

# *Artemisia vulgaris*

## Mugwort

### Introduction

The genus *Artemisia* includes more than 300 species, which are distributed primarily in temperate regions and subtropics of Asia, Europe and North America. In China, there are 186 species and 44 varieties belonging to 2 subgenera with a nationwide distribution. Members of the genus *Artemisia* are well-known as aromatic herbs<sup>[103]</sup>.

### Species of *Artemisia* in China

(see next page)

### Taxonomy

**Family:** Compositae  
(Asteraceae)

**Genus:** *Artemisia* L.

### Description

Commonly known as mugwort, *Artemisia vulgaris* is a perennial herb that can reach 60-160 cm high, with many thin lateral roots. The branched, purplish-brown stems are parallel grooved, with ascending twigs covered with short hairs. Leaves are papery, pubescent, dark green on the upper surface, and have various shapes depending on their position on the plant. The leaves near the base are elliptic and oblong, bipinnate (divided two times) deeply even nearly to midrib. The leaves in the middle are elliptic to ovate, 3-10 cm long and 1.5-6 cm wide, pinnate or bipinnate, with four to five lobes that are elliptic lanceolate or linear lanceolate, 3-5 cm long and 1-1.5 cm wide, with more than one tooth on the tip. The leaves near the top are small, also pinnate and lanceolate-lobed, not significantly toothed or even entire. Head inflorescences are oblong, 2.5-3 mm in diameter, borne densely in a spike on the branched twigs as well as spreading panicles on the stems. There are seven to ten purple female flowers, with narrow tube-shaped corollas. Bisexual flowers number 8-20, with tube or goblet shaped corollas, and

Photo unavailable

long densely ciliate hairs at the top of the style. Fruits, appearing from August to October together with flowers, are obovate or ovate achenes<sup>[103]</sup>.

### Habitat

Mugwort grows in high-elevation pastures, forest edges, valleys, hillside wasteland, ditches, and roadsides<sup>[112][103]</sup>.

### Distribution

In China, mugwort has been reported to occur in Shaanxi and Qinghai at elevations above 2,500 m, as well as in western Gansu and Xinjiang at elevations of 1,500 to 2,100 m<sup>[103]</sup>. *Artemisia vulgaris* is also reported to occur in Sichuan and the desert of Inner Mongolia<sup>[103][112]</sup>.

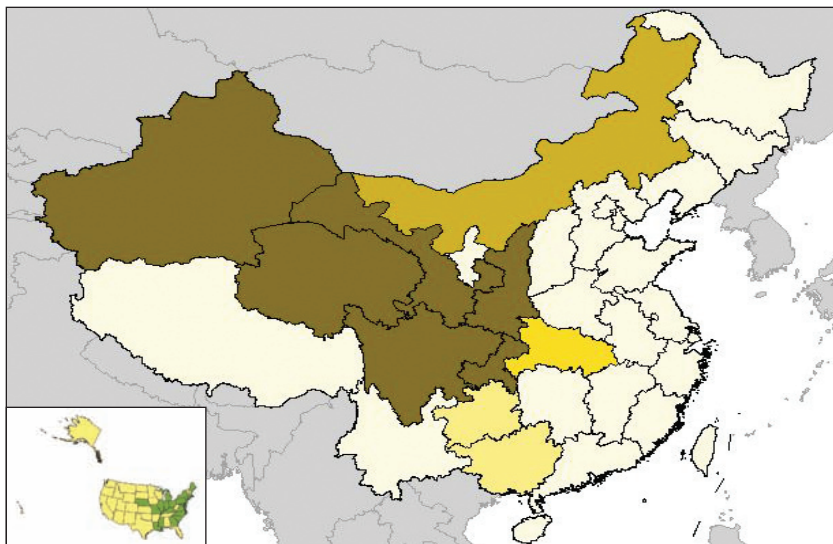
Leaves of *Artemisia vulgaris*.

