

PRIRODOSLOVNI MUZEJ SLOVENIJE  
MUSEUM HISTORIAE NATURALIS SLOVENIAE

# SCOPOLIA

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Andrej GOGALA: Bee Fauna of Slovenia:  
Checklist of Species (Hymenoptera: Apoidea)

Favna čebel Slovenije: seznam vrst (Hymenoptera:  
Apoidea)

## Bee Fauna of Slovenia: Checklist of Species (Hymenoptera: Apoidea)

Andrej Gogala

Slovenian Museum of Natural History  
Prešernova 20, PO Box 290  
SI-1001 Ljubljana, Slovenia

Received: 7.10.1998  
UDC(UDK) 595.799(497.4)(051)=20

**ABSTRACT** – Listed in the present article are 536 bee species known to live in Slovenia, according to the published records, their presence in collections preserved in the Slovenian Museum of Natural History, or such as found by the author in recent surveys. The distributions of the species in Slovenia are shown according to the phytogeographical regions. Data on the biology of species include foodplant preferences, nesting habits or cleptoparasitic way of life.

**Key words:** Hymenoptera, Apoidea, Slovenia, bees, fauna

**IZVLEČEK** – FAVNA ČEBEL SLOVENIJE: SEZNAM VRST (HYMENOPTERA: APOIDEA) – Seznam 536 za Slovenijo znanih vrst čebel je sestavljen na podlagi objavljenih podatkov, prisotnosti v zbirkah Prirodoslovnega muzeja Slovenije in najdb med avtorjevimi raziskavami. Razširjenost vrst v Sloveniji je podana po fitogeografskih območjih. Podatki o biologiji vrst vključujejo hranilne rastline, gnezdilne navade ali kleptoparazitski način življenja.

**Ključne besede:** Hymenoptera, Apoidea, Slovenija, čebele, favna

## Introduction

Bees are key elements of many terrestrial ecosystems, providing pollination service to plants that, without them, would produce much fewer seeds. They are endangered by the human interference in the landscape. Bees require a lot of different flowers and specific places where they can build their nests. Modern agricultural practices favoring monocultures and taking all available space do not provide bees with basic requirements for their life.

The bee fauna of Slovenia has never been thoroughly investigated and no catalogue has been compiled. The present work is an attempt to remedy this deficiency, facilitating future research and assisting nature preservation. The majority of data have been compiled during the preparation of the dissertation thesis by the author (GOGALA 1997).

## History of the Slovenian bee fauna surveys

Despite a long history of entomology and the tradition of beekeeping, the fauna of wild bees in Slovenia is not well known. Some species were listed by I. A. SCOPOLI in his work *Entomologia carniolica* (1763), the first study of the Slovenian insects. Several species are known under the names chosen by him, but some are described too vaguely to be recognized. In 1902 E. GRAEFFE, an entomologist working in Trieste, published a list of the bee species of the Austrian coast, with some records now belonging to Slovenia. A species he found in Tolmin was recognized as new to science and described by J. D. ALFKEN as *Colletes graeffei*. Between the world wars, physician E. JAEGER who worked at Podčetrtek, gathered a nice collection of bees there, preserved partly in the Slovenian Museum of Natural History. A part of his collection is in Zagreb and the records from this part were published by V. VOGRIN in 1955. E. JAEGER himself published an article in 1934 in the *Prirodoslovne Razprave*, with a description of a new species found at Podčetrtek and named *Andrena hedikae* in honour to his wife. Many foreign entomologists collected in Slovenia, and data on the Slovenian bee fauna are scattered in many of their works. In recent times two contributions to the knowledge of the Slovenian bee fauna were published by the author (GOGALA 1991b; 1994).

## Problems of bee systematics

The generic and higher classification of the bees is still under debate and far from a stable system. The bees could be treated as a single family or split into varying number of families. But most problematic of all is the generic classification in some groups, especially the Megachilidae. Some authors split the genus *Osmia* into many genera and then reunited them into an even larger unit. The problem lies in the lack of reliable apomorphic characters to be used in cladistic analyses. In the following list the genera *Heriades*, *Chelostoma*, *Protosmia* and *Hoplitis* are treated as distinct genera, while many other groups, believed to be more closely related, are together in the genus *Osmia*. The genus *Hoplitis*, however, is understood differently than by MICHENER, MCGINLEY AND DANFORTH (1994). Many groups included by them in this genus are treated here as members of the genus *Osmia*, as proposed by GOGALA (1995). According to the cladistic principles, the genus *Tetralonia* in the Apidae, as recognized traditionally, would be split into several genera, but here it is still treated traditionally because the revision on a worldwide basis has not been published as yet. Parasitic bumblebees, traditionally forming the genus *Psithyrus*, however, are treated here as members of the genus *Bombus*.

## Checklist of species

Listed in the present article are 536 bee species known to live in Slovenia, according to the published records, their existence in collections preserved in the Slovenian Museum of Natural

History, or those found by the author in recent surveys. Only synonyms used in the literature concerning local fauna or such as used in recent times are mentioned. The zoogeographic categories to which the species are placed are selected according to the known distributions of species, only in Halictidae the categories used by EBMER (1988) are followed. The distributions of species in Slovenia are shown according to the phytogeographical regions as defined by M. WRABER (1969) who divided Slovenia into six regions on the basis of the predominant vegetation (Fig. 1):

SM = Submediterranean region, SP = Subpannonian region, PA = Prealpine region, PD = Predinaric region, DI = Dinaric region, AL = Alpine region.

Where only a few localities are known, these are mentioned precisely. Published records (P. r.) are cited. Species for which no published records are cited are recorded in Slovenia for the first time.

Data on the biology of species include foodplant preferences (polylectic species collect pollen of many different plant species, while oligolectic species need the pollen of a single plant genus or even a single species), and nesting habits or cleptoparasitic way of life. Cleptoparasitic species lay eggs in the nests of host bee species.

Species can have only one generation a year (univoltine species), while others have two, usually a spring and summer one (bivoltine species). The majority of species are solitary, social species are in the families of Halictidae and Apidae. The time of activity is also mentioned in the list. For some species not all of data are known.

