sativa L.; Damavand, Fasham, Isfahan, Lushan, Saghez, Khoramabad, Deileman –Kalishom road (Khabiri 1956 as *E. polygoni*, Viennot-Bourgin 1958, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Amano 1986 as *E. communis*, Ershad 1971, Ershad 1995, Khodaparast et al. 2000, Sepahvand et al. 2002).

Melilotus indicus (L.) All.; Golestan national park (Tajik-Ghanbary 2005).

M. officinalis (L.) Pall.; Tabriz (Niknam & Guya 1996).

Pisum sp.; Abe ali, Karaj (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995).

P. sativum L.; Ramin, Tehran vicinity, Scharif & Ershad 1966 as *Erysiphe* sp., Ebrahimi & Minassian 1973 as *E. polygoni*, Amano 1986, Ershad 1995).

Trigonella foenum-graecum L.; Ramin (Amano 1986 as *E. communis*, Ebrahimi & Minassian 1973, Ershad 1971, 1995).

Vicia sp.; Karaj (Ershad 1971, 1995).

V. faba L.; Abadan (Mohammadi-Doustdar 1967, Ershad 1995).

V. peregrina L.; Karaj (Ershad 1971, 1995).

V. persica Boiss.; Damavand, Fasham (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Ershad 1995).

***E. polygoni* DC.**

Polygonum sp; Borujerd, Sufian-Shabastar road*, Ardebil-Meshkinshahr road, Zanjan (Ershad 1971, Amano 1986, Ershad 1995).

P. alpestre C. A. Mey; ? (Amano 1986 , Ershad 1995).

P. aviculare L.; Isfahan, Fasham, Ghamsar, Karaj, Mashhad, Deileman, Golestan national park, Ardebil-Khalkhal road* (Esfandiari 1946a, Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995, Tajik-Ghanbary 1995, Khodaparast et al. 2000, Sepahvand et al. 2002).

P. bellardii All.; Isfahan (Amano 1986; Ershad 1971, 1995).

P. lapathifolium L.; Jajroud protected region (Kachooeian Javadi et al. 2006).

P. mite Schrank; Karaj (Esfandiari 1946a, Amano 1986, Ershad 1995).

P. patulum M.Bieb.; Isfahan, Tabriz (Amano 1986, Ershad 1995, Niknam & Guya 1996).

P. persicaria L.; Karaj, Tehran, Manjil, Jajroud protected region (Khabiri 1956, Amano 1986, Ershad 1971, 1995, Khodaparast et al. 2000, Kachooeian Javadi et al. 2006).

P. polycnemoides Jaub & Spach; Mahi dasht (Ershad 1995).

- P. rottboellioides* Jaub. & Spatch; Tehran (Khabiri 1956, Amano 1986, Ershad 1995).
- Rumex* sp.; Torghabeh (Amano 1986, Ershad 1971, 1995).
- R. acetosa* L.; Fasham, Tehran (Mohammadi-Doustdar 1967, Amano 1986 as *E. communis*, Ershad 1971, 1995).
- R. alveolatus* Los.-Losinsk.; Mashhad (Aeenfar 2006).
- R. conglomeratus* Murry; ? (Amano 1986, Ershad 1995).
- R. crispus* L.; Damavand, Khorram abad, Tabriz-Marand road*, Orumieh-Sero road*, Ardebil-Khalkhal road* (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995, Tajik-Ghanbary 1995).
- R. crispus* L. var. *strictissimus* Rech. F.; Golestan national park (Tajik-Ghanbary 1995).
- R. dentatus* L.; ? (Amano 1986, Ershad 1971, 1995).
- R. patientia* L.; Tabriz (Ershad 1995, Niknam & Guya 1996).
- R. scutatus* L.; Fasham (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995).
- E. prunastri* DC.**
syn.: *U. prunastri* (DC.) Sacc.
Prunus cerasus L.; Khorasan (Karimi & Hajian 1998 as *U. prunastri*).
- P. divaricata* Ledeb.; Amarlu, Masuleh, Rasht, Golestan national park, Arasbaran forest (Tajik-Ghanbary 2005, Khodaparast et al., 2000 as *U. prunastri* var. *prunastri*).
- P. domestica* L.; Khorasan (Karimi & Hajian 1998 as *U. prunastri*).
- P. mahaleb* L.; Khorasan (Karimi & Hajian 1998 as *U. prunastri*).
- E. punicae* T.M. Achundov**
Punica granatum L.; Roodbar, Talesh* (Khodaparast et al. 2000).
- E. syringae-japonicae* (U. Braun) U. Braun and S. Takam.**
syn.: *M. syringae-japonicae* U. Braun
Syringa persica L.; Arasbaran forest, Glibar (Tavanaei & Khodaparast 2004).
- E. tortilis* (Wallr. : Fr.) Link**
syn.: *M. tortilis* (Wallr. : Fr.) Speer
Cornus sanguinea L.; Lahijan, (Viennot-Bourgin 1958, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995).
- Cornus* sp.; Orumieh*, Ramsar*.
- E. trifolii* Grev.**
syn.: *M. trifolii* (Grev.) U. Braun
Melilotus indicus (L.) All.; Golestan national park (Tajik-Ghanbary 2005 as *M. trifolii*).
- M. officinalis* (L.) Pall.; Golestan national park (Tajik-Ghanbary 1995 as *M. trifolii*).

Trifolium pratense L.; Deileman-Kalishom road, Marand* (Khodaparast et al. 2000 as *M. trifolii*).

E. urticae (Wallr.) S. Blumer

Urtica dioica L.; Amarlu, Sumaehsara*, Talesh* (Khodaparast et al. 2000).

Golovinomyces (U. Braun) Heluta

G. artemisae (Grev.) Heluta

syn.: *E. artemisae* Grev.

Artemisia dracunculus L.; Tabriz, Orumieh-Sero road* (Behroozin et al. 1991 as *E. artemisae* Grev., Ershad 1995 as *E. artemisae*).

G. biocellatus (Ehrenb.) Heluta

syn.: *E. biocellata* Ehrenb.

Lamiaceae (Unknown); Kamarbon (Ershad 1971, 1995).

Mentha piperita L.; Karaj (Yazdani and Abbasi 1998).

M. longifolia (L.) Huds.; Fasham (Viennot-Borgin 1958 as *E. labiatarum* (Wallr.) Chev., Mohammadi-Doustdar 1967 as *E. biocellata*, Amano 1986, Ershad 1995 as *E. biocellata*, host name as *Mentha sylvestris* L.)

Nepeta sintenisii Bornm.; Amarlu (Khodaparast et al. 2000 as *E. biocellata*).

Salvia nemorosa L.; Meshkinshahr-Ahar*.

S. pseudo-sylvestris Stapf; Tehran, Golestan national park (Khabiri 1956 as *E. lamprocarpa*, Ershad 1995 as *E. biocellata*, Tajik-Ghanbary 2005)

Ziziphora tenuior L.*; Ahar-Tabriz road.

G. cichoracearum (DC.) Heluta

syn.: *E. cichoracearum* DC.

Achillea wilhelmsii K. Koch.; Jajroud protected region (Kachooeian Javadi et al. 2006).

Carthamus tinctorius L.; Dezful, (Altman et al. 1972 as *Erysiphe* sp., Amano 1986 as *E. cichoracearum*, Ershad 1995 as *Erysiphe* sp.).

Centaurea aucheri (DC.) Wagenitz, Jajroud protected region (Kachooeian Javadi et al. 2006).

Chondrilla juncea L., Ardebil-Khalkhal road*, Tabriz (Niknam & Guya 1996).

Cichorium endivia L.; ? (Amano 1986, Ershad 1971, Ershad 1995 all records as *E. cichoracearum*).

C. intybus L.; Karaj, Deileman, Tabriz-Marand road*, Ardebil-Khalkhal road (Viennot-Borgin et al. 1970, Amano 1986 as *E. cichoracearum*, Ershad 1995, Khodaparast et al. 2000).

Cousinia pterocaulos (C.A. Mey.) K.H. Rechinger; Khalkhal-Asalem road.

C. multiloba DC.*; Varamin.

Cynara scolymus L.; ? (Amano 1986 as *E. cichoracearum*).

Dahlia sp.; Ramin (Ebrahimi & Minassian 1973, Amano 1986, Ershad 1995 all records as *E. cichoracearum*).

Gundelia tournefortii L.; Kordestan, Lorestan (Rabenhorst 1871 as *E. lamprocarpa*, Amano 1986 as *E. cichoracearum*, Ershad 1995 as *E. sordida* Junell).

Hibiscus brasiliensis L.; (Amano 1986).

Hibiscus cannabinus L.; Dezful (Ershad 1995).

Inula oculus-christi L.; Azarbaijan (Ershad 1995).

I. salicina L. subsp. *aspera* (Poir.) Hayek; Ahar-Tabriz road*.

Lactuca sp., Orumieh-Sero road*, Tabriz (Niknam & Guya 1996).

L. sativa L.; Karaj, Tehran (Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Ershad 1971, 1995 all records as *E. cichoracearum*).

Ligularia persica Boiss.; Pole zanguleh (Esfandiari 1948, Ershad 1971, 1995 all records as *E. cichoracearum*).

Phlox drummondii Hook.; ? (Amano 1986, Ershad 1995 both records as *E. cichoracearum*).

Scorzonera sp.*; Isfahan-Samirom road.

Silybum marianum (L.) Gaertn.; Karaj (Yazdani and Abbasi 1998).

Solidago canadensis L.; ? (Amano 1986, Ershad 1995 both records as *E. cichoracearum*).

Sonchus asper (L.) Hill; ? (Amano 1986, Ershad 1995 both records as *E. cichoracearum*).

S. oleraceus L.; Karaj, Orumieh, Tabriz (Gharalu village) (Hedjaroude & Abbasi 2000, Niknam & Guya 1996).

Tanacetum parthenium (L.) Sch. Bip.; Golestan national park (Tajik-Ghanbary 2005).

Taraxacum glaucum Boiss. & Haussk. ex Rabenh.; (Rabenhorst 1871, Amano 1986 as *E. cichoracearum*, Ershad 1995 as *E. sordida*).

T. montanum DC.; Lorestan (Rabenhorst 1871 as *E. lambrocarpa*, host name as *T. denudatum* Boiss., Amano 1986 as *E. cichoracearum*, Ershad 1995 as *E. sordida*).

T. syriacum Boiss.; Borujerd, Karaj, Hamedan, Lorestan (Esfandiari 1946a, 1948, Khabiri 1956 as *E. communis*, Amano 1986 as *E. cichoracearum*, Ershad 1995 as *E. cichoracearum*).

Urospermum picroides (L.) Desf.; Roodbar*.

Viola odorata L.; ? (Amano 1986, Ershad 1995; both records as *E. cichoracearum*).