### Economic Importance

In addition to the volatile oil psilostachyin, which contributes to its strong aroma, mugwort also contains other medically active ketones and alkaloids. Mugwort is also used as a livestock feed<sup>[103]</sup>.

### Related Species

In China, mugwort, the common name of *Artemisia vulgaris* is often confused with *A. argyi*, which is a common inhabitant of wastelands, roadsides, riversides, and hilly slopes, as well as the forests and prairie at low to moderate elevations<sup>[103]</sup>.



**Natural Enemies of *Artemisia***  
Twenty-two fungi have been recorded to occur on members of the genus

*Artemisia*. Eight species are reported to infect *A. vulgaris*. At least 111 species of insects and mites in 31 families and

7 orders attack members of the genus *Artemisia*.

**Species of *Artemisia* in China**

Scientific Name	Scientific Name	Scientific Name
<i>A. abaensis</i> Y. R. Ling et S. Y. Zhao	<i>A. absinthium</i> Linn.	<i>A. adamsii</i> Bess.
<i>A. aksaiensis</i> Y. R. Ling	<i>A. anethifolia</i> Web. ex Stechm.	<i>A. anethoides</i> Mattf.
<i>A. angustissima</i> Nakai	<i>A. annua</i> L.	<i>A. anomala</i> S. Moore
<i>A. argyi</i> Lévl. et Van.	<i>A. argyrophylla</i> Ledeb.	<i>A. aschurbajewii</i> C. Winkl.
<i>A. atrovirens</i> Hand.-Mazz.	<i>A. aurata</i> Komar.	<i>A. austriaca</i> Jacq.
<i>A. austro-yunnanensis</i> Ling et Y. R. Ling	<i>A. baimaensis</i> Y. R. Ling et Z. C. Zhuo	<i>A. bargusinensis</i> Spreng.
<i>A. blepharolepis</i> Bge.	<i>A. brachyloba</i> Franch.	<i>A. brachyphylla</i> Kitam.
<i>A. caespitosa</i> Ledeb.	<i>A. calophylla</i> Pamp.	<i>A. campbellii</i> Hook. F. et Thoms in C. B. Clarke
<i>A. campestris</i> L.	<i>A. capillaris</i> Thunb.	<i>A. carvifolia</i> Buch.-Ham. ex Roxb.
<i>A. chienshanica</i> Ling et W. Wang	<i>A. chingii</i> Pamp.	<i>A. comaiensis</i> Ling et Y. R. Ling
<i>A. conaensis</i> Ling et Y. R. Ling	<i>A. dalai-lamae</i> Krasch.	<i>A. demissa</i> Krasch.
<i>A. depauperata</i> Krasch.	<i>A. desertorum</i> Spreng.	<i>A. deversa</i> Diels
<i>A. disjuncta</i> Krasch.	<i>A. divaricata</i> (Pamp.) Pamp.	<i>A. dracunculus</i> L.
<i>A. dubia</i> Wall. ex Bess.	<i>A. duthreuil-de-rhinsi</i> Krasch.	<i>A. edgeworthii</i> Balakr.
<i>A. emeiensis</i> Y. R. Ling	<i>A. eriopoda</i> Bge.	<i>A. erlangshanensis</i> Ling et Y. R. Ling
<i>A. fauriei</i> Nakai	<i>A. flaccida</i> Hand.-Mazz.	<i>A. forrestii</i> W. W. Smith
<i>A. freyniana</i> (Pamp.) Krasch.	<i>A. frigida</i> Willd.	<i>A. fukudo</i> Makino