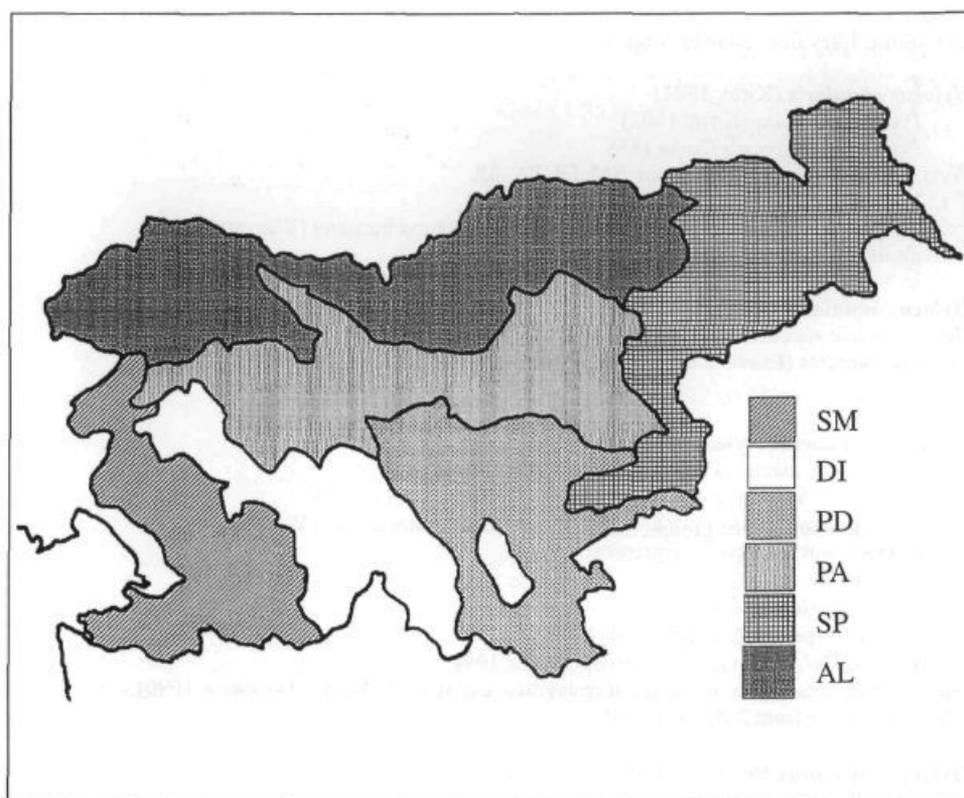


Fig. 1: Phytogeographical regions of Slovenia according to M. Wraber: SM = Submediterranean region, DI = Dinaric region, PD = Predinaric region, PA = Prealpine region, SP = Subpannonian region, AL = Alpine region.

## Colletidae

*Hylaeus* Fabricius 1793  
*Prosopis* Fabricius 1804*Hylaeus adriaticus* (Warncke 1972)

North Mediterranean montane species. In Slovenia found near Hrpelje on the slope of Mt. Slavnik (SM).  
P. r.: GOGALA 1991b  
Univoltine. Flies in June and July.

*Hylaeus alpinus* (Morawitz 1867)

Alpine species. In Slovenia in the Alps and on Mts. Nanos and Snežnik (AL, SM, DI).  
P. r.: GOGALA 1991b; GOGALA 1994  
Probably polylectic species (pers. obs.).  
Univoltine. Flies in July and August.

*Hylaeus angustatus* (Schenck 1861)

West Palaearctic species. Slovenia: SM, PA, SP.  
P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994  
Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).  
Univoltine. Flies from June to August.

*Hylaeus annularis* (Kirby 1802)

*Prosopis dilatata* (Kirby 1802)

*Prosopis cervicornis* Costa 1858

West Palaearctic species. Slovenia: SM, DI, PA, SP.  
P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994  
Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).  
Univoltine. Flies from June to September.

*Hylaeus annulatus* (Linnaeus 1758)

Boreomontane species. In Slovenia found on Vršič pass (AL).  
Polylectic species (ELFVING 1968). Nests probably in wood burrows (pers. obs.).  
Flies in July.

*Hylaeus brevicornis* Nylander 1852

West Palaearctic species. Present in the whole of Slovenia.  
P. r.: VOGRIN 1955; ERLANDSSON 1986; GOGALA 1991b; GOGALA 1994  
Polylectic species. Nests in pre-existing cavities, e.g. hollow stems (WESTRICH 1990).  
Bivoltine. Flies from May to September.

*Hylaeus clypearis* (Schenck 1853)

Mediterranean species. Slovenia: SM, DI.  
P. r.: ERLANDSSON 1986; GOGALA 1991b; GOGALA 1994  
Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).  
Univoltine. Flies from June to August.

*Hylaeus communis* Nylander 1852

*Prosopis annulata* auct.

West Palaearctic species. Present in the whole of Slovenia.  
P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).  
Bivoltine. Flies from May to September.

***Hylaeus confusus*** Nylander 1852

European species. Present in the whole of Slovenia.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).  
Bivoltine. Flies from May to September.

***Hylaeus cornutus*** Curtis 1831

Mediterranean species. Slovenia: SP, PA.

P. r.: VOGGRIN 1955

Probably polylectic species. Nests in pre-existing cavities, e.g. hollow stems (WESTRICH 1990). It carries the pollen by a different method than the other members of the genus. It forms a ball of pollen carried in a hollow on the face, between two horn-like processes (O'TOOLE & RAW 1991).  
Univoltine. Flies from June to August.

***Hylaeus difformis*** (Eversmann 1852)

European species. Slovenia: SP, PA, AL.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in pre-existing cavities (WESTRICH 1990).  
Univoltine. Flies from May to August.

***Hylaeus duckei*** (Alfken 1904)

North Mediterranean species. Slovenia: SM, PA, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Probably polylectic species (WESTRICH 1990). Visits Apiaceae (pers. obs.).  
Univoltine. Flies from June to August.

***Hylaeus gibbus*** Saunders 1850

North Mediterranean species. Slovenia: SM, PA, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).  
Bivoltine. Flies from May to September.

***Hylaeus gredleri*** Förster 1871

European species. Slovenia: DI, PA, AL, SP, SM (Čaven, Vremščica).

Probably polylectic species (ERLANDSSON 1986).

Probably univoltine. Flies in June and July.

***Hylaeus hyalinatus*** Smith 1842

North Mediterranean species. Slovenia: SM, DI, PA, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in pre-existing cavities (WESTRICH 1990).  
Bivoltine. Flies from May to September.

***Hylaeus imparilis*** Förster 1871

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Probably polylectic species (pers. obs., ERLANDSSON 1986).  
Bivoltine. Flies from June to September.

***Hylaeus kahri*** Förster 1871

Mediterranean species. Slovenia: SM, DI, PA, AL, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Probably polylectic species (pers. obs.).

Bivoltine. Flies from June to September.

***Hylaeus leptcephalus*** (Morawitz 1870)

*Hylaeus bisinuatus* Förster 1871

European species. Slovenia: Podčetrtek (SP).

P. r.: VOGRIN 1955; GOGALA 1994

Probably polylectic species. Nests in pre-existing cavities (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus lineolatus*** (Schenck 1859)

Mediterranean species. Slovenia: SM, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species (pers. obs.). Nests in pre-existing cavities, e.g. hollow stems (WESTRICH 1990).

Bivoltine. Flies from June to September.

***Hylaeus moricei*** (Friese 1898)

Mediterranean species. In Slovenia in the Sečovlje salt-flats (SM).

Probably polylectic species. Probably nests in reeds (*Phragmites*) (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus nigrinus*** (Fabricius 1798)

European species. Slovenia: SP, PA.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae. Nests in stone crevices and other pre-existing cavities (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus nivaliformis*** Dathe 1977

East Alpine species. In Slovenia above the forest limit in the Alps (AL).

P. r.: WARNCKE 1988; GOGALA 1991b; GOGALA 1994; EBMER 1996

Probably polylectic species (pers. obs.).

Univoltine. Flies in July and August.

***Hylaeus pfankuchi*** (Alfken 1919)

European species. In Slovenia at the Cerknica lake and in Draga near Ig (DI).

I found it on Apiaceae and Asteraceae. Nests in reed stems (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus pictipes*** Nylander 1852

*Hylaeus panzeri* Förster 1871

West Palaearctic species. Slovenia: Podčetrtek (SP).

P. r.: VOGRIN 1955; GOGALA 1994

Polylectic species. Nests in pre-existing cavities (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus punctatus*** (Brullé 1832)

Mediterranean species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests probably in pre-existing cavities (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus punctulatissimus*** Smith 1842

Mediterranean species. Slovenia: SM, DI, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Allium* (Liliaceae).

Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).