V. tricolor L.; Tabriz (Amano 1986, Ershad 1995; both records as *E. cichoracearum*).

G. cynoglossi (Wallr.) Heluta

syn.: *E. cynoglossi* (Wallr.) U. Braun
Asperugo procumbens L.; Kamarbon, Jajroud protected region (Amano 1986 as *E. horridula* Lév., Ershad 1971, 1995 as *E. asperifoliorum* Grev., Kachooeian Javadi et al. 2006).
Cynoglossum creticum Mill.; Amarlu (Khodaparast et al. 2001).
Echium italicum L.; Hamedan (Wettstein 1885 as *E. cichoracearum*, Amano 1986 as *E. horridula*, Ershad 1995 as *E. cichoracearum*).
Lithospermum incrassatum Guss.; Amarlu (Khodaparast et al. 2001).
L. officinale L.; Amarlu (Khodaparast et al. 2001).
Nonnea flavescens (C. A. Mey) Fisch & C. A. Mey; Amarlu (Khodaparast et al. 2001).
Nonnea pulla (L.) DC.; Azadbar (Bornmuller 1908 as *E. horridula*, Amano 1986 as *E. horridula*, Ershad 1995 as *E. asperifoliorum*).
Solenanthus cerinthoides Boiss.; Fasham (Viennot-Bourgin 1958 as *E. horridula*, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *E. asperifoliorum*).

G. depressus (Wallr.) Heluta
syn.: *E. depressa* (Wallr.) Schltld.
Arctium lappa L.; Karaj, Khorasan, Shahriar (Petrak & Esfandiari 1941, Esfandiari 1946a, Khabiri 1956, Amano 1986 as *E. depressa*, Mohammadi-Doustdar 1967 as *E. communis*).

G. hyoscyami (R.Y. Zheng & G.Q. Chen) Heluta
syn.: *E. hyoscyami* R.Y. Zheng & G.Q. Chen
Hyoscyamus niger L.; Hamedan, Golestan national park (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 all records as *E. cichoracearum*, Tajik-Ghanbary 1995 as *E. hyoscyami*).

G. orontii (Castagne) Heluta
syn.: *E. orontii* Castagne
Cucumis melo L.; Karaj, Tehran (Khabiri 1956 as *E. communis*, Scharif & Ershad 1966 as *E. communis*, Mohammadi-Doustdar 1967 as *E. communis*, Ershad 1995 as *E. communis*).
Cucumis sativus L.; Borujerd, Dezful, Maygun, Tabriz, Isfahan (Scharif & Ershad 1966, Daftari and Behdad 1968, Ershad 1971, Altman et al. 1972, Ebrahimi and Minasian 1973, Amano 1986, Ershad 1995 all records as *E. cichoracearum*).
Cucurbita sp.; Dezful, Rasht, Anzali (Eskandari 1964, Amano 1986, Ershad 1995 all records as *E. cichoracearum*).
C. maxima Duchesne; Talesh (Khodaparast et al. 2001).
C. pepo L.; Boroojerd, Tabriz (Scharif & Ershad 1966 as *E. cichoracearum*).
Nicotiana sp. L.; Fars (Ershad 1971 as *E. polyphaga* Hamm., Amano 1986, Ershad 1995 as *E. polyphaga*).

- N. tabacum* L.; Azarbaijan, Caspian sea area, Orumieh (Esfandiari 1947 as *E. cichoracearum*, Khabiri 1956 as *Oidium tabaci* Thüm, Scharif & Ershad 1966 as *E. cichoracearum*, Amano 1986 as *Oidium* sp., Ershad 1971, 1995 as *E. polyphaga*).
- Valerianella* cf. *uncinata* (M.Bieb.) Dufur.; Masuleh, Amarlu (Khodaparast et al. 2001 as *G. orontii*).
- Vinca herbacea* Waldst. & Kit.; Golestan national park (Tajik-Ghanbary 2005).
- G. redlianus*** (Speer) Heluta
syn.: *Erysiphe galii* var. *riedliana* (Speer) U. Braun
Galium humifusum M.Bieb.; Ardebil-Khalkhal road*.
G. aparine L.; Jajroud protected region (Kachooeian Javadi et al. 2006).
Sherardia arvensis L.; Khoramabad (Sepahvand et al. 2002 as *E. galii* var. *redliana*).
- G. sordidus*** (L. Junell) Heluta
syn.: *E. sordida* L. Junell
Plantago sp.; Deileman-Kalishom road (Amano 1986, Khodaparast et al. 2000).
- P. lanceolata* L.; Damavand (Viennot-Bourgin 1958 as *E. plantaginis* (Link) Sawada, Mohammadi-Doustdar 1967 as *E. plantaginis*, Amano 1986 as *E. sordida*, Ershad 1971, 1995 as *E. sordida*).
- P. major* L.; Karaj, Tonekabon, Tabriz, Amarlu (Amano 1986 as *E. sordida*, Ershad 1971, 1995 as *E. sordida*, Niknam & Guya 1996 as *E. sordida*, Khodaparast et al. 2000).
- P. media* L.; Fasham, Marand (Viennot-Bourgin 1958 as *E. plantaginis*, Mohammadi-Doustdar 1967 as *E. plantaginis*, Amano 1986 as *E. sordida*).
- P. psyllium* L.; Masjed Solaiman (Viennot-Bourgin 1958 *E. plantaginis*, Amano 1986 as *E. sordida*, Ebrahemi and Minasian 1975 as *E. sordida*, Ershad 1971, 1995 as *E. sordida*).
- Leveillula*** Arnaud
L. contractirostris Heluta & Simonyan
Alcea sp.; Khorasan, Jajroud protected region (Kachooeian Javadi et al. 2006, Aeenfar 2006).
A. glabrata Alef.*; Mahalat, Kuhe sefid*.
A. haussknechtii Boiss.; ? (Amano 1986 as *L. taurica* (Lév.) Arn.).
A. hohenackeri (Boiss. & Huet) Boiss.; Jajroud protected region (Kachooeian Javadi et al. 2006).
- Althaea* sp.; Bisheh, Khoy, Lorestan (Pettrak 1949 as *L. taurica*, Esfandiari 1951 as *L. taurica*, Scharif and Ershad 1966 as *L. taurica*, Amano 1986, Ershad 1971, 1995 as *L. malvacearum* Golovin f. *althaeae* Jacz.).

- A. ficifolia* L.; Karaj, Shariyar, Shiraz (Mohammadi-Doustdar as *L. taurica*, Amano 1986 as *L. taurica*, Ershad 1995 as *L. malvacearum* f. *althaeae*).
- A. kurdica* Schltldl.; Karaj, Kermanshah, Tabriz* (Amano 1986 as *L. taurica*, Mohammadi-Doustdar 1967 as *L. taurica* and host name as *Althaea kurdica* Boiss., Ershad 1995 as *L. malvacearum* f. *althaeae*).
- A. rosea* L.; Ahvaz, Evin, Shemiran (Ebrahimi & Minassian 1973 as *L. malvacearum* f. *althaeae*, Amano 1986, Ershad 1971, 1995 as *L. malvacearum* f. *althaeae*).
- Malva* sp.; Hamedan (Amano 1986, Ershad 1971, 1995 as *L. malvacearum*).
- M. neglecta* Wallr.; ?, Tabriz (Ershad 1971, 1995 as *L. malvacearum*, Niknam & Guya 1999).
- M. sylvestris* L.; Karaj, Shahriar (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. malvacearum*).
- L. cylindrospora*** U. Braun
- Chenopodium* sp.; Mashhad (Aeenfar 2006).
- C. album* L.; Tabriz (Niknam & Guya 1999).
- Kochia scoparia* L.; Mashhad (Aeenfar 2006).
- Noaea mucronata* (Forssk.) Asch. & Schweinf.; Ghazvin, Jirandeh, Zanjan (Ershad 1971, 1995 as *L. chenopodiacearum* Golov., Khodaparast et al. 2001).
- N. spinosissima* Moq.; Ghorgan (Ershad 1971, 1995 as *L. chenopodiacearum*).
- Salsola canescens* Boiss.; Kuhe jupar (Magnus 1899 as *E. taurica* Lév., Amano 1986 as *L. taurica*, Ershad 1995, as *L. chenopodiacearum*).
- S. kali* L.; Roodbar, Mashhad (Khodaparast et al. 2001, Aeenfar 2006).
- L. duriaei*** (Lév.) U. Braun
- Phlomis* cf. *anisodonta* Boiss.; Hamedan, Chashme malek-Alvand*.
- Phlomis herba-venti* L.; ? (Amano 1986 as *L. taurica*, Ershad 1995 as *L. labiatarum* Golovin, Braun 1987).
- P. persica* Boiss.; Faridan, Thakhte Solieman, Khomein, Fars, Sivand, Isfahan, 20 km NW of Daran (Sarifnabi & Banihashemi 1990, Ershad 1995 as *L. labiatarum*).
- Salvia* sp.; Fasham, Ghorogh, Hamedan, Chashme malek-Alvand*, (Amano 1986, Ershad 1971, 1995, *L. labiatarum*).
- Salvia hypoleuca* Benth.; Jajroud protected region (Kachooeian Javadi et al. 2006).
- S. limbata* C. A. Mey.; Karaj (Ershad 1971, 1995 as *L. labiatarum*).
- S. nemorosa* L.; Ebrahim abad, Amarlu, Ardebil-Khalkhal road*, Meshkinshahr-Ahar road*, Zanjan-Miyaneh road*, Orumieh, Ballanj village*, Orumieh-Sero road* (Amano 1986, Ershad 1995 as *L. taurica* f. *salviae* (Jacq.) Golovin, Khodaparast et al. 2001).

- S. pseudo-silvestris* Stapf; Karaj (Petraik & Esfandiari 1941, Esfandiari 1946b, Golato 1960, Amano 1986, Ershad 1995 as *L. labiatarum*).
- S. virgata* Jacq.; ? (Amano 1986).
- L. guilanensis*** Khodap. & Hedjar.
- Chondrilla juncea* L.; Karaj, Tabriz, Roodbar, Zanjan*, Mashhad (Amano 1986 as *L. taurica*, Ershad 1995, as *L. compositarum* Golovin, Khodaparast et al. 2002, Aeenfar 2006).
- L. lactucae-serriolae*** Khodap. & Hedjar.
- Lactuca* sp.; Darzin, Sabzevaran (Amano 1986, Ershad 1995 as *L. compositarum*).
- L. scarioloides* Boiss.; Shahrood (Ershad 1995 as *L. compositarum*).
- L. serriola* L.; Mahidasht, Karaj, Jajroud protected region, Isfahan-Mobarakeh road*, Mashhad (Ershad 1995 as *L. compositarum*, Khodaparast et al. 2002, Kachooeian Javadi et al. 2006, Aeenfar 2006 as *L. lactucarum*).
- L. azerbaijanica* Rech. f.; Tabriz (Niknam & Guya 1999).
- L. lanuginosa*** (Fuekel) Golovin
- Daucus carota* L.; Manjil, Tabriz-Marand road* (Khodaparast et al. 2001).
- D. carota* L. subsp. *maximus* (Desf.) Ball; Karaj, Tehran (Amano 1986, Mohammadi-Doustdar 1967, Ershad 1995 host name as *Daucus maximus* Desf.).
- Echinophora sibthorpiana* Guss.; Jirandeh (Khodaparast et al. 2001).
- Foeniculum piperitum* Sweet.; Ray (Khabiri 1956 as *L. taurica*, Amano 1986 as *L. taurica*, Ershad 1995).
- F. vulgare* Mill.; Ahvaz, Marand, Shiraz (Viennot-Bourgin 1958 as *L. taurica*, Amano 1986 as *L. taurica*, Mohammadi-Doustdar 1967 as *L. taurica*, Ershad 1995).
- L. loranthi*** Hajian, Moharrery & Hedjar
- Loranthus europaeus* Jacq.; Ilam (Hajian et al. 1999).
- L. mindii*** Khodap. & Hedjar.
- Mindium laevigatum* (Vent.) Rech f. & Schiman-Czeika; Karaj (Hedjaroude & Abbasi 2000 as *L. taurica*, Khodaparast et al. 2002).
- L. picridis*** (Castagne) Durrieu and Rostam
- Picris strigosa* M.B. subsp. *goniocala* (Boiss.) Lack; Golestan national park, Roodbar* (Tajik-Ghanbary 2005 as *L. taurica*).
- L. rubiae*** Khodap., U. Braun & Hamz. Zarghan.
- Rubia tinctorum* L.; Yazd (Khodaparast et al. 2000).
- L. saxaouli*** (Sorokin) Golovin
- Haloxylon ammodendron* (C.A.Mey.) Bunge ex E. Fenzl; Rafsanjan, Sabzevar, Shahrud, Varamin (Amano 1986 as *L. taurica*, Ershad 1995).
- L. simonianii*** U. Braun

Thevenotia persica DC.; Ghorogh, Tehran (Magnus 1899 as *Er. taurica*, Amano 1986 as *L. taurica*, Ershad 1971, 1995 as *L. thevenotiae* (Jacz.) Golovin).