<i>A. fulgens</i> Pamp.	<i>A. gansuensis</i> Ling et Y. R. Ling	<i>A. gilvescens</i> Miq.
<i>A. giraldii</i> Pamp.	<i>A. glabella</i> Kar. et Kir.	<i>A. globosoides</i> Ling et Y. R. Ling
<i>A. gmelinii</i> Web. ex Stechm.	<i>A. gongshanensis</i> Y. R. Ling et C. J. Humphries	<i>A. gyangzeensis</i> Ling et Y. R. Ling
<i>A. gytangensis</i> Ling et Y. R. Ling	<i>A. halodendron</i> Turcz. ex Bess.	<i>A. hancei</i> (Pamp.) Ling et Y. R. Ling
<i>A. hedinii</i> Ostenf. et Paulse.	<i>A. igniaria</i> Maxim.	<i>A. imponens</i> Pamp.
<i>A. incisa</i> Pamp.	<i>A. indica</i> Willd.	<i>A. integrifolia</i> Linn.
<i>A. japonica</i> Thunb.	<i>A. jilongensis</i> Y. R. Ling et C. J. Humphries	<i>A. kanashiroi</i> Kitam.
<i>A. kangmarensis</i> Ling et Y. R. Ling	<i>A. kawakamii</i> Hayata	<i>A. keiskeana</i> Miq.
<i>A. klementze</i> Krasch.	<i>A. kuschakewiczii</i> C. Winkl.	<i>A. lactiflora</i> Wall. ex DC.
<i>A. lagocephala</i> (Fisch. ex Bess.) DC.	<i>A. lancea</i> Van.	<i>A. latifolia</i> Ledeb.
<i>A. lavandulaefolia</i> DC.	<i>A. leucophylla</i> (Turcz. ex Bess.) C. B. Clarke	<i>A. littoricola</i> Kitam.
<i>A. macilenta</i> (Maximl) Krasch.	<i>A. macrantha</i> Ledeb.	<i>A. macrocephala</i> Jacq. ex Bess.
<i>A. mairei</i> Lévl.	<i>A. manshurica</i> (Komar.) Komar.	<i>A. marschalliana</i> Spreng.
<i>A. mattfeldii</i> Pamp.	<i>A. maximowicziana</i> (F. Schum.) Krasch. ex Poljak.	<i>A. medioxima</i> Krasch. ex Poljak.
<i>A. minor</i> Jacq. ex Bess.	<i>A. mongolica</i> (Fisch. ex Bess.) Nakai	<i>A. moorcroftiana</i> Wall. ex DC.
<i>A. morrisonensis</i> Hayata	<i>A. myriantha</i> Wall. ex Bess.	<i>A. nakai</i> Pamp.
<i>A. nanschanica</i> Krasch.	<i>A. niitakayamensis</i> Hayata	<i>A. nilagirica</i> (C. B. Clarke) Pamp.
<i>A. nortonii</i> Pamp.	<i>A. nujianensis</i> (Ling et Y. R. Ling) Y. R. Ling	<i>A. obtusiloba</i> Ledeb.
<i>A. occidentali-sichuanensis</i> Y. R. Ling et S. Y. Zhao	<i>A. occidentali-sinensis</i> Y. R. Ling	<i>A. oligocarpa</i> Hayata
<i>A. ordosica</i> Krasch.	<i>A. orientali-hengduangensis</i> Ling et Y. R. Ling	<i>A. orientali-xizangensis</i> Y. R. Ling et C. J. Humphries
<i>A. orientali-yunnanensis</i> Y. R. Ling	<i>A. oxycephala</i> Kitag.	<i>A. palustris</i> L.
<i>A. parviflora</i> Buch.-Ham. ex Roxb	<i>A. penchuoensis</i> Y. R. Ling et S. Y. Zhao	<i>A. persica</i> Boiss.
<i>A. pewzowi</i> C. Winkl.	<i>A. phaeolepis</i> Krasch.	<i>A. phyllobotrys</i> (Hand.-Mazz.) Ling et Y. R. Ling
<i>A. polybotryoidea</i> Y. R. Ling	<i>A. pontica</i> L.	<i>A. prattii</i> (Pamp.) Ling et Y. R. Ling