Univoltine. Flies in June and July.

***Hylaeus signatus*** (Panzer 1798)

*Prosopis pratensis* (Geoffroy in Fourcroy 1785)

*Prosopis bipunctata* (Fabricius 1798)

European species. Slovenia: SM, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Reseda* (Resedaceae). Nests in pre-existing cavities (WESTRICH 1990).

Partly bivoltine. Flies from June to September.

***Hylaeus sinuatus*** (Schenck 1853)

*Prosopis minuta* auct.

European species. Slovenia: SM, DI, PA, AL, SP.

P. r.: VOGRIN 1955; GOGALA 1994

Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus styriacus*** Förster 1871

Pontic species. Slovenia: SP, PA, DI.

P. r.: VOGRIN 1955; GOGALA 1994

Polylectic species. Nests in pre-existing cavities, e.g. wood burrows (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hylaeus taeniolatus*** Förster 1871

*Hylaeus diplonymus*, Dathe 1980

Mediterranean species. In Slovenia found on Mt. Trstelj (SM).

P. r.: GOGALA 1991b

Probably polylectic species (ERLANDSSON 1986).

Univoltine. Flies from June to August.

***Hylaeus tyrolensis*** Förster 1871

East Mediterranean species. Slovenia: SP, PA.

P. r.: GOGALA 1991b; GOGALA 1994

Known foodplants are the Apiaceae (ERLANDSSON 1986).

Univoltine. Flies in June and July.

***Hylaeus variegatus*** (Fabricius 1798)

European species. Slovenia: SM, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in found burrows in the ground (WESTRICH 1990).

Partly bivoltine. Flies from June to September.

*Colletes* Latreille 1802*Colletes albomaculatus* (Lucas 1849)*Colletes spectabilis* Morawitz 1868*Colletes niveofasciatus* Dours 1872

Mediterranean species. In Slovenia near the village Dragonja in Istria (SM).

Probably polylectic species (OSYČNJUK 1970).

Univoltine. Flies in May and June.

*Colletes carinatus* Radoszkowski 1891

East Mediterranean species. Slovenia: SM.

Oligolectic, specialized on *Allium* (Liliaceae) (pers. obs.).

Univoltine. Flies in June and July.

*Colletes cunicularius* (Linnaeus 1761)

Eurosiberian species. Slovenia: SP, PD, PA.

P. r.: GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990). I observed it also collecting the pollen of *Brassica* (Brassicaceae).

Univoltine. Flies in March and April.

*Colletes daviesanus* Smith 1846

Eurosiberian species. Slovenia: SM, SP, PA.

P. r.: GOGALA 1994

Oligolectic, specialized on Asteraceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

*Colletes floralis* Eversmann 1852

Boreomontane species. In Slovenia reported to be found near Kamnik (PA) (VOGRIN 1955), but this report is unreliable because of possible misidentification.

Probably polylectic species (ELFVING 1968), visits mainly Asteraceae (SCHMIEDEKNECHT 1930).

Univoltine. Flies in July and August.

*Colletes fodiens* (Geoffroy in Fourcroy 1785)

European species. In Slovenia along the river Sava near Črnuče and near Bevke on Ljubljansko Barje (PA).

P. r.: GOGALA 1994

Oligolectic, specialized on Asteraceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

*Colletes graeffei* Alfken 1900

East Mediterranean montane species. In Slovenia near Tolmin (locus typicus) (GRAEFFE 1902), near Rimske Toplice (NOSKIEWICZ 1936), on Nanos and in Trnovski Gozd, near Škocjanske Jame and on Polhograjska Grmada (SM, PA).

Oligolectic, specialized on *Allium* (Liliaceae) (GRAEFFE 1902, OSYČNJUK 1970, TKALCU 1974b). In

Slovenia it visits exclusively the flowers of *Allium pulchellum* (pers. obs.).  
Univoltine. Flies in July and August.

*Colletes hederæ* Schmidt & Westrich 1993

North Mediterranean species. Slovenia: SM, DI.

P. r.: GOGALA 1994

Oligolectic, specialized on *Hedera* (Araliaceae) (SCHMIDT & WESTRICH 1993, pers. obs.). The males visit mainly Apiaceae (pers. obs.).

Univoltine. Flies from August to October.

*Colletes hylaeiformis* Eversmann 1852

North Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Apiaceae (GRAEFFE 1902, pers. obs.).

Univoltine. Flies in July and August.

*Colletes nigricans* Gistel 1857

*Colletes dimidiatus nigricans*, Warncke 1978

West Mediterranean species. In Slovenia near Sečovelje, Strunjan and the spring of the Rižana river in Istria (SM).

P. r.: GOGALA 1994 (as *Colletes eous* – wrong identification)

Probably oligolectic, specialized on *Reseda* (Resedaceae) (pers. obs.).

Univoltine. Flies in July.

*Colletes similis* Schenck 1853

*Colletes picistigma* Thomson 1872

Palaeartic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to September.

*Colletes succinctus* (Linnaeus 1758)

Palaeartic species. Slovenia: PA, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on *Calluna* (Ericaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in August and September.

## Halictidae

### *Halictus* Latreille 1804

*Halictus carinthiacus* Blüthgen 1936

South Alpine species of beech forrests. In Slovenia in Trnovski Gozd (EBMER 1988), on Nanos (GOGALA 1994) (SM) and on Kum (PA).

Males fly in July and August.

***Halictus confusus* Smith 1853***Halictus perkinsi* Blüthgen 1926

Holarctic species. In Slovenia along the rivers Sava and Drava (SP, PA).

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990). Overwintered females appear in April, males fly from July to September.

***Halictus eurygnathus* Blüthgen 1931**

European species. Slovenia: SP, PA.

P. I.: GOGALA 1991b; GOGALA 1994

Overwintered females appear in April, males fly in August.

***Halictus gavaricus* Pérez 1903**

East Mediterranean species. In Slovenia in Trnovski Gozd near Ajdovščina (EBMER 1988).

Overwintered females appear in June, males fly from July.

***Halictus kessleri* Bramson 1879**

East Mediterranean species. Slovenia: SM.

P. I.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (pers. obs.). Overwintered females appear in April, males fly from July.

***Halictus langobardicus* Blüthgen 1944**

North Mediterranean species. Slovenia: SM, PA, SP.

P. I.: GOGALA 1991b; GOGALA 1994

Overwintered females appear in May, males fly from June.

***Halictus maculatus* Smith 1848**

West Palaearctic species. Present in the whole of Slovenia.

P. I.: ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990). Overwintered females appear in April, males fly from July to October.

***Halictus patellatus* Morawitz 1873**

Mediterranean species. In Slovenia near Komen on Karst (SM).

P. I.: GOGALA 1991b; GOGALA 1994

Males fly in August.

***Halictus quadricinctus* (Fabricius 1776)**

Palaearctic species. Slovenia: SM.

P. I.: GOGALA 1991b

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990). Overwintered females appear in April, males fly from July to September.

***Halictus rubicundus* (Christ 1791)**

Holarctic species. Slovenia: AL, PA, SM (Sabotin, Vremščica), SP (Podčetrtek).

P. I.: VOGRIČ 1955; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990). Overwintered females appear in April, males and young females in July.

***Halictus scabiosae* (Rossi 1790)**

Mediterranean species. Slovenia: SM, SP (Podčetrtek).

P. r.: VOGRIŃ 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990, GOGALA 1991a).

Overwintered females appear in April, males fly from July.