T. scabra Boiss.; Bisheh, Karaj, Soltan abad, Tehran, Lorestan (Magnus 1899 as *E. taurica*, Petrak 1949 as *L. taurica*, Esfandiari 1948 as *L. taurica*, Amano 1986 as *L. taurica*, Ershad 1995 as *L. thevenotiae*).

L. taurica (Lév.) Arnaud

Acanthophyllum sp.; Maygun (Esfandiari 1946a, Amano 1986, Ershad 1995 as *L. caryophyllacearum* Golovin).

A. crassifolium Boiss.; Egil (Bornmüller 1908 as *E. taurica*, Amano 1986, Ershad 1995 as *L. caryophyllacearum*).

A. glandulosum Bunge ex Boiss.; ? (Amano 1986, Ershad 1995 as *M. bornmuelleriana* Magnus).

A. microcephalum Boiss.; Karaj (Hedjaroude & Abbasi 2000).

Achillea santolina L.; Damavand, Karaj (Viennot-Bourgin 1958, Mohammad-Doustdar 1967, Amano 1986, Ershad 1995 as *L. compositarum*).

Acroptilon repens (L.) DC.; Tabriz, Karaj, Mashhad, Tehran, Takab-Shahindej road*, Mobarakeh*, Isfahan, Golpayegan-Khansar road*, Samirom-Isfahan road* (Esfandiari 1946a, Petrak and Eskandari 1941, Mohammadi-Doustdar 1967 host name as *Acroptilon picris* DC., Amano 1986 host name as *Acroptilon picris*, Ershad 1971, 1995 as *L. compositarum* f. *centaureae* Jacz., Niknam & Guya 1999, Aeenfar 2006).

Alhagi sp., Zanjan*.

A. camelorum Fisch.; Tabriz (Niknam & Guya 1999).

A. maurorum Medik.; ? (Amano 1986, Aeenfar 2006 host as *A. persuarum*).

Alkanna cf. *orientalis* (L.) Boiss.; Hamedan (Alvand).

Amaranthus caudatus L.; ? (Amano 1986, Ershad 1995).

Ammothamnus lehmannii Bunge; (Amano 1986).

Anethum graveolens L.; ? (Ershad 1971, 1995 as *L. umbeliferarum* Golovin f. *anethi* Golov.).

Anthemis tinctoria L.; Karaj (Yazdani and Abbasi 1998).

Apiaceae (unkown); Mashhad (Ershad 1995 as *L. umbeliferarum*).

Aplophyllum buhsei Boiss.; Karaj (Viennot-Bourgin 1958, Mohammad-Doustdar 1967, Amano 1986, Ershad 1995 as *L. rutacearum* Golovin, host name as *H. buhsei* Boiss.).

Artemisia aucheri Boiss.; Ghorogh (Amano 1986, Ershad 1971, 1995 as *L. compositarum*).

Arctium lappa L.; ? (Amano 1986 as *L. compositarum*).

Astragalus sp.; ? (Amano 1986, Ershad 1995).

- A. florulentus* Boiss. & Haussk.; Hamedan (Amano 1986, Mohammad-Doustdar 1967, Ershad 1995).
- A. kirrindicus* Boiss.; Borujerd (Sepahvand 2008).
- A. multijugus* DC.; Astara, Damavand, Isfahan, Karaj (Amano 1986, Mohammadi-Doustdar 1967, Ershad 1995).
- Capparis spinosa* L.; Ajichy, Gorgan, Karaj, Khuzestan, Roodbar, Mashhad (Esfandiari 1946a, Amano 1986, Ershad 1971, Ebrahimi & Minassian 1973 as *L. capparidacearum* Golovin., Khodaparast et al. 2001, Aeenfar 2006).
- C. spinosa* var. *spinosa*; Golestan national park (Tajik-Ghanbary 1995).
- Capsicum annuum* L.; Shiraz (Banihashemi & Zakeri 1989).
- Cardaria draba* (L.) Desv. subsp. *halepensis* (L.) O. E. Schulz; Isfahan (Amano 1986, Ershad 1995 as *L. cruciferarum* Golovin).
- Carthamus oxyacantha* M. B.; Evin, Golpaygan, Isfahan, Jajroud protected region (Amano 1986, Ershad 1971, 1995 as *L. compositarum* f. *carthami* Jacz., Sharifnabi & Banihashemi 1990, Kachooeian Javadi et al. 2006).
- C. tinctorius* L.; Damavand, Evin, Ghazvin, Karaj, Varamin, Mashhad (Anonymous 1970, Viennot-Bourgin et al. 1970 as *L. compositarum*, Amano 1986, Ershad 1971, 1995 as *L. compositarum* f. *carthami*, Aeenfar 2006).
- Catalpa speciosa* Warder ex Engelm.; Karaj (Petrak & Esfandiari 1941, Esfandiari 1946a, Golato 1960, Scharif & Ershad 1966, Amano 1986, Ershad 1971, 1995 as *L. bignoniacearum* Golovin f. *catalpae* Teich.).
- Caryophyllaceae* (unkown); Hamedan, Cheshmeh malek*.
- Celosia* sp.; Karaj (Khodaparast et al. 2001).
- Celosia cristata* L.; Gorgan, Shemiran (Ershad 1971, Ershad 1995 as *L. chenopodiacearum*, Amano 1986).
- Centaurea* sp.; Isfahan (Sharifnabi & Banihashemi 1990, Ershad 1995 as *L. compositarum* f. *centaureae* Jacz.).
- C. behen* L.; Darakeh, Isfahan, Kuhe dena, (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995 as *L. compositarum* f. *centaureae*).
- C. depressa* M. B.; Tabriz (Amano 1986, Ershad 1995, as *L. compositarum* f. *centaureae*, Niknam & Guya 1999).
- C. iberica* Trevir. ex Spreng.; Mashhad (Aeenfar 2006).
- C. solstitialis* L.; Borujerd (Sepahvand 2008).
- C. solstitialis* subsp. *solstitialis**; Sharekord-Flard road.
- C. virgata* Lam.; Isfahan, Ardebil-Meshkinshahr road*, Mashhad, Borujerd (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. compositarum* f. *centaureae*, Aeenfar 2006, Sepahvand 2008).
- C. virgata* subsp. *squarrosa* (Wild.) Gugler; Golestan national park (Tajik-Ghanbary 1995).

- C. xanthocephalus* Benth. & Hook.; Isfahan (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. compositarum* f. *centaureae*).
- Chaerophyllum macropodium* Boiss; Damavand (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. umbelliferarum*).
- Chrozophora gracilis* Fisch. & Mey. ex Kar.; ? (Amano 1986).
- C. hierosolymitana* Spreng.; Jajroud protected region, Mashhad (Amano 1986, Ershad 1971, 1995 as *L. lanata* (Magnus) Golovin f. *chrozophorreae* Jacz., Kachooeian Javadi et al. 2006, Aeenfar 2006).
- C. obliqua* A.Juss.; Dezful, Khorram abad (Ershad 1995 as *L. lanata* f. *chrozophorreae*).
- C. tinctoria* (L.) A. Juss.; Evin, Ghorgan, Kamal abad, Kan, Lorestan, Amarlu, Karaj (Amano 1986, Ershad 1971, 1995, as *L. lanata* f. *chrozophorreae*, Khodaparast et al. 2001, Sepahvand et al. 2002).
- Cicer arietinum* L.; Azarbajjan, Ghar, Ghazvin, Karaj, Kermanshah, Shahriar, Varamin (Amano 1986, Mohammadi-Doustdar 1967, Sharif & Ershad 1966 as *Oidopsis* sp., Kaiser et al. 1968, as *Erysiphe* sp., Ershad 1971, 1995 as *L. leguminosarum* Golovin f. *ciceris* Jacz.).
- C. cf. spiroceras* Jaub. & Spach*; Hamedan.
- Cichorium intybus* L.; Damavand, Karaj (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, Ershad 1995 as *L. compositarum*).
- Cirsium* sp.; Mahabad, Yasuj (Amano 1986, Ershad 1971, 1995 as *L. compositarum*).
- C. aduncum* Fisch. & C.A. Mey; Borujerd (Sepahvand 2008).
- C. arvense* (L.) Scop.; Isfahan, Tabriz, Jajroud protected region (Sharifnabi & Banihashemi 1990, Niknam & Guya 1999, Ershad 1995 as *L. compositarum*, Kachooeian Javadi et al. 2006).
- C. lanceolatum* Hill; Karaj (Mohammadi-Doustdar 1967, Ershad 1995, *L. compositarum*).
- Clematis orientalis* L.; Shahrestanak (Amano 1986, Ershad 1995 as *L. ranunculacearum* Golovin).
- Cleome glaucescens* DC.; ? (Amano 1986).
- Coriandrum sativum* L.; Mashhad (Amano 1986, Ershad 1971, 1995 as *L. umbelliferarum*).
- Coronilla* sp.; Karaj (Viennot-Bourgin 1958, Ershad 1995 as *L. leguminosarum*).
- C. varia* L.; Karaj (Mohammadi-Doustdar 1967, Amano 1986).
- Cousinia* sp.; Ardekan (Amano 1986, Ershad 1971, 1995 as *L. compositarum*).
- C. bachtiarica* Boiss et. Hausskn.; Faridan (Sharifnabi & Banihashemi 1990, Ershad 1995 as *L. compositarum*).