<i>A. princeps</i> Pamp.	<i>A. przewalskii</i> Krasch	<i>A. pubescens</i> Ledeb.
<i>A. qinlingensis</i> Ling et Y. R. Ling	<i>A. robusta</i> (Pamp.) Ling et Y. R. Ling	<i>A. rosthornii</i> Pamp.
<i>A. roxburghiana</i> Bess.	<i>A. rubripes</i> Nakai	<i>A. rupestris</i> L.
<i>A. rutifolia</i> Steph. ex Spreng.	<i>A. sacrorum</i> Ledeb.	<i>A. saposhnikovii</i> Krasch. ex Poljak.
<i>A. scoparia</i> Waldst. et Kit.	<i>A. selengensis</i> Turcz. ex Bess.	<i>A. sericea</i> Web. ex Stechm.
<i>A. shangnanensis</i> Ling et Y. R. Ling	<i>A. shennongjiaensis</i> Ling et Y. R. Ling	<i>A. sichuanensis</i> Ling et Y. R. Ling
<i>A. sieversiana</i> Ehrhart ex Willd.	<i>A. simulans</i> Pamp.	<i>A. sinensis</i> (Pamp.) Ling et Y. R. Ling
<i>A. smithii</i> Mattf.	<i>A. somai</i> Hayata	<i>A. songarica</i> Schrenk
<i>A. speciosa</i> (Pamp.) Ling et Y. R. Ling	<i>A. sphaerocephala</i> Krasch.	<i>A. stolonifera</i> (Maxim.) Komar.
<i>A. stracheyi</i> Hook. f. et Thoms. ex C. B. Clarke	<i>A. subulata</i> Nakai	<i>A. succulenta</i> Ledeb.
<i>A. succulentoides</i> Ling et Y. R. Ling	<i>A. sylvatica</i> Maxim.	<i>A. tafelii</i> Mattf.
<i>A. taibaishahensis</i> Y. R. Ling et C. J. Humphries	<i>A. tainingensis</i> Hand.-Mazz.	<i>A. tanacetifolia</i> L.
<i>A. tangutica</i> Pamp.	<i>A. thellungiana</i> Pamp.	<i>A. tournefortiana</i> Reichb.
<i>A. tridactyla</i> Hand.-Mazz.	<i>A. tsugitakaensis</i> (Kitam.) Ling et Y. R. Ling	<i>A. velutina</i> Pamp.
<i>A. verbenacea</i> (Komar.) Kitag.	<i>A. verlotorum</i> Lamotte	<i>A. vestita</i> Walle ex Bess.
<i>A. vexans</i> Pamp.	<i>A. viridisquama</i> Kitam.	<i>A. viridissima</i> (Komar.) Pamp.
<i>A. viscida</i> (Mattf.) Pamp.	<i>A. viscidissima</i> Ling et Y. R. Ling	<i>A. vulgaris</i> L.
<i>A. waltonii</i> J. R. Drumm. ex Pamp.	<i>A. wellbyi</i> Hemsl. et Pears. ex Deasy	<i>A. wudanica</i> Liou et W. Wang
<i>A. xanthochloa</i> Krasch.	<i>A. xerophytica</i> Krasch.	<i>A. xigazeensis</i> Ling et Y. R. Ling
<i>A. yadongensis</i> Ling et Y. R. Ling	<i>A. younghusbandii</i> J. R. Drumm. ex Pamp.	<i>A. youngii</i> Y. R. Ling
<i>A. yunnanensis</i> J. F. Jeffrey ex Diels	<i>A. zayuensis</i> Ling et Y. R. Ling	<i>A. zhongdianensis</i> Y. R. Ling