***Halictus seladonius* (Fabricius 1794)**

*Halictus geminatus* Pérez 1903

Mediterranean-central Asian steppe species. Slovenia: SP (Podčetrtek, Dobova).

P. r.: GOGALA 1994

Overwintered females fly from May, males from July.

***Halictus sexcinctus* (Fabricius 1775)**

West Palaearctic species. Slovenia: SM, DI, PA, SP.

P. r.: VOGRIŃ 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Communal species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Halictus simplex* Blüthgen 1923**

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from June.

***Halictus smaragdulus* Vachal 1895**

West Palaearctic species. Slovenia: SM, PA (Črnuče near Ljubljana).

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in April, males fly from June.

***Halictus subauratus* (Rossi 1792)**

*Halictus virescens* Lepeletier 1841

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990). Overwintered females appear in April, males fly from June.

***Halictus tetrazonius* (Klug 1817)**

East Mediterranean species. Slovenia: SM, PA.

P. r.: GOGALA 1991b; GOGALA 1994

Males fly from July to September.

***Halictus tumulorum* (Linnaeus 1758)**

*Halictus flavipes* (Fabricius 1787)

Palaearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

*Lasioglossum* Curtis 1833

*Lasioglossum aegyptiellum* (Strand 1909)

Mediterranean species. In Slovenia near Padna in Istria (SM).

Females fly from May to August, males in August.

*Lasioglossum aeratum* (Kirby 1802)

*Halictus viridiaeneus* Blüthgen 1918

Eurosiberian species. In Slovenia found on Kum (PA) and on Vremščica (SM).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Females appear in May, males in July.

*Lasioglossum albipes* (Fabricius 1781)

Palearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

*Lasioglossum albocinctum* (Lucas 1846)

West Mediterranean species. In Slovenia near Komen on Karst (SM).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in May, males fly from July.

*Lasioglossum alpigenum* (Dalla Torre 1877)

Alpine species. In Slovenia on Mangrtsko Sedlo and in Karavanke (AL).

P. r.: EBMER 1996

Known foodplants are Asteraceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

*Lasioglossum angusticeps* (Perkins 1895)

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Overwintered females appear in April, males fly in August.

*Lasioglossum bavaricum* (Blüthgen 1930)

Alpine species. In Slovenia in the Alps, on Čaven and Nanos (AL, SM).

P. r.: GOGALA 1991b

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in May, males fly in August.

*Lasioglossum bluethgeni* Ebmer 1971

*Halictus hirtiventris* Blüthgen 1923

East Mediterranean species. Slovenia: SM, PD, SP.

P. r.: VOGRIN 1955; GOGALA 1994

Polylectic species (pers. obs.).

Overwintered females appear in March, males fly from August.

***Lasioglossum calceatum* (Scopoli 1763)**

Palearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in March, males fly from July.

***Lasioglossum corvinum* (Morawitz 1878)**

Mediterranean species. Slovenia: SM, SP (Podčetrtek).

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species (pers. obs.). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Females fly from June, males in August.

***Lasioglossum costulatum* (Kriechbaumer 1873)**

West Palearctic species. Slovenia: SM, DI, PD, SP, AL.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum crassepunctatum* (Blüthgen 1923)**

Mediterranean-central Asian steppe species. In Slovenia near Podčetrtek (SP) (EBMER 1988).

***Lasioglossum cupromicans* (Pérez 1903)**

Alpine species. In Slovenia in Trnovski Gozd, Nanos, Vremščica, Snežnik and in the Alps (AL, SM, DI).

P. r.: EBMER 1974; GOGALA 1994

Probably polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Females fly from May, males from July.

***Lasioglossum discum* (Smith 1853)**

*Halictus morbillosus* Kriechbaumer 1873

Mediterranean species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Probably oligolectic, specialized on Asteraceae (pers. obs., EBMER 1970). Females fly from May, males from July.

***Lasioglossum duckei* (Alfken 1909)**

East Mediterranean species. In Slovenia near Divača (EBMER 1988) and near Hrastovlje (GOGALA 1994) (SM).

Females fly in June.

***Lasioglossum fratellum* (Pérez 1903)**

Boreomontane species. Slovenia: AL.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Probably polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum fulvicorne* (Kirby 1802)**

Palearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).  
Overwintered females appear in March, males fly from July.

*Lasioglossum glabriusculum* (Morawitz 1872)

Mediterranean species. Slovenia: SM, DI, PA, SP.

P. r.: ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in March, males fly from August.

*Lasioglossum griseolum* (Morawitz 1872)

Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1991b

Probably polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in April.

*Lasioglossum intermedium* (Schenck 1868)

West Palaearctic species. In Slovenia at the river Sava near Sp. Pirniče (PA).

Probably polylectic species. Inhabitant of sandy ground.

Overwintered females appear in April, males fly from July.

*Lasioglossum interruptum* (Panzer 1798)

West Palaearctic species. Slovenia: SM, DI, PA, SP.

P. r.: VOGGRIN 1955; ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

*Lasioglossum kussariense* (Blüthgen 1925)

East Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Females fly in May and June.

*Lasioglossum laeve* (Kirby 1802)

West Palaearctic species. In Slovenia on Nanos (SM) (GOGALA 1994).

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in May, males fly from July.

*Lasioglossum laevigatum* (Kirby 1802)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in March, males fly from July.

*Lasioglossum laticeps* (Schenck 1868)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: VOGGRIN 1955; ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in March, males fly from June.

***Lasioglossum lativentre* (Schenck 1853)**

West Palaearctic species. Present in the whole of Slovenia.

P. r.: ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum leucopus* (Kirby 1802)**

Eurosiberian species. Slovenia: AL, PA, DI, Slavnik (SM).

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in April, males fly from June.

***Lasioglossum leucozonium* (Schrank 1781)**

Holarctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from August.

***Lasioglossum lineare* (Schenck 1868)**

West Palaearctic species. Slovenia: SM, DI, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in March, males fly from July.

***Lasioglossum lissonotum* (Noskiewicz 1925)**

Balkan-central European steppe species. In Slovenia on Vremščica (SM) (GOGALA 1994).

Probably polylectic species (WESTRICH 1990).

Overwintered females appear in April, males fly from June.

***Lasioglossum majus* (Nylander 1852)**

West Palaearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum malachurum* (Kirby 1802)**

West Palaearctic species. Slovenia: SM, DI, SP.

P. r.: VOGRIN 1955; ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum marginatum* (Brullé 1832)**

*Halictus fasciatellus* Schenck 1870

Mediterranean species. Slovenia: SM, SP, PD, PA.

P. r.: GRAEFFE 1902; VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Females fly from March to May, males in September and October. The queen lives 5–6 years.

*Lasioglossum minutissimum* (Kirby 1802)

West Palearctic species. Slovenia: SP, PA.

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July to September.

*Lasioglossum morio* (Fabricius 1793)

West Palearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably social species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

*Lasioglossum nigripes* (Lepelletier 1841)

*Halictus vulpinus* Nylander 1852

West Palearctic species. Slovenia: SM, DI, PD, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

*Lasioglossum nitidiusculum* (Kirby 1802)

West Palearctic species. Slovenia: SP, PA.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

*Lasioglossum nitidulum* (Fabricius 1804)

*Halictus smeathmanellus* auct.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in March, males fly from July.

Two subspecies exist in Slovenia:

*L. n. nitidulum* (Fabricius 1804)

European subspecies. Slovenia: SP, PA.