- C. eryngioides* Boiss., Jajroud protected region (Kachooeian Javadi et al. 2006).
- C. hermonis* Boiss.; (Amano 1986).
- C. keredjensis* Bornm. & Gauba; Karaj (Hedjaroude & Abbasi 2000).
- C. orthoclada* Hausskn. & Bornm.*; Chaharmahal va Bakhtiari, Gandoman, La deraz, Sabz Kuh).
- Crepis asadbarensis* Bornm ex. Rech. f.*; Karaj.
- Cucurbita maxima* Duchesne; Mashhad (Aeenfar 2006).
- Cynara cardunculus* L.; Isfahan (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. compositarum*).
- C. scolymus* L.; ? (Amano 1986).
- Cytisus laburnum* L.; Karaj (Petra & Esfandiari 1941, Esfandiari 1946a, Ershad 1995 as *L. leguminosarum*).
- Daucus maximus* Desf.; ? (Amano 1986).
- Dendrostellera lessertii* Tiegh.; Kuhe alvand (Ershad 1995 as *L. thymelaeacearum* Golovin).
- Dianthus* sp.; Shiraz (Viennot-Bourgin 1958, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. caryophyllacearum*).
- D. barbatus* L.; Tehran (Ershad 1971, Amano 1986, Ershad 1995 as *L. caryophyllacearum*).
- Diarthron vesiculosum* Endl.; Darzin, Sabzevaran (Ershad 1995 as *L. thymelaeacearum*).
- Echinophora sibthorpiana* Guss.; ? (Amano 1986, Ershad 1971, 1995 as *L. umbeliferarum*).
- Echinops ceratophorus* Boiss.; Karaj (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. compositarum*).
- E. pungens* Trautv.; Shahindej-Takab*.
- E. ritro* L.; Damavand (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. compositarum*).
- Elaeagnus angustifolia* L.; Borujerd, Darzin, Sabzevaran, Karaj, Lorestan, Kerman, Rafsanjan, Shiraz, Tabriz, Tehran, Loshan, Zanjan (Petra & Esfandiari 1941, Esfandiari 1946a, Khabiri 1956, Viennot-Bourgin 1958, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995 as *L. eleagnacearum* Golovin, Khodaparast et al. 2001).
- E. latifolia* L.; ? (Amano 1986, Ershad 1995 as *L. eleagnacearum*).
- Epilobium hirsutum* L.; Karaj (Amano 1986, Ershad 1971, 1995, Hedjaroude & Abbasi 2000).
- Eryngium* sp., Ghazvin (Amano 1986, Ershad 1971, 1995 as *L. umbeliferarum*).
- E. biehersteinianum* Nevski; ? (Ershad 1995 as *L. umbeliferarum*).

- E. bungei* Boiss.; ? Mashhad (Amano 1986, Ershad 1995 as *L. umbeliferarum*, Aeenfar 2006).
- E. campestre* L.; ? (Amano 1986).
- E. caeruleum* M. B.; Astara, Hamedan, (Amano 1986, Ershad 1971, 1995 as *L. umbeliferarum*).
- E. noeanum* Boiss.; Shah Kuh (Magnus 1899 as *E. taurica*, Amano 1986, Ershad 1995 as *L. umbeliferarum*).
- E. thyrsoideum* Boiss.; Takab-Dendi road*.
- Euphorbia* sp.; Gorgan, Tole khosrow (Esfandari 1948, Amano 1986, Ershad 1971, 1995 as *L. lanata*).
- E. macroclada* Boiss.; ? (Amano 1986, Ershad 1995 as *L. lanata*).
- E. petiolata* Banks & Soland.; Evin, Fars, Karaj, Tehran, Khozestan, Izeh (Magnus 1899 as *E. lanatae* P. Magn., Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. lanata*).
- Exochorda alberti* Rgel; ? (Amano 1986).
- Glaucium elegans* Fisch. & C. A. Mey.; Damavand (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. papaveracearum* Golovin).
- Glycyrrhiza asperrima* L. f.; Jajrud, Kan, Karaj (Petra & Esfandiari 1941, Eskandari 1946, Khabiri 1956, Ershad 1971, Amano 1986, Ershad 1995 as *L. leguminosarum* f. *glycyrriza* Jacz.).
- G. glabra* L.; Borujerd, Ghorogh, Mashhad, Shiraz, Sorkheh, Manjil (Esfandiari 1946a, Ershad 1971, Amano 1986, Ershad 1995 as *L. leguminosarum* f. *glycyrriza*, Khodaparast et al. 2001).
- Gossypium* sp.; Isfahan (Ershad 1971, 1995 as *Oidiopsis gossypii* (Wakef.) Raych., Amano 1986).
- Gundelia tournefortii* L.; Karaj, Kuhe bozghush, Shahindej-Takab road, Jajroud protected region (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995 as *L. compositarum*, Kachooeian Javadi et al. 2006).
- Gypsophila elegans* M.Bieb.; Hamedan (Viennot-Bourgin 1958, Amano 1986, Ershad 1995 as *L. caryophyllacearum*).
- Haplophyllum* sp.; Ghorgan, Karaj (Mohammadi-Doustdar 1967, Ershad 1971, 1995 as *L. rutacearum*).
- H. buxbaumi* (Por.) G. Don.; Karaj (Mohammadi-Doustdar 1967, Amano 1986 Ershad 1995 as *L. rutacearum*).
- H. perforatum* (M. B.) Kar. et Kir.; Alangeh, Ghazvin, Hamedan, Mashhad, Mianeh, Khalkhal, Golestan national park, Jajroud protected region, Karaj (Esfandiari 1946b, Ershad 1971, 1995 as *L. rutacearum*, Tajik-Ghanbary 1995, Kachooeian Javadi et al. 2006).
- Helianthus annuus* L.; Isfahan, Khenamon, Mashhad (Amano 1986, Sharifnabi & Banihashemi 1990, Ershad 1995 as *L. compositarum*, Aeenfar 2006).

Heliotropium europeum L.; Dezful (Amano 1986, Ershad 1995 as *L. boraginacearum* Golovin).

Heracleum anisactis Boiss. & Hohen.; Chalus (Viennot-Bourgin et al. 1970, Amano 1986, Ershad 1995 as *L. umbelliferarum*).

H. persicum Desf.; Karaj, Yasyj, Komehr (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1971, 1995 as *L. umbelliferarum*).

Hibiscus cannabinus L.; Dezful, Varamin (Scharif & Ershad 1966, Scharif & Akhavizadegan 1967, Ebrahimi and Minasian 1973 as *L. malvacearum*, Amano 1986, Ershad 1971, 1995 as *L. malvacearum* f. *hibisci* Zaprom.).

Hyoscyamus leucanthera Bornm. & Gauba.; Mashhad (Ershad 1971, 1995 as *L. solanacearum* Golovin).

H. niger L.; Karaj, Jajroud protected region (Kachooeian Javadi et al. 2006, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. solanacearum*, Kachooeian Javadi et al. 2006).

H. pojarkovae Schönb.-Tem.; Tabriz (Niknam & Guya 1999).

H. pusillus L.*; Khalkhal.

Hypericum perforatum L.; Fasham, Karaj (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. guttiferarum* Golovin).

Impatiens sp.; Karaj (Khodaparast et al. 2002).

Impatiens balsamina L.; Gorgan (Amano 1986, Ershad 1995 as *L. balsaminacearum* Golovin).

Laburnum anagyroides Medik.; ? (Amano 1986).

Lactuca orientalis Boiss.; Ghazvin, Golestan national park (Viennot-Bourgin et al. 1970, Ershad 1995, host name as *Scariola orientalis* (Boiss.) Sojak, both records as *L. compositarum*, Tajik-Ghanbary 1995).

Launaea acanthodes (Boiss) O. Kuntze; Isfahan* (Amano 1986, Ershad 1995 as *L. compositarum*).

Lathyrus incurvus (Roth) Willd.; Karaj (Esfandiari 1946a, Amano 1986, Ershad 1995 as *L. leguminosarum*).

Leptorhabdos parviflora Benth.; Karaj (Petrak & Esfandiari 1941, Esfandiari 1946b, Amano 1986, Ershad 1995 as *L. scrophulariacearum* Golovin).

Levisticum officinale W.D.J. Koch; Karaj (Petrak & Esfandiari 1941, Esfandiari 1946b, Ershad 1995 as *Oidiopsis sicula* Scalia).

Lotus corniculatus L.; Borujerd (Ershad 1971, Amano 1986, Ershad 1995 as *L. leguminasearum*).

Lycopersicum esculentum Mill.; Shiraz, Karaj, Rasht* (in greenhouse), Mashhad (Banhashemi & Zakeri 1996, Aeenfar 2006).

Medicago sp.; Evin, (Amano 1986, Ershad 1971, 1995 as *L. leguminasearum*).

- M. falcata* L.; Fasham (Amano 1986, Ershad 1971, Ershad 1995 as *L. leguminosearum*).
- M. lupulina* L.; Evin (Amano 1986, Ershad 1995 *L. taurica* f. *medicaginis* Jacz.).
- M. sativa* L.; widespread (Manuchehri 1964 as *Leveillula* sp., Viennot-Bourgin 1958, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Daftari and Behdad 1968, Ershad 1971, Amano 1986, Sharifnabi & Banihashemi 1990, Ershad 1995 as *L. leguminosearum*, Tajik-Ghanbary 1995, Niknam & Guya 1999, Hedjaroude & Abbasi 2000, Aeenfar 2006).
- Melandrium pratense* Roehl.; Tabriz (Ershad 1995 as *L. taurica* f. *caryophyllacearum*).
- Onobrychis* sp.; Khoram abad (Sepahvand et al. 2002).
- O. galegifolia* Boiss.; Sanandaj, Paveh (Ershad 1995 as *L. leguminosearum*).
- O. gaubae* Bornm., Jajroud protected region (Kachooeian Javadi et al. 2006).
- O. chorassanica* Bunge ex Boiss.; Golestan national park (Tajik-Ghanbary 2005).
- O. montana* DC.; ? (Amano 1986).
- O. viciifolia* Scop.; widespread (Viennot-Bourgin 1958, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Daftari and Behdad 1968, Amano 1986, Sharifnabi & Banihashemi 1990, Ershad 1995 as *L. leguminosearum*, Sepahvand 2008).
- Ononis leiosperma* Boiss.; Karaj (Esfandiari 1948, Amano 1986, Ershad 1971, 1995).
- O. spinosa* L.; Chaharmahal Bakhtiari, Gandoman, Borujerd (Sepahvand 2008).
- Papaver* sp., Ramin (Ershad 1971, Ebrahimi & Minassian 1973, Amano 1986, Ershad 1995 as *L. papaveracearum*).
- Peganum harmala* L.; Widespread (Esfandiari 1946b, Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Daftari & Behdad 1968, Ershad 1971, Amano 1986, Ershad 1995, Tajik-Ghanbary 1995, Niknam & Guya 1999, Khodaparast et al. 2001, Kachooeian Javadi et al. 2006, Aeenfar 2006).
- Phlox drummondii* Hook.; ? (Amano 1986, Ershad 1995 as *L. polemoniacearum* Golovin).
- P. pyramidalis* S. M.; Karaj (Amano 1986, Mohammadi-Doustdar 1967, Ershad 1995 as *L. polemoniacearum*).
- Plumbago europaea* L.; Ghorogh, Salmas (Esfandiari 1948, Amano 1986, Ershad 1971, 1995 as *L. plumbaginacearum* Golovin).
- Prangos haussknechtii* Boiss.; ? (Amano 1986, Ershad 1995 as *L. umbelliferarum*).
- P. uloptera* DC.; Pasghalleh (Ershad 1995 as *L. umbelliferarum*).