## Fungi

Phylum	Family	Species	H. R.	Ref.	
Ascomycota	Erysiphaceae	<i>Erysiphe artemisiae</i> Grev.	oo	22	
		<i>Erysiphe cichoracearum</i> DC.	p	23	
		<i>Sphaerotheca fuliginea</i> (Schltld.) Pollacci	po	23	
	Pleosporaceae	<i>Pleospora tarda</i> E.G. Simmons	po	23 <sup>i</sup>	
	Pseudoperisporiaceae	<i>Nematostoma artemisiae</i> Syd. & P. Syd.	m	23	
Basidiomycota	Atheliaceae	<i>Athelia rolfsii</i> (Curzi) C.C. Tu & Kimbr.	po	23 <sup>ii</sup>	
	Phakopsoraceae	<i>Phakopsora artemisiae</i> Hirats.	p	23	
		<i>Phakopsora compositarum</i> Miyake	p	23	
	Pucciniaceae	<i>Puccinia adjuncta</i> Mitter	oo	23	
		<i>Puccinia asteris</i> Duby	po	23	
		<i>Puccinia atrofusca</i> (Dudley & C.H. Thomps.) Holw.	p	23	
				po	149
		<i>Puccinia asteris</i> Duby	o	23 <sup>iii</sup>	
		<i>Puccinia extensicola</i> Plowr.	po	23	
<i>Puccinia tanacetii</i> DC.	o	23			
<i>Uromyces oblongisporus</i> Ellis & Everh.	oo	23			

Oomycota	Peronosporaceae	<i>Paraperonospora artemisiae-annuae</i> (L. Ling & M.C. Tai) Constant.	mo	23 <sup>IV</sup>
			mo	188
		<i>Paraperonospora sulfurea</i> (Gäum.) Constant.	oo	188
			<i>Peronospora sulfurea</i> Gäum.	oo
Anamorphic <i>Mycosphaerella</i>		<i>Cercospora ferruginea</i> Fuckel		o
			<i>Pseudocercospora artemisiicola</i> Y.L. Guo	mo
		<i>Pseudocercospora dracunculi</i> (Sarwar) Y.L. Guo		mo
			<i>Septoria artemisiae</i> Pass.	m

I Recorded as *Stemphylium botryosum* Wallr.

II Recorded as *Corticium centrifugum* (Lév.) Bres.

III Recorded as *Puccinia cnici-oleracei* Pers

IV Recorded as *Peronospora artemisiae-annuae* Ling et M. C. Tai

## Arthropods

Order	Family	Species	H. R.	Ref.
Acariformes	Eriophyidae	<i>Aceria abalis</i> (Keifer)	oo	83
		<i>Aceria kunminensis</i> Kuang et Hong	mo	83
		<i>Heterotergum artemisiae</i> Hong et Kuang	mo	83
	Tetranychidae	<i>Brevipalpus obovatus</i> Donnadieu	po	65
		<i>Bryobia hengduanensis</i> Wang et Cui	po	141
		<i>Tetranychus ludeni</i> Zacher	po	143
		<i>Tetranychus piercei</i> McGregor	mo	65
Coleoptera	Cerambycidae	<i>Phytoecia rufiventris</i> Gautier	po	85
	Chrysomelidae	<i>Chrysolina aeruginosa</i> (Faldermann)	oo	140
			oo	185
		<i>Chrysolina aurichalcea</i> (Mannerheim)	mo	65
			po	140
			oo	185