*L. n. fudakowskii* (Noskiewicz 1925)

East Mediterranean subspecies. Slovenia: SM, AL (the Soča river valley).

*Lasioglossum pallens* (Brullé 1832)

Mediterranean species. Slovenia: SM, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990). Univoltine.

Both sexes fly from March to May.

***Lasioglossum parvulum*** (Schenck 1853)*Halictus minutus* auct.

West Palaearctic species. Slovenia: DI (Iški Vintgar), SP (Podčetrtek).

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum paucillum*** (Schenck 1853)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in March, males fly from July.

***Lasioglossum peregrinum*** (Blüthgen 1923)

East Mediterranean montane species. In Slovenia on Vremščica (SM).

Females fly from May to July, males in July.

***Lasioglossum politum*** (Schenck 1853)

Palaearctic species. Slovenia: SM, PA, PD, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Social species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum pseudocaspicum*** (Blüthgen 1923)

East Mediterranean species. In Slovenia in the Sečovlje salt-flats (SM).

I found it on *Ornithogalum* (Liliaceae).

Females fly in May.

***Lasioglossum punctatissimum*** (Schenck 1853)

West Palaearctic species. Slovenia: SM, DI, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum puncticolle*** (Morawitz 1872)

West Palaearctic species. Slovenia: SM, DI, PD, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably social species (WESTRICH 1990).

Overwintered females appear in May, males fly from August.

***Lasioglossum pygmaeum*** (Schenck 1853)

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in May, males fly from July.

Two subspecies exist in Slovenia:

*L. p. pygmaeum* (Schenck 1853)

European subspecies. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

*L. p. patulum* (Vachal 1905)

East Mediterranean subspecies. In Slovenia in Istria (SM).

***Lasioglossum quadrinotatum*** (Schenck 1861)

Eurosiberian species. In Slovenia near Središče ob Dravi (SP).

Probably polylectic species. Nests in burrows in a sandy ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July to October.

***Lasioglossum quadrinotatum*** (Kirby 1802)

West Palaearctic species. In Slovenia near Lukovica (PA).

Probably polylectic species. Nests in burrows in a sandy ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly in July.

***Lasioglossum rufitarse*** (Zetterstedt 1838)

Holarctic species. Slovenia: AL, PA, Čaven (SM).

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum semilucens*** (Alfken 1914)

Eurosiberian species. Slovenia: SP, PA, AL, Vremščica (SM).

P. I.: GOGALA 1991b; GOGALA 1994

Probably polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Overwintered females appear in April, males fly from August.

***Lasioglossum sexnotatum*** (Kirby 1802)

Eurosiberian species. Slovenia: SP, PA.

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from July.

***Lasioglossum sexstrigatum*** (Schenck 1868)

Eurosiberian species. Slovenia: SP.

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Overwintered females appear in April, males fly from June.

***Lasioglossum subaenescens*** (Pérez 1895)

*Lasioglossum illyricum* Ebmer 1971

North Mediterranean species. In Slovenia near Movraž and Dragonja in Istria (SM).

P. I.: GOGALA 1991b

I observed it feeding on *Dictamnus albus* (Rutaceae).

Females fly in May and June, males in July.

***Lasioglossum subfulvicorne*** (Blüthgen 1934)

Eurosiberian species. In Slovenia on Pohorje (AL) (GOGALA 1994).

Probably polylectic species (WESTRICH 1990).

Females fly from April, males from June.

***Lasioglossum tricinctum*** (Schenck 1874)

North Mediterranean species. Slovenia: SM, DI, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Probably polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990). Overwintered females appear in April, males fly from July.

***Lasioglossum villosulum*** (Kirby 1802)

Palearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990). Bivoltine.

***Lasioglossum xanthopus*** (Kirby 1802)

West Palearctic species. Slovenia: SM, PA (Zaplana).

P. r.: GOGALA 1991b; GOGALA 1994

According to Westrich (1990) a polylectic species visiting mainly Lamiaceae, but in Slovenia it collects pollen exclusively from *Salvia* (Lamiaceae) (pers. obs.). Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990).

Univoltine. Overwintered females fly from April to June, males in September and October or in early spring.

***Lasioglossum zonulum*** (Smith 1848)

Holarctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Solitary species (WESTRICH 1990). Overwintered females appear in April, males fly from July.

***Sphcodes*** Latreille 1805***Sphcodes albilabris*** (Fabricius 1793)

*Sphcodes fuscipennis* (Germar 1819)

Eurosiberian species. Slovenia: SM, SP, PA.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Colletes cunicularius* (WESTRICH 1990). The host in Istria is probably *Colletes albomaculatus*, found with the female in its nesting place. In Istria the species flies too late to parasitize the known host.

Univoltine. Overwintered females fly in April and May, the new generation from July (WESTRICH 1990). In Istria females fly in May and June.

***Sphcodes alternatus*** Smith 1853

Mediterranean species. In Slovenia in the Sečovlje salt-flats (SM).

Cleptoparasitic species. Host: *Lasioglossum nigripes* (WESTRICH 1990).

Males fly in July.

***Sphcodes crassus*** Thomson 1870

Palearctic species. Slovenia: SM, PA.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: smaller species of the genus *Lasioglossum*, e.g. *L. pauxillum* and *L. punctatissimum* (WESTRICH 1990).

Univoltine. Overwintered females fly in May and June, the new generation from July.

***Sphecodes ephippius*** (Linnaeus 1767)

Palearctic species. Present in the whole of Slovenia.

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: several species of the genera *Lasioglossum* and *Halictus*, e.g. *L. leucozonium* and *H. tumulorum* (WESTRICH 1990).

Univoltine. Overwintered females fly from March to June, the new generation from July.

***Sphecodes ferruginatus*** Hagens 1882

European species. Slovenia: SM, DI, PD, AL.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Lasioglossum fulvicorne*, *L. pauxillum*, *L. laticeps* (WESTRICH 1990).

Univoltine. Overwintered females fly in May and June, the new generation from July.

***Sphecodes geoffrellus*** (Kirby 1802)

European species. Slovenia: AL, PA, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: small species of the genus *Lasioglossum*, e.g. *L. morio*, *L. leucopus* and *L. nitidiusculum* (WESTRICH 1990).

Univoltine. Overwintered females fly from April to July, the new generation from July.

***Sphecodes gibbus*** (Linnaeus 1758)

Palearctic species. Slovenia: SM, DI, PA, SP, AL.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: several species of the genus *Halictus*, e.g. *H. maculatus*, *H. rubicundus*, *H. quadricinctus*, *H. sexcinctus* (WESTRICH 1990).

Univoltine. Overwintered females fly from April, the new generation from June.

***Sphecodes hyalinatus*** Hagens 1882

European species. Slovenia: AL, PA, SM (Slavnik).

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Lasioglossum fulvicorne* (WESTRICH 1990).

Univoltine. Overwintered females fly from April to June, the new generation from July.

***Sphecodes longulus*** Hagens 1882

European species. Slovenia: PA, SM.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Lasioglossum minutissimum*, *L. morio* and *L. leucopus* (WESTRICH 1990).

Univoltine. Overwintered females fly in May and June, the new generation from July.

***Sphecodes majalis*** Pérez 1903

Mediterranean species. Slovenia: SM, PA, PD.

Cleptoparasitic species. Host: *Lasioglossum pallens* (WESTRICH 1990).

Univoltine. Both sexes fly in spring.

***Sphecodes miniatus*** Hagens 1882

European species. In Slovenia at the river Sava near Črnuče (PA).