Reseda lutea L.; Karaj, Damavand (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995).
Robinia pseudoacacia L.; Karaj (Mohammadi-Doustdar 1967, Ershad 1995).
Rosa persica J.F.Gmel.; Khorasan (Aeenfar 2006).
Ruta sp.; (Amano 1986).
R. acutifolia DC.; Maygoon (Esfandiari 1946a, host name as *Haplophyllum acutifolium* (DC.). G. Don, Amano 1986 host name as *Ruta sieversiana* B. Fedtsch.).
Sanguisorba sp., Hamedan*.
S. minor Scop.; Khoy (Ershad 1995 as *L. taurica* f. *scabiosae* (Jacz.) Golovin).
Scabiosa olivieri Coult.; ? (Amano 1986, Ershad 1971, 1995 as *L. dipsacearum* Golov.).
S. ucranica L.; ? (Amano 1986).
Scutellaria multicaulis Boiss.; ? (Amano 1986).
Senecio persicus Boiss.L.; ? (Amano 1986, Ershad 1995 as *L. compositarum*).
Serratula latifolia Boiss.; ? (Amano 1986, Ershad 1995 as *L. compositarum*).
Sesamum indicum L. Yazd (Abassi et al. 2003).
Silybum marianum (L.) Gaertn.; Karaj (Yazdani and Abbasi 1998).
Silene sp.; Hamedan.
Solanum melongera L.; Ghasre shirin (Amano 1986, Ershad 1971, 1995 as *L. solanacearum*).
Sophora alopecuroides L.; Karaj, Tabriz (Mohammadi-Doustdar 1967, Ershad 1995, Niknam & Guya 1999).
Spartium junceum L.; Karaj, (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 as *L. leguminosarum*).
Stachys palaestina L.; ? (Ershad 1995 as *L. labiatarum*).
Taraxacum syriacum Boiss.; Chaharmahal va Bakhtiari, Brujen, Siah Sard spring (Amano 1986, as *L. compositarum* and host name as *T. denudatum* Boiss.).
T. montanum (C. A. Mey.) DC.; Damavand, Karaj, Pasghalleh (Mohammadi-Doustdar 1967, Ershad 1995)
Thymus kotschyanus Boiss. & Mohen.; Hamedan (Alvand).
Tropaeolum majus L.; Ahvaz, Dezful, Karaj, Hamadan, Shiraz, Tehran (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Ershad 1971, Ebrahimi & Minassian 1973, Amano 1986, Ershad 1995).
Verbena sp.; ? (Amano 1986, Ershad 1995).
V. officinalis L.; ? (Amano 1986).
Vicia variabilis Freyn & Sint. ex Freyn; Karaj, Khalkhal-Ardebil road (Hedjaroude & Abbasi 2000).
V. faba L.; ? (Amano 1986).

V. tenuifolia Roth; ?(Amano 1986).
Vincetoxicum medium Decne.;? (Amano 1986, host name as *Vincetoxicum funebre* Boiss. & Kotschy).
Zygophyllum fabago L.; Rafsanjan, Roodbar, Golestan national park, Jajroud protected region (Ershad, 1971, Amano 1986, Ershad 1995, Tajik-Ghanbary 1995, Khodaparast et al. 2001, Kachooeian Javadi et al. 2006)

L. verbasci (Jacz.) Golovin
Verbascum sp.; Fasham, Hamedan, Khoramabad (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 all records as *L. taurica*, Sepahvand et al. 2002).
V. phlomoides L.; Karaj, Shemiran (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 all records as *L. taurica*).
V. sinuatum L.; ? (Amano 1986, Ershad 1971, 1995 all records as *L. taurica*).
V. sinuatum var. *adenosepalum* Murb.; ? (Amano 1986 as *L. taurica*).

Neoerysiphe U. Braun
N. galeopsidis (DC.) U. Braun
syn.: *E. galeopsidis* DC.
Lamium amplexicaule L.; Karaj (Esfandiari 1946a, Khabiri 1956, Viennot-Bourgin 1958, Amano 1986, Ershad 1995 all records as as *E. galeopsidis*).
Leonurus cardiaca L.; Deileman, Khalkhal-Ardebil road* (Khodaparast et al. 2000 as *E. galeopsidis*).
Mentha sylvestris L.; ? (Ershad 1995 as *E. galeopsidis*).
M. pulegium L., Hamedan*.
Phlomis sp.; ? (Pettrak 1953, Amano 1986, Ershad 1971, Ershad 1995 all recrd as as *E. galeopsidis*).
P. orientalis Mill.; Purkan (Amano 1986, Ershad 1971, Ershad 1995 all records as *E. galeopsidis*).
P. pungens Willd.; Azarbaijan (Amano 1986, Ershad 1995 both records as *E. galeopsidis*).
Prunella grandiflora Jacq.; Damavand (Mohammadi-Doustdar 1967 as *E. labiatarum* (Wallr.) Chev., Ershad 1995 as *E. galeopsidis*).
Stachys arvensis L.; ? (Khabiri 1958, Amano 1986, Ershad 1995 all records as *E. galeopsidis*).

N. galii (S. Blumer) U. Braun
syn.: *E. galii* S. Blumer
Galium sp. ?, Amarlu (Amano 1986, Ershad 1971, Ershad 1995, Khodaparast et al. 2000).
Phuopsis stylosa Benth. & Hook.f.; Talesh, Amarlu (Khodaparast et al. 2000).

Phyllactinia Lév.

***Phyllactinia* sp.**

Salix aegyptiaca L.; Arasbaran forest (Pirnia et al. 2007).

***Ph. babayanii* Simonyan**

Prunus horrida (Spach) Schneider; Karaj (Mohammadi-Doustdar 1967 as *P. suffulta* (Rebent.) Sacc., host name as *Amygdalus reuteri* Boiss. & Buhse, Pirnia et al. 2007).

P. dulcis (Mill.) D.A. Webb; Eghlid, Isfahan, Ghamsar, Kashan, Shahreza, Sharafkhaneh, Shabastar-Tasuj road, Taft (Petrak 1953 as *P. suffulta*, Scharif & Ershad 1966, Viennot-Bourgin et al. 1970, Ershad 1971, 1995 as *Ph. guttata* (Wall. : Fr.) Lév., Pirnia et al. 2007).

P. lycioides C.K. Schneid.; ? (Mohammadi-Doustdar 1967, Amano 1986 as *Ph. suffulta*, Ershad 1995, Pirnia et al. 2007).

***Ph. fraxini* (DC.) Fuss**

Chionanthus virginica L.; ? (Amano 1986 as *Ph. suffulta*, Mohammadi-Doustdar 1967 as *Ph. suffulta*, Ershad 1995 as *Ph. guttata*).

Fraxinus sp.; Asalem-Khalkhal road, Masuleh, Siakal-Deileman road (Khodaparast et al. 2001).

F. excelsior L.; Ghazvin, Karaj, Tabriz, Golestan national park, Fuman, Arasbaran forest (Khabiri 1958 as *Ph. suffulta*, Scharif & Ershad 1966 as *Ph. guttata*, Viennot-Bourgin et al. 1970 as *Ph. suffulta*, Amano 1986 as *Ph. suffulta*, Ershad 1971, 1995 as *Ph. fraxini* (DC.) Homma, Tajik-Ghanbary 1995, Niknam & Guya 1999, Pirnia et al. 2007).

F. platycarpa Michx.; Karaj (Esfandiari 1946a as *Ph. corylea* Pers., Amano 1986 as *Ph. suffulta*).

***Ph. guttata* (Wall. : Fr.) Lév.**

Alnus sp.; ? (Amano 1986 as *Ph. suffulta*).

A. glutinosa Medik.; Mazanderan, Rostam abad, Masuleh, Shaft, Amlash, Ziyabar-Talesh road*, Ramsar (Esfandiari 1946a as *Ph. corylea*, Khabiri 1958 as *Ph. suffulta*, Scharif & Ershad 1966, Ershad 1971, Amano 1986 as *Ph. suffulta*, Ershad 1995, Khodaparast et al. 2001, Pirnia et al. 2007).

Carpinus betulus L.; Masuleh, Ardabil, Arasbaran forest (Pirnia et al. 2007).

Catalpa speciosa Warder ex Engelm.; Karaj (Scharif & Ershad 1966).

Corylus avellana L.; Astara, Damavand, Ghazvin, Karaj, Kelar dasht, Shemiran, Tehran, Amarlu, Masuleh, Sufiyan to Shabastar road*, Sumaehsara, Tonekabon, Amlash, Arasbaran forest (Esfandiari 1946a as *Ph. corylea*, Khabiri 1952, Amano 1986, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Ershad 1971, Amano 1986 as *Ph. suffulta*, Ershad 1995, Khodaparast et al. 2001, Pirnia et al. 2007).

Cornus sp.; Arasbaran forest (Pirnia et al. 2007).

Cornus sanguinea L.; Arasbaran forest (Pirnia et al. 2007).

- C. sanguinea* L.; subsp. *australis* (C. A. Meyer) Jav., Karaj (Hedjaroude & Abbasi 2000).
- Cydonia* sp.; ? (Amano 1986 as *Ph. suffulta*).
- C. oblonga* Mill.; Gorgan (Amano 1986 as *Ph. oxyacanthae* (DC.) de Bary, Ershad 1995 as *Ph. mespili* (Castagne) S. Blumer).
- Fagus grandifolia* Ehrh.; ? (Amano 1986 as *Ph. suffulta*).
- F. orientalis* Lipsky; Mazandaran, Asalem-Khalkhal road (Amano 1986 as *Ph. suffulta*, Ershad 1995, Khodaparast et al. 2001).
- F. sylvatica* L.; Mazandaran (Esfandiari 1946a as *Ph. corylea*, Scharif & Ershad 1966, Amano 1986 as *Ph. suffulta*).
- Lonicera iberica* M. Bieb.; Arasbaran forest (Tavanaei et al. 2002).
- Paliurus spina-christi* Mill.; Astara, Talesh to Astara road, Golestan national park, Arasbaran forest (Viennot-Bourgin 1958 host name as *Ph. aculeatus* Lam., Amano 1986 as *Ph. suffulta*, Ershad 1995, Tajik-Ghanbary 1995, Pirnia et al. 2007).
- P. spina-christi* Mill. var. *spina-christi*; Jirandeh-Loshan road (Khodaparast et al. 2001).
- Parietaria officinalis* L.; Roodbar, Gorgan (Khodaparast et al. 2000, Pirnia et al. 2007).
- Prunus armeniaca* L.; Mashhad (Pirnia et al. 2007).
- P. cerasus* L.; ? (Amano 1986 as *Ph. suffulta*, Ershad 1995).
- P. persica* L.; Karaj (Mohammadi-Doustdar 1967 as *Ph. suffulta*).
- P. divaricata* Ledeb.; Golestan national park (Tajik-Ghanbary 2005).
- Pyrus amygdaliformis* Vill.; Karaj, Tehran vicinity (Amano 1986 as *Ph. suffulta*, Mohammadi-Doustdar 1967 as *Ph. suffulta*, Ershad 1995).
- P. communis* L.; Azarbaijan, Caspian sea area, Isfahan, Karaj, Khorasan, Tehran vicinity, Orumieh (Scharif & Ershad 1966, Ershad 1971, Amano 1986 as *Ph. suffulta*, Ershad 1995, Pirnia et al. 2007).
- P. salicifolia* Pall.; Arasbaran forest (Amano 1986 as *Ph. suffulta*, Mohammad-Doustdar 1967 as *Ph. suffulta*, Ershad 1995, Pirnia et al. 2007).
- Sorbus aria* (L.) Crantz; (Scharif & Ershad 1966).
- S. graeca* (Spach) Kotschy; ? (Amano 1986 as *Ph. suffulta*, Ershad 1995).
- Ulmus* sp.; Karaj (Scharif & Ershad 1966, Ershad 1971, Amano 1986 as *Ph. suffulta*, Ershad 1995).
- U. glabra* Huds.; Karaj, Tehran vicinity (Mohammadi-Doustdar 1967 as *Ph. suffulta*, Amano 1986 *Ph. suffulta*, Ershad 1995).
- Ph. mali*** (Duby) U. Braun
- Crataegus* sp.; Karaj, Golestan national park, Amlash, Masuleh, Shaft, Rasht, Talesh to Astara road (Amano 1986 as *Ph. oxyacanthae*, Mohammadi-Doustdar 1967 as *Ph. mespili*, Ershad 1995 as *Ph. mespili*, Tajik-Ghanbary 1995, Hedjaroude & Abbasi 2000, Pirnia et al. 2007).