		<i>Crosita altaica altaica</i> Gebler	oo	185
		<i>Galeruca nigrolineata</i> Mannerheim	oo	185
		<i>Geinella nila</i> (Maulik)	po	185
		<i>Geinula antennata</i> Chen	po	140
		<i>Geinula coeruleipennis</i> Chen, Jiang et Wang	oo	140
		<i>Geinula similis</i> Chen, Jiang et Wang	oo	140
		<i>Hespera cyanea</i> Maulik	po	140
			po	185
		<i>Monolepta hieroglyphica</i> (Motschulsky)	po	140
		<i>Nonarthra cyaneum</i> Baly	oo	65
			po	185
		<i>Nonarthra nigricolle alticola</i> Jiang	po	140
		<i>Pallasiola absinthii</i> (Pallas)	po	185
		<i>Phaedon alticola</i> Chen	po	140
	<i>Phyllobrotica signata</i> (Mannerheim)	oo	185	
	Coccinellidae	<i>Afidentuta manderst jernae</i> (Mulsant)	po	65
		<i>Epilachna ocellatae-maculata</i> (Mader)	mo	65
			mo	122
			oo	140
		<i>Epilachna plicata</i> Weise	mo	122
		<i>Epiverta chelonia</i> (Mader)	po	122
	po		140	
	<i>Henosepilachna ocellata</i> (Redtenbacher)	mo	122	
	Curculionidae	<i>Lixus acutipennis</i> Roelofs	po	2
		<i>Xanthochelus faunus</i> (Olivier)	mo	140
	Eumolpidae	<i>Basilepta fulvipes</i> (Motschulsky)	po	139
		<i>Cleoporus variabilis</i> (Baly)	po	139
			po	140
		<i>Coptocephala asiatica</i> chûjô	oo	139
		<i>Cryptocephalus koltzei</i> Weise	oo	139
		<i>Pachybrachys scriptidorsum</i> Marseul	po	139
	<i>Smaragdina nigrifrons</i> (Hope)	po	139	
po		140		
Hispididae	<i>Cassida fuscorufa fuscorufa</i> Motschulsky	oo	65	
	<i>Cassida fuscorufa jacobsoni</i> Spaeth	oo	65	
Hemiptera	Coreidae	<i>Anoplocnemis phasiana</i> (Fabricius)	po	192
		<i>Corizus tetraspilus</i> Horvath	po	193
		<i>Derepteryx hardwickii</i> White	po	193
	Lygaeidae	<i>NySius ericae</i> (Schilling)	po	192
	Pentatomidae	<i>Dolycoris baccarum</i> (Linnaeus)	po	192
		<i>Dymantiscus marginatus</i> Hsiao	oo	193
		<i>Eysarcoris montivagus</i> (Distant)	mo	65
		<i>Pentatoma kunmingensis</i> Xiong	po	193
		<i>Poeciocoris sanszesignatus</i> Yang	po	192
	Plataspidae	<i>Coptosoma bifaria</i> Montandon	mo	65
			po	193
		<i>Coptosoma gyrongan</i> Zhang et Lin	oo	193
	<i>Coptosoma zhamua</i> Zhang et Lin	oo	193	
Tingidae	<i>Tringis crispata</i> (Herrich-Schaeffer)	mo	193	