Cleptoparasitic species. Hosts: *Lasioglossum nitidiusculum*, *L. sexstrigatum*, *L. politum*, *L. morio* (WESTRICH 1990).

Univoltine. Overwintered females fly from April to June, the new generation from July to September.

***Sphecodes monilicornis*** (Kirby 1802)*Sphecodes subquadratus* Smith 1845

Euro Siberian species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Lasioglossum malachurum*, *L. calceatum*, *L. albipes* (WESTRICH 1990).

Univoltine. Overwintered females fly from April to July, the new generation from July.

***Sphecodes niger*** Hagens 1882

European species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Lasioglossum morio* (WESTRICH 1990).

Univoltine. Overwintered females fly in May and June, the new generation from July.

***Sphecodes pellucidus*** Smith 1845

Palaeartic species. Slovenia: SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena barbilabris* (WESTRICH 1990).

Univoltine. Overwintered females fly from March to June, the new generation from July.

***Sphecodes pseudofasciatus*** Blüthgen 1924

North Mediterranean species. In Slovenia at the river Sava near Črnuče and near Brezovica near Lj. (PA). P. r.: GOGALA 1994

Cleptoparasitic species.

Univoltine. Overwintered females fly in May, the new generation from August.

***Sphecodes puncticeps*** Thomson 1870

Palaeartic species. Slovenia: SM, PA, AL, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Lasioglossum villosulum* (WESTRICH 1990), *L. puncticolle* (pers. obs.).

Univoltine. Overwintered females fly from April to July, the new generation from July.

***Sphecodes reticulatus*** Thomson 1870

European species. Slovenia: SM, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: several species of the genus *Andrena*, e.g. *A. barbilabris* (WESTRICH 1990).

Univoltine. Overwintered females fly from May to July, the new generation from July.

***Sphecodes rufiventris*** (Panzer 1798)

European species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Halictus maculatus* (WESTRICH 1990).

Univoltine. Overwintered females fly from May to June, the new generation from July.

***Sphecodes scabricollis*** Wesmael 1835

European species. Slovenia: SM, DI, PA.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: probably *Lasioglossum zonulum* (WESTRICH 1990).

Univoltine. Females fly from June, males from August.

***Sphecodes spinulosus* Hagens 1875**

Eurosiberian species. In Slovenia near Komen on Karst (SM) (GOGALA 1994).  
Cleptoparasitic species. Host: *Lasioglossum xanthopus* (WESTRICH 1990).  
Univoltine. Both sexes fly from May to July.

***Nomia* Latreille 1804**

*Pseudapis* Kirby 1900

***Nomia diversipes* Latreille 1806**

North Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (pers. obs.).  
Probably univoltine. Flies from June to September.

***Nomia unidentata* Olivier 1811**

*Nomia ruficornis* Spinola 1838

Mediterranean species. In Slovenia in the Sečovlje salt-flats (SM).

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (pers. obs.).  
Probably univoltine. Flies from May to September.

***Dufourea* Lepelletier 1841**

*Halictoides* Nylander 1848

***Dufourea dentiventris* (Nylander 1848)**

Eurosiberian species. Slovenia: AL, Nanos (SM), Kum (PA).

P. r.: GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

***Dufourea inermis* (Nylander 1848)**

Eurosiberian species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

***Dufourea minuta* Lepelletier 1841**

*Dufourea vulgaris* Schenck 1861

European species. Slovenia: AL, PA, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on Cichoriaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

***Rhophitoides* Schenck 1861*****Rhophitoides canus* (Eversmann 1852)**

Eurosiberian steppe species. Slovenia: SP, DI, SM.

P. r.: GOGALA 1994

Oligolectic, specialized on *Medicago* (Fabaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

#### *Rophites* Spinola 1808

##### *Rophites algerus* Pérez 1895

European species. Slovenia: SM, PA.

P. r.: GOGALA 1994

Oligolectic, specialized on Lamiaceae (in Slovenia exclusively *Stachys recta* – pers. obs.). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in June and July.

##### *Rophites quinquespinosus* Spinola 1808

European species. Slovenia: PA, AL, DI, SP.

P. r.: ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Lamiaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

#### *Systropha* Illiger 1805

##### *Systropha curvicornis* (Scopoli 1770)

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Convolvulus* (Convolvulaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

#### Andrenidae

##### *Andrena* Fabricius 1775

##### *Biareolina* Dours 1873

##### *Andrena aberrans* Eversmann 1852

##### *Andrena ratisbonensis* Stoeckert 1924

Pontic species. Slovenia: SM (Braniška Dolina), SP (Podčetrtek).

P. r.: VOGRIN 1955; GOGALA 1994

Oligolectic, specialized on *Chamaecytisus* (Fabaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

##### *Andrena aeneiventris* Morawitz 1872

Mediterranean species. In Slovenia near Komen on Karst (SM).

Polylectic species, visiting mainly Apiaceae and Brassicaceae (DYLEWSKA 1987).

Bivoltine. Flies in May and June and in July and August.

##### *Andrena agilissima* (Scopoli 1770)

##### *Andrena flessae* Panzer 1805

West Mediterranean species. In Slovenia in the Soča valley, near Strunjan (SM) and Maribor (SP).

P. I.: GRAEFFE 1902; GOGALA 1994

Oligolectic, specialized on Brassicaceae. Nests in burrows in the ground, excavated by itself. Probably communal species (WESTRICH 1990).

Univoltine. Flies from May to June.

*Andrena agnata* Warncke 1967

West Mediterranean species. Slovenia: SM.

Probably oligolectic, specialized on Cichoriaceae (e.g. *Taraxacum*) (pers. obs.).

Univoltine. Flies in April and May.

*Andrena alfkenella* Perkins 1914

West Palaearctic species. Slovenia: SM, PA, SP.

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in May and June and in July and August.

*Andrena apicata* Smith 1847

Eurosiberian species. Slovenia: SM, PA, DI, SP.

P. I.: VOGGRIN 1955; GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in March and April.

*Andrena argentata* Smith 1844

European species. In Slovenia near Studenec (PD) (GOGALA 1994).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in April and May and from July to September.

*Andrena atrata* Friese 1887

*Andrena bicarinata* auct.

East Mediterranean species. In Slovenia near Hrastovlje (SM) (GOGALA 1994).

Probably polylectic species, visiting mainly Brassicaceae. Nests in burrows in the ground, excavated by itself (DYLEWSKA 1987).

Bivoltine. Flies in May and June and in July and August.

*Andrena barbilabris* (Kirby 1802)

*Andrena sericea* (Christ 1791)

*Andrena albicrus* (Kirby 1802)

Eurosiberian species. Slovenia: PA, DI, SP.

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in April and May and June in July.

*Andrena bicolor* Fabricius 1775

*Andrena gwynana* (Kirby 1802)

*Andrena croatica* Friese 1887

West Palaearctic species. Present in the whole of Slovenia.

P. I.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species, but the summer generation visits mainly Campanulaceae (pers. obs.). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies from March to May and from June to August.

***Andrena bimaculata*** (Kirby 1802)*Andrena bluethgeni* Stoeckhert 1930

Palaeartic species. Slovenia: SP.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in April and May and in July and August.

***Andrena bucephala*** Stephens 1846

European species. Slovenia: SM, PA, SP.

P. r.: VOGGRIN 1955; GOGALA 1994

Polylectic species, visiting mainly trees and bushes. Nests in burrows in the ground, excavated by itself. Communal species (WESTRICH 1990).