- C. meyeri* Pojark.; Arasbaran forest (Pirnia et al. 2007).
- C. microphylla* K. Koch var. *dolichocarpa* (Simmoier & Levier) Hend.-Mazt.; Masuleh (Khodaparast et al. 2001 as *Ph. guttata*).
- C. monogyna* Jacq.; Karaj (Esfandiari 1946a as *Ph. mespili*, Amano 1986 as *Ph. oxyacanthae*, Scharif & Ershad 1966, Mohammadi-Doustdar 1967 as *Ph. mespili*, Ershad 1971, 1995 as *Ph. mespili*).
- C. pentagyna* Waldst. & Kit. ex Willd.; Ebrahim abad (Khabiri 1958 as *Ph. mespili*, Amano 1986 as *Ph. mespilii*, Ershad 1995 as *Ph. mespili*).
- Mespilus germanica* L.; Karaj, Golestan national park, Talesh to Astara road, Rasht, Arasbaran forest, Amlash (Scharif & Ershad 1966 as *Ph. guttata*, Mohammadi-Doustdar 1967 as *Ph. mespili*, Amano 1986 as *Ph. suffulta*, Ershad 1995 as *Ph. mespili*, Tajik-Ghanbary 1995, Pirnia et al. 2007).
- Ph. moricola*** (Henn.) Homma
- Morus* sp.; Caspian sea area, Karaj (Scharif & Ershad 1966, Ershad 1971, 1995, Amano 1986, Khodaparast et al. 2001 as *Ph. guttata*, Pirnia et al. 2007).
- M. alba* L.; Mashhad (Scharif & Ershad 1966 as *Phyllactinia* sp., Aeenfar 2006 as *Ph. guttata*).
- M. nigra* L.; ? (Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995).
- Ph. pistaciae*** H.D. Shin & Y.J. Choi
- Pistacia mutica* Fisch. and Mey.; Jabal barez (Amano 1986 as *Ph. suffulta*, Ershad 1995 as *Ph. imperialis* Miyabe).
- P. khinjuk* Stocks; Tabas (Pirnia et al. 2007).
- P. vera* L.; Damavand, Ghazvin, Jabal barez, Kerman, Rafsanjan, Zarand (Esfandiari 1948 as *Ph. corylea*, Khabiri 1958 as *Ph. suffulta*, Scharif & Ershad 1966 as *Ph. guttata*, Amano 1986 as *Ph. suffulta*, Ershad 1971, 1995 as *P. imperialis*).
- Rhus cotinus* L.; Tehran (Amano 1986 as *Phyllactinia* sp., Scharif & Ershad 1966 as *Ph. guttata*, Ershad 1971, 1995 as *Ph. imperialis*).
- Ph. roboris*** (Gachet) S. Blumer
- Quercus* sp.; ? (Scharif & Ershad 1966, Amano 1986 as *Ph. suffulta*).
- Q. macranthera* Fisch. & Mey. ex Hohen.; Arasbaran forest (Tavanaei et al. 2005, Pirnia et al. 2007).
- Q. petraea* (Matt.) Liebl.; Arasbaran forest (Tavanaei et al. 2001).
- Podosphaera*** Kunze
- P. aphanis*** (Wallr.) U. Braun & S. Takam. var. ***aphanis***
syn.: *Sphaerotheca aphanis* (Wallr.) U. Braun var. *aphanis*
- Agrimonia eupatoria* L.; Karaj, Meshkinshahr-Ahar road (Petrak & Esfandari 1941 as *S. macularis* (Wall. ex Fr.) Magnus, Esfandiari 1946a as *S. humuli* DC., Amano 1986 as *S. macularis*, Ershad 1995 as *S. macularis*).

Alchemilla sp.; Fasham (Ershad 1971, Amano 1986, Ershad 1995 all records as *S. macularis*).

A. persica Rothm.; Karaj (Hedjaroude & Abbasi 2000 as *S. aphanis*).

P. aphanis (Wallr.) U. Braun & S. Takam. var. ***hyalina*** U. Braun

Potentilla hirta L.; Karaj-Chalus road*.

P. pedata Willd. ex Hornem.; Golestan national park (Tajik-Ghanbary 2005 as *S. aphanis*).

P. balsaminae (Kari ex U. Braun) U. Braun & S. Takam.

Impatiens noli-tangere L.; Asalem (Amano 1986, Ershad 1971, 1995 as *S. fusca* (Fr.) Blumer).

P. clandestina (Wallr. : Fr.) Lév.

Crataegus sp.; Zarringol, Golestan national park (Ershad 1995, Tajik-Ghanbary 1995).

C. monogyna Jacq.; Damavand (Mohammadi-Doustdar 1967 as *P. oxyacanthae* (Wallr. : Fr.) Lév., Amano 1986 as *P. oxyacanthae*, Ershad 1995).

C. oxyacantha L.; Damavand (Viennot-Bourgin 1958 as *P. oxyacanthae*, Amano 1986, Ershad 1995).

P. clandestina (Wallr. : Fr.) Lév. var. ***cydonia*** N. Ahmad, A.K. Sarbhoy & Kamal

Cydonia oblonga Mill.; Ajabshir, Borujerd, Karaj, Malayer, Mashhad, Nishabur, Roodbar, Khalkhal-Ardebil (Khabiri 1958 as *P. oxyacanthae*, Sharif and Ershad 1966 as *P. leucotricha* (Ell. and Ev.) Salm., Mohammadi-Doustdar 1967 as *P. oxyacanthae*, Ershad 1971 as *P. clandestina*, Ershad 1995 as *P. clandestina*, Khodaparast et al. 2000, Aeenfar 2006 as *P. clandestina*).

P. dipsacacearum (Tul. & C. Tul.) U. Braun & S. Takam.
syn.: *S. dipsacearum* (Tul. & C. Tul.) L. Junell

Cephalaria syriaca (L.) Schrad, Hamedan, Bakhtaran (Ershad 1995, as *S. fuliginea* (Schltdl. : Fr.) Pollacci).

Scabiosa persica Boiss.; Zanjan*.

P. erodii (Durrieu & Mont.) U. Braun & S. Takam.
syn.: *S. erodii* (Durrieu & Mont.) Rayss

Erodium cicutarium (L.) L'Her. ex Aiton; Amarlu (Khodaparast et al. 2001).

P. euphorbiae (Castagne) U. Braun & S. Takam.
syn.: *S. euphorbiae* (Castagne) E.S. Salmon

Chrozophora tinctoria (L.) A. Juss.; ? (Amano 1986, Ershad 1995 as *S. euphorbiae*).

Euphorbia sp.; Fars (Amano 1986, Banihashemi & Zakeri 1989, Ershad 1971, 1995 as *S. euphorbiae*).

E. esula L.; Kashan (Mohammadi-Doustdar 1967 as *S. euphorbiae*).

- E. macroclada* Boiss.; Hamedan, Damavand (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986, Ershad 1995 all records as *S. euphorbiae*).
- E. teheranica* Boiss., Jajroud protected region (Kachooeian Javadi et al. 2006).
- P. ferruginea*** (Schltdl. : Fr.) U. Braun & S. Takam.
syn.: *S. ferruginea* (Schltdl. : Fr.) L. Junell.
Sanguisorba sp.; Karaj, Isfahan-Samirom road* (Hedjaroude & Abbasi 2000 as *S. ferruginea*).
- S. minor* Scop.; Ardebil*, Mashhad (Aeenfar 2006).
- S. minor* Scop. subsp. *muricata* (Spach.) Briq.; ? (Khabiri 1958 as *S. sanguisorbae* (DC.) S. Blumer, Amano 1986 *S. macularis*, Ershad 1995 as *S. ferruginea*).
- P. fugax*** (Penz. & Sacc.) U. Braun & S. Takam.
syn.: *S. fugax* Penz. & Sacc.
Geranium sp.; Kandeivan, Karaj, Lahijan, Rasht*, Tarom* (Petrak & Esfandiari 1941, Esfandiari 1946a as *S. humuli* DC., Esfandiari 1946b as *S. fugax*, Amano 1986 as *S. fugax*, Ershad 1995 as *S. fugax*).
- G. dissectum* L.; Lahijan (Amano 1986 as *S. fugax*, Ershad 1971, 1995 as *S. macularis*).
- P. fusca*** (Fr.) U. Braun & S. Takam.
syn.: *S. fusca* (Fr.) S. Blumer
Arctium majus Bernh.; ? (Mohammadi-Doustdar 1967).
Centaurea babylonica L.; ? (Amano 1986 as *S. fuliginea*).
- Erigeron candensis* L.; Lahijan (Viennot-Bourgin 1958 as *S. fuliginea*, Amano 1986 as *S. fuliginea*, Ershad 1995 as *S. fuliginea*).
- Peganum harmala* L.; Tabriz (Niknam & Guya 1999 as *S. fusca*).
- Taraxacum* sp.; Amarlou, Tabriz, Zanjan (Niknam & Guya 1999, Khodaparast et al. 2000 as *S. fusca*).
- T. bessarabicum* Hand.-Mazz.; Fars (Banihashemi & Zakeri 1989 as *S. fuliginea*).
- T. montanum* (C.A.May) DC.; Damavand, Fasham (Mohammadi-Doustdar 1967 as *S. fuliginea*, host name as *T. montaniana*).
- T. officinale* Weber ex Wigg.; Tabriz (Viennot-Bourgin 1979 as *S. fuliginea*, Amano 1986 as *S. fuliginea*).
- T. syriacum* Boiss.; Borujerd (Khabiri 1958, Amano 1986, Ershad 1971, 1995 all records as *S. fuliginea*).
- P. leucotricha*** (Ellis and Everh.) E.S. Salmon
Malus domestica Borkh.; all over the country (Esfandiari 1946a, 1947, Viennot-Bourgin 1958, Golato 1960, Eskandari 1964, Amano 1986, Sharif & Ershad 1966, Mohammadi-Doustdar 1967, Ershad 1995).