Homoptera	Aphalaridae	<i>Craspedolepta lineolata</i> Loginova	mo	132
		<i>Craspedolepta terminara</i> Loginova	mo	132
		<i>Craspedolepta topicalis</i> Loginova	mo	132
	Aphididae	<i>Aphis kurosawai</i> Takahashi	mo	65
			o	100
			o	189
		<i>Capitophorus formosartemisiae</i> Takahashi	o	100
		<i>Coloradoa artemisicola</i> Takahashi	oo	100
			oo	140
			oo	189
		<i>Coloradoa nodulosa</i> Zhang	mo	189
			mo	100
		<i>Coloradoa rufomaculata</i> (Wilson)	oo	100
		<i>Cryptosiphum artemisiae</i> Buchton	mo	65
		<i>Cryptosiphum artemisiae linanense</i> Zhang	p	100
			p	189
		<i>Macrosiphoniella brevisiphora</i> Zhang	mo	140
		<i>Macrosiphoniella formosartemisiae</i> (Takahashi)	oo	100
		<i>Macrosiphoniella grandicauda</i> Tak. et Moritsu	po	140
		<i>Macrosiphoniella hokkaidensis</i> Miyazaki	oo	189
		<i>Macrosiphoniella huaidensis</i> Zhang	oo	189
		<i>Macrosiphoniella kuwayamai</i> Takahashi	mo	100
			mo	189
		<i>Macrosiphoniella pseudoartemisiae</i> Shinji	oo	100
			oo	140
		<i>Macrosiphoniella sanborni</i> (Gillette)	oo	100
			oo	65
			po	85
		<i>Macrosiphoniella similioblunga</i> Zhang	mo	189
		<i>Macrosiphoniella yomogifoliae</i> (Shinji)	oo	65
		<i>Myzus tsengi</i> Tao	mo	140
	<i>Pleotrichophorus glandulosus</i> (Kaltenbach)	mo	65	
		mo	189	
	<i>Pleotrichophorus pseudoglandulosus</i> (Palmer)	mo	189	
	Cercopidae	<i>Cosmoscarta dorsimacula</i> (Walker)	po	65
	Cicadellidae	<i>Mileewa margheritae</i> Distant	mo	48
	Coccidae	<i>Ceroplastes ceriferus</i> (Anderson)	po	151
		<i>Ceroplastes rubens</i> Maskell	po	151
	Membracidae	<i>Leptobelus gazella</i> Fairmaire	po	65
			po	140
	Pseudococcidae	<i>Amonostherium prionodes</i> Wang	po	150
		<i>Eriococcus terrestris</i> (Matesova)	po	150
		<i>Heliococcus pamirensis</i> Borchsenius	po	150
		<i>Pseudococcus comstocki</i> (Kuwana)	po	150
		<i>Trionymus multivorus</i> (Kiritshenko)	po	150
	Triozidae	<i>Eubactericera artemicola</i> Li	oo	132
		<i>Eubactericera artemisisuga</i> Li	oo	132

Lepidoptera	Arctiidae	<i>Rhyparia purpurata</i> (Linnaeus)	po	40
			p	41
		<i>Rhyparioides nebulosa</i> Butler	po	40
	Geometridae	<i>Carige cruciplaga</i> (Walker)	mo	177
	Lycaenidae	<i>Plebejus argus</i> (Linnaeus)	po	203
	Noctuidae	<i>Cucullia formosa</i> Rogenhofer	oo	12
		<i>Cucullia fraudatrix</i> Eversmann	mo	209
		<i>Cucullia fuchsiana</i> Eversmann	mo	12
		<i>Cucullia santonici</i> (Hübner)	po	12
			po	141
		<i>Euxoa cursoria</i> (Hufnagel)	po	13
		<i>Euxoa oberthuri</i> Leech	po	141
		<i>Melicleptria scutosa</i> (Schiffermüller)	po	13
			po	65
			po	205
			mo	209
		<i>Phyllophila obliterated</i> (Rambur)	mo	209
	<i>Xylena formosa</i> (Butler)	po	13	
		po	141	
	Nymphalidae	<i>Vanessa cardui</i> (Linnaeus)	po	203
	Pyralidae	<i>Homoeosoma binaevella</i> Hübner	po	145
		<i>Loxostege aeruginalis</i> Hübner	mo	145
		<i>Ostrinia nubilalis</i> (Hübner)	po	85
			po	145
	Tortricidae	<i>Cnephasia chrysanthæana</i> (Duponchel)	oo	113
		<i>Epiblema foenella</i> (Linnaeus)	mo	65
			oo	113
<i>Eucosma intacta</i> (Walsingham)		mo	113	
<i>Eucosma metzneriana</i> (Treitschke)		oo	113	
<i>Pandemis dumetana</i> Treitschke	po	141		
Parasitiformes	Phytoseiidae	<i>Amblyseius heveae</i> (Oudemans)	po	65
Thysanoptera	Phlaeothripidae	<i>Haplothrips aculeatus</i> (Fabricius)	po	56
	Thripidae	<i>Thrips tabaci</i> Lindeman	po	56