Univoltine. Flies in April and May.

***Andrena carantonica*** Pérez 1902*Andrena scotica* Perkins 1916*Andrena jacobi* Perkins 1921*Andrena trimmerana* auct.

European species. Slovenia: SM, AL, PA, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Communal species (WESTRICH 1990).

Univoltine, probably partly bivoltine (pers. obs.). Flies from April to June.

***Andrena chrysoceles*** (Kirby 1802)

European species. Slovenia: DI, PA.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena cineraria*** (Linnaeus 1758)

Palaeartic species. In Slovenia near Podčetrtek (SP).

P. r.: VOGGRIN 1955; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in April and May.

***Andrena clarkella*** (Kirby 1802)

Holarctic species. Slovenia: DI, PA, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in March and April.

***Andrena clypella*** Strand 1921

North Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Univoltine. Flies in May and June.

***Andrena coitana*** (Kirby 1802)

Boreomontane species. Slovenia: AL, PA.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).  
Univoltine. Flies in July and August.

*Andrena colletiformis* Morawitz 1874

Mediterranean species. In Slovenia along the coast (SM).

Polylectic species (OSYČNJUK 1977).

Univoltine. Flies in June and July.

*Andrena combinata* (Christ 1791)

*Andrena mehelyi* Alfken 1936

Eurosiberian species. Slovenia: AL, DI, SM, SP.

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in May and June and in July and August.

*Andrena congruens* Schmiedeknecht 1883

*Andrena confinis* Stoeckert 1930

Mediterranean species. Slovenia: SM, SP.

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in April and May and in July and August.

*Andrena curtula* Pérez 1903

*Andrena pauxilla* Stoeckert 1935

European species. In Slovenia found near Gradišče near Lukovica (PA).

Polylectic species (WESTRICH 1990).

Bivoltine. Flies in April and May and in June and July (STOECKERT 1935).

*Andrena curvana* Warncke 1965

*Andrena gascheti* auct.

East Mediterranean species. Slovenia: SM, PA, SP.

P. I.: GOGALA 1991b; GOGALA 1994

Probably oligolectic, specialized on Apiaceae (pers. obs.).

Univoltine. Flies from June to August.

*Andrena curvungula* Thomson 1870

European species. Slovenia: SM, DI, SP.

P. I.: GOGALA 1994

Oligolectic, specialized on *Campanula* and *Phyteuma* (Campanulaceae) (WESTRICH 1990, pers. obs.). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

*Andrena decipiens* Schenck 1861

*Andrena flavilabris* Schenck 1874

Mediterranean species. Slovenia: SM, SP.

P. I.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species (pers. obs.), preferring *Allium* and Fabaceae.

Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine (WESTRICH 1990), but SCHUBERTH (1995) presumes that the spring generation is a distinct species, *A. flavilabris*. The specimens from Podčetrtek (SP), found in April, would in such a case belong to this species, flying from April to June. The specimens found in October near Sočerga in

Istria also correspond well to the description of this species. Other specimens, flying in Istria in July, would belong to the species *A. decipiens*.

***Andrena denticulata*** (Kirby 1802)

*Andrena listerella* (Kirby 1802)

Eurosiberian species. Slovenia: AL, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae and Cichoriaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

***Andrena distinguenda*** Schenck 1871

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on Brassicaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena dorsalis*** Brullé 1832

East Mediterranean species. Slovenia: SM, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species (pers. obs.).

Univoltine. Flies from April to June.

***Andrena dorsata*** (Kirby 1802)

*Andrena propinqua* Schenck 1853

*Andrena dubitata* Schenck 1870

West Palaearctic species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in April and May and in July and August.

***Andrena erythrocnemis*** Morawitz 1870

Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Oligolectic, specialized on Apiaceae (DYLEWSKA 1987).

Univoltine. Flies in June and July.

***Andrena eximia*** Smith 1847

Eurosiberian species. Slovenia: SP.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

***Andrena falsifica*** Perkins 1915

European species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena ferox*** Smith 1847

European species. Slovenia: SM, DI, SP.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).  
Univoltine. Flies from April to June.

***Andrena flavipes*** Panzer 1799

*Andrena fulvicrus* (Kirby 1802)

*Andrena extricata* Smith 1849

West Palaearctic species. Slovenia: SM, PA, PD, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).  
Bivoltine, partly trivoltine. Flies from March to May and from July to September. In Istria the third generation flies in October.

***Andrena florea*** Fabricius 1793

Mediterranean species. Slovenia: SM, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Bryonia* (Cucurbitaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

***Andrena floricola*** Eversmann 1852

European species. Slovenia: SP.

Probably oligolectic, specialized on Brassicaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in April and May and in July and August.

***Andrena florivaga*** Eversmann 1852

East Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena fucata*** Smith 1847

European species. In Slovenia in Polhograjsko Hribovje (PA).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena fulva*** (Müller 1766)

*Andrena fulva* (Schrank 1781)

*Andrena armata* (Gmelin 1790)

European species. Slovenia: SM, PA, PD, SP.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

***Andrena fulvago*** (Christ 1791)

European species. Slovenia: SM, DI, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Cichoriaceae and Asteraceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

***Andrena fulvata*** Stoeckert 1930

European species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena fulvida*** Schenck 1853

European species. Slovenia: PA (Črnuče near Ljubljana), SP (Podčetrtek).

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in May and June.

***Andrena fuscipes*** (Kirby 1802)

*Andrena pubescens* (Kirby 1802)

European species. Slovenia: PA, SP.

P. r.: VOGRIN 1955; GOGALA 1994

Oligolectic, specialized on *Calluna* (Ericaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in August and September.

***Andrena gravida*** Imhoff 1832

*Andrena extricata* auct.

European species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

***Andrena haemorrhoea*** (Fabricius 1781)

*Andrena albicans* auct.

Palaearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena hattorfiana*** (Fabricius 1775)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; ERLANDSSON 1979; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Dipsacaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to August.

***Andrena hedikae*** Jaeger 1934

Mediterranean species. In Slovenia near Podčetrtek (SP) (locus typicus).

P. r.: JAEGER 1934; GOGALA 1994

Probably polylectic species, visiting mainly Apiaceae and Brassicaceae (DYLEWSKA 1987).

Bivoltine. Flies in April and May and from June to August.

***Andrena helvola*** (Linnaeus 1758)

European species. Slovenia: PA, DI, AL, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).  
Univoltine. Flies from April to June.

*Andrena hesperia* Smith 1853

*Andrena freya* Strand 1915

Mediterranean species. Slovenia: SM, PA, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Cichoriaceae (pers. obs.).

Univoltine. Flies from April to June.

*Andrena humilis* Imhoff 1832

*Andrena fulvescens* Smith 1847

Palaeartic species. Present in the whole of Slovenia.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Cichoriaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

*Andrena hyemala* Warncke 1973

East Mediterranean species. In Slovenia near Komen on Karst (SM).

P. r.: GOGALA 1991b; GOGALA 1994

Probably oligolectic, specialized on *Alyssum* (Brassicaceae) (pers. obs.).

Univoltine. Flies from April to June.

*Andrena hypopolia* Schmiedeknecht 1883

Mediterranean species. In Slovenia near Koštabona in Istria (SM) (GOGALA 1994).

Polylectic species, visiting only Brassicaceae and Apiaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in May and June and in July and August.

*Andrena impunctata* Pérez 1895

Mediterranean species. In Slovenia along the coast (SM).