- Pyrus communis* L.; Tehran (Amano 1986, Viennot-Bourgin 1958, Golato 1960, Ershad 1995).
- P. macularis*** (Wallr. : Fr.) U. Braun & S. Takam.
syn.: *S. macularis* (Wallr. : Fr.) Lind
Humulus lupulus L.; Karaj (Hedjaroude & Abbasi 2000).
- P. pannosa*** (Wallr. : Fr.) de Bary
syn.: *S. pannosa* (Wallr. : Fr.) Lév.
Hulthemia persica (Mich.) Stapf.; Ghazvin, Karaj (Bornmüller 1908, as *Sphaerotheca* sp., Petrak & Esfandiari 1941 as *S. pannosa*, Esfandiari 1946b, Amano 1986 as *S. pannosa*, Ershad 1995 as *S. pannosa*).
- Prunus dulcis* (Mill.) D.A. Webb; Karaj, Shariyar, Savojbolagh, Mashhad, Tehran (Sharif and Ershad 1966 as *O. leucoconium* Desm., Mohammadi-Doustdar 1967 as *S. pannosa* var. *persica*).
- P. persica* Stokes; All over the country (Esfandiari 1946b, 1947, Khabiri 1958, Viennot-Bourgin 1958 as *S. pannosa*, Golata 1960, Eskandari 1964, Mohammadi-Doustdar 1967 as *S. pannosa* var. *persica* Woron., Amano 1986 as *S. pannosa*, Scharif & Ershad 1966 as *S. pannosa* var. *persica*, Daftari & Behdad 1968, Ashkan 1972, Ershad 1971, 1995).
- Rosa* sp.; All over the country (Esfandiari 1946b, Eskandari 1964, Viennot-Bourgin 1958 as *S. pannosa*, Manuchehri 1964, Mohammadi-Doustdar 1967 as *S. pannosa* var. *rosae* Woron., Scharif & Ershad 1966 as *S. pannosa* var. *rosae* Gor., Ershad 1971, Ebrahimi & Minassian 1973, Amano 1986 as *S. pannosa*, Ershad 1995).
- R. centifolia* L.; ? (Amano 1986 as *S. pannosa*).
- R. multiflora* Murray.; Dezful (Altman et al. 1972, Amano 1986 both records as *S. pannosa*).
- R. persica* J. F. Gmel., Jajroud protected region (Kachooeian Javadi et al. 2006).
- P. plantaginis*** (Castagne) U. Braun & S. Takam.
syn.: *S. plantaginis* (Castagne) L. Junell
Plantago sp.; Isfahan-Samirom road*.
- P. atrata* ssp. *spadicea* (Waller.) Pilger; Karaj (Hedjaroude & Abbasi 2000 as *S. plantaginis*).
- P. lanceolata* L.; Kashan, Amarlu, Deileman-Asiabar road, Tabriz, Karaj, Zanjan* (Mohammadi-Doustdar 1967 as *S. fuliginea*, Ershad 1995 as *S. fuliginea*, Yazdani and Abbasi 1998 as *S. plantaginis*, Niknam & Guya 1999 as *S. plantaginis*, Khodaparast et al. 2000 as *S. plantaginis*).
- P. major* L.; (Mohammadi-Doustdar 1967 as *S. fuliginea*).
- P. media* L.; Fars (Banhashem & Zakeri 1989, Ershad 1995 both records as *S. plantaginis*).
- P. tridactyla*** (Wallr.) de Bary

Prunus sp., Meshkinshahr-Ahar road*.
P. dulcis (Mill.) D.A.Webb; ? (Amano 1986, Ershad 1995).
P. armeniaca L. Lam.; Damavand, Karaj, Maku (Mohammadi-Doustdar 1967 as *P. oxyacanthae* var. *tridactyla* (Wallr.) S. Salmon, Ershad 1971, Amano 1986, Ershad 1995).
P. divaricata Ledeb. subsp. *divaricata*; Golestan national park (Tajik-Ghanbary 2005).
P. domestica L.; Karaj, Khorasan (Mohammadi-Doustdar 1967 as *P. oxyacanthae* var. *tridactyla*, Karimi & Hajian 1998, Ershad 1995, Aeenfar 2006).
P. persica L.; ? (Amano 1986, Ershad 1995).
P. xanthii (Castagne) U. Braun & Shishkoff
syn.: *S. xanthii* Castagne
Bidens tripartida L.; Roodbar (Khodaparast et al. 2000 as *S. fusca*).
Citrullus vulgaris Schrad.; ? (Amano 1986 as *S. fuliginea*).
Calendula officinalis L.; Tabriz, Karaj, Rasht* (Yazdani and Abbasi 1998, Niknam & Guya 1999 both records as *S. fusca*).
Cucumis melo L.; Caspian sea area, Fars, Ghom, Hamedan, Karaj, Tabriz, Tehran vicinity (Viennot-Bourgin 1958 as *S. fuliginea*, Scharif & Ershad 1966 as *S. fuliginea*, Ershad 1971 as *S. fuliginea*, Banihashemi & Zakeri 1989 as *S. fuliginea*, Amano 1986 as *S. fuliginea*, Ershad 1995 as *S. fuliginea*).
C. sativus L.; Caspian sea area, Isfahan, Evin, Fars, Ghom, Hamedan, Karaj, Khuzestan, Marand, Tabriz, (Viennot-Bourgin 1958, Amano 1986, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Ershad 1971, Banihashemi et al 1972, Ebrahimi & Minassian 1973, Amano 1986, Banihashemi & Zakeri 1989, Ershad 1995 all records as *S. fuliginea*).
Cucurbita pepo L.; Isfahan, Fars, Ghom, Hamedan, Karaj, Marand, Tabriz (Viennot-Bourgin 1958, Scharif & Ershad 1966, Mohammadi-Doustdar 1967, Ershad 1971, Amano 1986, Banihashemi & Zakeri 1989, Ershad 1995 all records as *S. fuliginea*).
C. maxima Duchesne; Karaj, Marand, Tabriz (Mohammadi-Doustdar 1967, Amano 1986 both records as *S. fuliginea*).
Phaseolus aureus Roxb.; Karaj (Hamdollah-Zadeh 1987, Ershad 1995 both records as *S. fuliginea*).
Xanthium sp.; Azarbijan (Petraik 1953, Amano 1986 both records as *S. fuliginea*).
X. brasiliicum Vell.; Jajroud protected region (Kachooeian Javadi et al. 2006).
X. spinosum L.; Talesh, Deileman-Kalishomm, Ardebil-Meshkinshahr road (Khodaparast et al. 2000).

X. strumarium L.; Anzali, Azarbaijan, Bostan, Gorgan, Rasht, Sumaehsara, Golestan national park (Amano 1986 as *S. fuliginea*, Ershad 1971, 1995 as *S. fuliginea*, Tajik-Ghanbary 1995, Khodaparast et al. 2000).

***Sawadaea* Miyabe**

S. bicornis (Wallr. : Fr.) Homma

Acer sp.; Rasht, Rasht-Anzali road (Eskandari 1964 as *U. aceris* (DC.) Sacc., Amano 1986).

A. campestre L.; Sovaldi, Arasbaran (Petraik 1941 as *U. aceris*, Ershad 1995 as *U. bicornis* (Wallr. :Fr.) Lév.).

A. cappadocicum Gled.; Ardebil, Tehran (Amano 1986, Mohammadi-Doustdar 1967 as *U. aceris*, Ershad 1995 as *U. bicornis*).

A. hyrcanum Fisch. & C. A. Mey; Roodbar (Khodaparast et al. 2001).

A. monspessulanum L.; Gorgan, Kordestan, Lorestan, Mazandaran (Rabenhorst 1871 as *U. bicornis*, Esfandiari 1946a as *U. aceris*, Scharif & Ershad 1966 as *U. aceris*, Amano 1986, Ershad 1995 as *U. bicornis*).

A. negundo L.; ? (Amano 1986, Ershad 1995 as *U. bicornis*)

A. platanoides L.; Gorgan, Lorestan, Mazandaran (Esfandiari 1946a as *U. aceris*, Scharif & Ershad 1966 as *U. aceris*, Amano 1986 as *Sawadaea* sp., Ershad 1995 as *U. bicornis*).

A. pseudoplatanus L.; Tehran (Mohammadi-Doustdar 1967 as *U. aceris*, Amano 1986, Ershad 1995 as *U. bicornis*).

A. velutinum Boiss.; Gorgan, Lorestan, Mazandaran, Ziyarat (Esfandiari 1946a as *U. aceris*, host name as *A. insigne* Boiss. & Buhse, Scharif & Ershad 1966 as *U. aceris*, host name as *A. insigne*, Ershad 1995 as *U. bicornis*, host name as *A. insigne*).

A. velutinum Boiss. var. *velutinum* ? (Amano 1986).

S. tulasnei (Fuckel) Homma

Acer compestre L.; ? (Amano 1986, Ershad 1995 as *U. tulasnei* Fuck.).

A. monspessulanum L. subsp. *cineracens* (Boiss.) Yaltirik; Bisheh (Ershad 1971, 1995 as *U. tulasnei*).

A. platanoides L.; ? (Amano 1986 as *U. tulasnei*).

***Oidium* sp.**

Abelmoschus esculentus Moench; ? (Amano 1986).

Acer sp.; Ardebil, Mashhad (Aeenfar 2006).

Agrimonia eupatoria L.; Eshkavarat, Manjil (Harzevil), Astara-Ardebil road.

Alhagi sp.; Sufian-Shabastar road*.

Alliaria petiolata (M.Bieb.) Cavara & Grande; Langrood*.

Anethum graveolens L.; Mashhad (Aeenfar 2006).

Arctium lappa L.; Sumaehsara*.

Artemisia annua L.; Sumaehsara*.

Aster sp.; Evin (Ershad 1971, 1995).

Begonia sp.; Tehran, Rasht (Scharif & Ershad 1966, Amano 1986, Ershad 1995).
B. rex Putz.; ? (Mohammadi-Doustdar 1967).
Berberis thunbergii DC.; Isfahan, Tehran, Mashhad (Aeenfar 2006).
Brassica sp.; Ramin (Ebrahimi & Minassian 1973, Ershad 1995).
Calendula officinalis L.; ? (Amano 1986).
C. persica C. A. Mey.; Ramin, Tehran (Ebrahimi & Minassian 1973, Amano 1986, Ershad 1995).
Calamintha officinalis Moench; Golestan national park (Tajik-Ghanbary 2005).
Campanula stevenii M. Bieb.; Golestan national park (Tajik-Ghanbary 1995, host name as *C. simplex* Stev.).
Carduus pycnocephalus L.; Loshan*.
Cardaria draba (L.) Desv.; Samirom*, Isfahan*.
Castanea sativa Mill.; Shaft*.
Centaurea iberica Trev. ex. Spreng.; Shabastar-Tasuj road*, Mashhad (Aeenfar 2006).
C. hyrcanica Bornm.; Masuleh*.
Circaea lutetiana L.; Fuman*.
Cichorium intybus L.; Isfahan*.
Citrullus vulgaris Schrad.; Caspian sea area (Esfandiari 1947, Scharif & Ershad 1966).
Conyza canadensis (L.) Cronquist; Golestan national park, Mashhad (Tajik-Ghanbary 2005, Aeenfar 2006).
Conyzanthus squamatus (Spreng.) Tamamsch.; Seyakal-Deileman road*, Sumaehsara, Mashhad (Aeenfar 2006).
Coronilla varia L., Tabriz-Marand road*.
Cucumis melo L.; Caspian sea area (Esfandiari 1947).
C. sativus L.; Caspian sea area (Esfandiari 1947).
Cucurbita sp., Shabastar-Tasuj road*, Khalkhal-Ardebil road*, Isfahan - Ziyar road*.
C. maxima Duchesne; Caspian sea area (Esfandiari 1947).
Cydonia oblonga Mill.; Shaft-Emamzadehebrahim road*.
Dahlia sp.; Isfahan*.
Dianthus caryophyllus L.; Tabriz (Eskandari 1964).
Dichrocephala integrifolia (L. f.) O. Kuntze; Guilan*.
Dipsacus strigosus Willd.; Asalem-Khalkhal road*.
Echinops sp.; Isfahan*.
Epilobium minutiflorum Hausskn.; Mashhad (Aeenfar 2006).
Erigeron canadensis L.; Ramin (Ebrahimi & Minassian 1973, Ershad 1995).
Eryngium sp.; Meshkinshahr-Ahar road*.
Eupatorium cannabinum L.; Asalem-Khalkhal road*.

Ficus carica L.; Kashan (Esfandiari 1948, Scharif & Ershad 1966, Amano 1986, Ershad 1995 as *Oidium erisiphoides* Fr.).
Fragaria ananassa Duchesne.; Orumieh (Eskandari 1946a, Scharif & Ershad 1966, Amano 1986, Ershad 1995).
Galium humifusum M.Bieb.; Orumieh-Sero road*.
Geranium sp.; Sumaehsara*.
Geum urbanum L.; Rasht*, Emamzadeh Hashem*, Mashhad (Aeenfar 2006).
Helianthus annuus L.; Isfahan*, Jiroft*.
H. tuberosus L.; Rasht*, Mashhad (Aeenfar 2006).
Hesperis hyrcana Bornm. & Gauba; Golestan national park (Tajik-Ghanbary 2005).
Heteropappus altaicus Novopokrov.; Khorasan (Aeenfar 2006).
Hibiscus esculentus L.; Ramin, Shemiran, Shiraz (Scharif & Ershad 1966, Manuchehri 1964, Ershad 1971, Ebrahimi & Minassian 1973, Ershad 1995).
Hypericum perforatum L.; Rasht*, Sumaehsara*.
Lactuca sp.; Ardebil-Meshkinshar road*.
Lactuca orientalis Boiss.; Zanzan.
Lagerstroemia indica L.; Isfahan, Guilan, Gorgan, Mazandran, Tehran, Mashhad (Ershad 1995, Aeenfar 2006).
Lamiaceae; Meshkinshar-Ardebil road*.
Lamium album L. subsp. *crinitum* (Montbr. & Auch. ex Benth.) J. Mennema; Golestan national park (Tajik-Ghanbary 2005, host name as *Laminaria album*).
Malus floribunda Siebold ex Van Houtte; Mashhad (Aeenfar 2006).
M. orientalis Uglitzk.; Mashhad (Aeenfar 2006).
M. domestica Borkh.; Sumaehsara*.
Malva neglecta Wallr.; Mashhad (Aeenfar 2006).
Melilotus officinalis (L.) Pall.; Ardebil*, Khalkhal-Ardebil road*.
Mentha longifolia (L.) Huds.; Mashhad (Aeenfar 2006).
Nicotiana tabacum L.; Rasht.
Onobrychis altissima Grossh.; Ardebil*.
Papaver somniferum L.; Evin (Ershad 1971, 1995).
Parietaria officinalis L., Golestan national park, Guilan (Tajik-Ghanbary 2005).
Petroselinum sativum Hoffm.; Shasevar (Eskandari 1964).
Phlox sp.; Darankeh; (Amano 1986, Ershad 1971, 1995).
Physalis alkekengi L.; Fuman, Ghaleh roodkhan*.
Plantago major L.; Ardebil.
Platanus orientalis L.; Guilan*, Gorgan (Ershad 1995).
Polygonum sp.; Ahar-Tabriz road*.

Prunus armeniaca L.; Karaj (Scharif & Ershad 1966, Amano 1986, Ershad 1995).

Robinia hispida L.; Shemiran (Scharif & Ershad 1966, Ershad 1971, 1995 all records as *O. orbiculare* Nann.).

Salvia verticillata L.; Khakhal-Ardebil road*.

Sesbania punicea Benth.; Guilan*.

Solanum tuberosum L.; Damavand, Kabutarahang (Amano 1986, Ershad 1995).

Sonchus asper (L.) Hill.; Kolpayegan- Khansar road, Mashhad (Aeenfar 2006).

S. oleraceus L.; Isfahan-Golpayegan road*.

Sophora pachycarpa Schrenk ex C.A. Mey.; Golestan national park (Tajik-Ghanbary 2005).

Tanacetum parthenium (L.) Sch.Bip.; Masuleh.

Torilis arvensis Link; Golestan national park (Tajik-Ghanbary 2005).

Tragopogon sp.; Tarom*, Isfahan-Mobarakeh road*.

T. gongylorrhizus Rech.f.; Golestan national park (Tajik-Ghanbary 2005).

T. graminifolius DC.; Evin, Kelardasht, Ardebil*, Ardebil-Meshkinshah road*, Zanjan*, Isfahan-Zeyar road* (Ershad 1971, 1995).

Urtica dioica L.; Rezvanshahr, Doran village*.

Verbascum sp.; Khalkhal-Asalem road*.

V. cheiranthifolium Boiss.; Golestan national park (Tajik-Ghanbary 2005).

V. sinuatum L.; Golestan national park (Tajik-Ghanbary 2005).

Verbena officinalis L.; Karaj, Asbadan, Golestan national park, Sumaehsara*, Amarlu* (Mohammadi-Doustdar 1967 as *Oidium verbenae* ,Tajik-Ghanbary 2005).

Veronica sp.; Mashhad (Aeenfar 2006).

Vicia faba L.; Orumieh, Varamin (Eskandari 1964, Scharif & Ershad 1966, Ershad 1995).

Zinnia sp.; ? (Amano 1986).

Z. elegans Jacq.; Mashhad (Aeenfar 2006).

Oidium carpini Foitzik

Carpinus betulus L.; Asalem, Arasbaran forests*, Rezvanshahr*, Doran village* (Schmidt & Scholler 2006). According to Braun et al. (2006), this is the anamorph of *E. arcuata* U. Braun, Heluta & S. Takam.

O. dianthi Jacz.

Dianthus barbatus L.; Karaj, Tabriz, Tehran (Pettrak & Esfandiari 1941, Esfandiari 1946a, Scharif & Ershad 1966, Amano 1986, Ershad 1995).

O. hortensiae Jørst.

Hydrangea hortensia Siebold.; Karaj, Sumaehsara*, Chamestan* (Hedjaroude 1983, Ershad 1995).

O. mangiferae Berthet

Mangifera indica L.; Tis (Zakii et al. 1993, Ershad 1995). According to Takamatsu et al. (2007), this is an anamorph of *E. quercicola* S. Takam. & U. Braun.

***O. violae* Pass.**

Viola tricolor L.; Tehran (Petraak & Esfandiari 1941, Esfandiari 1946a, Amano 1986, Ershad 1971, 1995).

Doubtfull records

We were not able to verify a part of the records reported in some of the references cited in this work. These are listed below and are considered as doubtful records:

***E. cichoracearum* DC.**

Glycyrrhiza sp., (Daftari & Behdad 1968).

***E. communis* (Wallr.) Link**

Acantholimon sp.; Bostan abad (Amano 1986, Ershad 1971, Ershad 1995).

A. kotschyi Boiss.; (Mohammadi-Doustdar 1967).

Gypsophila paniculata L.; ? (Ershad 1971, Amano 1986, Ershad 1995).

Laburnum anagyroides Medik.; Karaj (Esfandiari 1946a, Amano 1986).

Scabiosa ucranica L.; Damavand (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Amano 1986 as *E. knautiae*, Ershad 1995).

Sophora alopecuroides L.; Karaj (Khabiri 1956, Amano 1986, Mohammadi-Doustdar 1967, Ershad 1995).

Trifolium fragiferum L.; ? (Amano 1986, Ershad 1995).

***E. malvacearum* Fr.**

Alcea haussknechtii Boiss.; Kordestan (Rabenhorst 1871, Amano 1986, Ershad 1995).

***E. martii* Lév.**

Arenaria juniperina L.; Kuhe alvand (Wettstein 1885 as *E. martii*, Amano 1986 as *E. communis*, Ershad 1995 as *E. martii*).

Cytisus sp.; Karaj (Mohammadi-Doustdar 1967).

Lathyrus aphaca L.; Damavand (Amano 1986 as *E. communis*, Mohammadi-Doustdar 1967).

L. cicera L.; Karaj (Amano 1986 as *E. communis*, Ershad 1971).

Melilotus sp., Karaj (Viennot-Bourgin 1958, Mohammadi-Doustdar 1967).

M. officinalis (L.) Pall.; Damavand, Evin, Gorgan, Karaj, Kashan (Khabiri 1956, Viennot-Bourgin 1958, Mohammadi-Doustdar 1967, Ershad 1971).

Trigonella foenum-graecum L.; Karaj, Tehran (Mohammadi-Doustdar 1967, Amano 1986 as *E. communis*).

Vicia tenuifolia Roth; Kordestan (Rabenhorst 1871).

E. mayorii S. Blumer
Mulgedium cacaliaefolium DC.; Asalem (Amano 1986, Ershad 1971, Ershad 1995).

E. salviae (Jacz.) S. Blumer
Salvia nemorosa Crantz.; Karaj (Khabiri 1956 as *E. lamprosa* (Wallr.) Lév., Amano 1986, Ershad 1995).

S. pseudo-silvestris Stapf; Karaj (Esfandiari 1946a, Scharif & Ershad 1966 as *E. salviae* (Gaez) Bl., Amano 1986, Ershad 1995).

S. castagnei Lév.
Bupleurum linearifolium DC.; Kordestan (Rabenhorst 1871, Amano 1986 as *S. macularis*, Ershad 1995 as *P. leucotrica*).

Centaurea babylonica (L.) L.; Kordestan (Rabenhorst 1871, Ershad 1995 as *P. leucotrica*).

Euphorbia sp.; Southern part (Rabenhorst 1871).

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