Polylectic species, visiting mainly Brassicaceae and Apiaceae. Nests in burrows in the ground, excavated by itself (DYLEWSKA 1987).

Bivoltine. Flies in April and May and from June to August.

*Andrena intermedia* Thomson 1872

*Andrena gelriae*, Stoeckhert 1930

European species. Slovenia: AL, PA, DI, SP, SM (Nanos).

P. r.: VOGGRIN 1955; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in June and July.

*Andrena korleviciana* Friese 1887

East Mediterranean species. Slovenia: SM, PD.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species (pers. obs.).

Univoltine. Flies from April to June.

***Andrena labialis*** (Kirby 1802)

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself. Probably communal species (WESTRICH 1990).

Univoltine. Flies from May to July.

***Andrena labiata*** Fabricius 1781

*Andrena cingulata* auct.

Palaearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena lagopus*** Latreille 1809

*Biareolina neglecta* Dours 1873

West Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on Brassicaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena lapponica*** Zetterstedt 1838

Boreomontane species. Slovenia: AL, PA.

P. r.: GOGALA 1994

Oligolectic, specialized on *Vaccinium* (Ericaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena lathyri*** Alfken 1899

European species. Slovenia: SM, PA, DI, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena limata*** Smith 1853

*Andrena pectoralis* Schmiedeknecht 1883

Mediterranean species. Slovenia: AL, SP.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies from April to June and in August and September.

***Andrena marginata*** Fabricius 1776

*Andrena cetii* (Schränk 1781)

Eurosiberian species. Slovenia: SM, AL, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Dipsacaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in August and September.

***Andrena minutula*** (Kirby 1802)*Andrena parvula* (Kirby 1802)

West Palaearctic species. Slovenia: SM, DI, PA, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies from March to May and from June to August.

***Andrena minutuloides*** Perkins 1914

West Palaearctic species. Slovenia: SM, PA, AL, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies in April and May and from June to August.

***Andrena mitis*** Schmiedeknecht 1883

European species. Slovenia: SM, PA, PD, SP.

P. r.: VOGGRIN 1955; GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

***Andrena mucida*** Kriechbaumer 1873*Andrena julliani* Schmiedeknecht 1883

Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1994

Probably polylectic species (DYLEWSKA 1987). Spring generation visits *Muscari* (Liliaceae) (pers. obs.).

Bivoltine. Flies in April and May and in July and August.

***Andrena nana*** (Kirby 1802)

West Palaearctic species. Slovenia: PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies from April to June and in July and August.

***Andrena nanula*** Nylander 1848

Boreomontane species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Apiaceae are the only known foodplants. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

***Andrena nigriceps*** (Kirby 1802)

European species. In Slovenia on Nanos (SM) (GOGALA 1994).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

***Andrena nigroaenea*** (Kirby 1802)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Probably communal species (WESTRICH 1990).

Univoltine. Flies from April to July.

***Andrena nitida*** (Müller 1776)

West Palaearctic species. Present in the whole of Slovenia.

P. I.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to June.

***Andrena nitidiuscula*** Schenck 1853

*Andrena fulvicornis* Schenck 1853

*Andrena lucens* Imhoff 1868

Palaearctic species. Slovenia: SM, PA, DI, SP.

P. I.: GRAEFFE 1902; VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Apiaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine (pers. obs.), but SCHMID-EGGER AND DOCZKAL (1995) distinguish two species, bivoltine *A. fulvicornis* and univoltine *A. nitidiuscula*. The Slovenian specimens flying in spring (from April to June) belong to *A. fulvicornis* in this case, but summer specimens (flying in July and August) correspond well with the description of *A. nitidiuscula*. The distributions of both hypothetical species in Slovenia are as follows: *A. fulvicornis*: SM, PA, SP; *A. nitidiuscula*: SM, PA, DI.

***Andrena niveata*** Friese 1887

European species. Slovenia: SM.

P. I.: GOGALA 1994

Oligolectic, specialized on Brassicaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena ovatula*** (Kirby 1802)

*Andrena fuscata* (Kirby 1802)

*Andrena albofasciata* Thomson 1870

Palaearctic species. Present in the whole of Slovenia.

P. I.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies from April to June and from July to September.

***Andrena pallitarsis*** Pérez 1903

European species. Slovenia: SM, DI, PA, SP.

P. I.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Apiaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

***Andrena pandellei*** Pérez 1895

West Palaearctic species. Slovenia: SM, PA, SP.

P. I.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in May and June.

***Andrena paucisquama*** Noskiewicz 1924

Pontic species. Slovenia: SM, PA, PD, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Campanulaceae and *Geranium* (Geraniaceae). Nests in burrows in the ground, excavated by itself (DYLEWSKA 1987, pers. obs.).

Univoltine. Flies in May and June.

*Andrena pellucens* Pérez 1895

North Mediterranean species. Slovenia: SM (Komen on Karst), SP (Podčetrtek).

P. r.: GOGALA 1991b; GOGALA 1994

Probably oligolectic, specialized on Cichoriaceae (e.g. *Leontodon*) (pers. obs.).

Univoltine. Flies in August and September.

*Andrena pontica* Warncke 1972

Pontic species. Slovenia: PA (Črnuče near Ljubljana), DI (Cerkniško Jezero).

P. r.: GOGALA 1994

Probably polylectic species (DYLEWSKA 1987). I have personally observed it on Apiaceae.

Probably bivoltine. Flies in May and June and in July and August.

*Andrena potentillae* Panzer 1809

European species. Slovenia: SM (Komen on Karst).

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Potentilla* (Rosaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in March and April.

*Andrena praecox* (Scopoli 1763)

European species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

*Andrena producta* Warncke 1973

East Mediterranean species. In Slovenia near Brezovica near Lj. (PA).

Oligolectic, specialized on Fabaceae (OSYČNJUK 1977).

Univoltine. Flies from April to June.

*Andrena proxima* (Kirby 1802)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Apiaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to July.

*Andrena rogenhoferi* Morawitz 1872

Alpine species. In Slovenia in Bohinj, on Triglav and on Košuta (AL).

P. r.: GOGALA 1991b; EBMER 1997

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to August.

*Andrena rosae* Panzer 1801

*Andrena austriaca* auct.

Eurosiberian species. Slovenia: SM, PA, DI, SP.

P. r.: GRAEFFE 1902; GOGALA 1994

Oligolectic, specialized on Apiaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

*Andrena ruficrus* Nylander 1848

*Andrena rufitarsis* Zetterstedt 1838

European species. Slovenia: PA, AL.

P. r.: GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

*Andrena rufula* Schmiedeknecht 1883

North Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1991b; GOGALA 1994

Probably polylectic species, visiting exclusively trees and bushes (DYLEWSKA 1987). I have personally observed the females on *Prunus* (Rosaceae).

Univoltine. Flies in April and May.

*Andrena rugulosa* Stoeckert 1935

North Mediterranean species. Slovenia: SM.

Polylectic species (WESTRICH 1990). I have personally observed it on *Alyssum* (Brassicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in April and May.

*Andrena saxonica* Stoeckert 1935

*Andrena krasensis* GOGALA 1991

North Mediterranean species. In Slovenia near Komen on Karst and near Sočerga (SM).

P. r.: GOGALA 1994

Oligolectic, specialized on *Ornithogalum* (Liliaceae) (pers. obs.).

Univoltine. Flies from April to June.

*Andrena schencki* Morawitz 1866

*Andrena labiata*, Stoeckert 1930

European species. Slovenia: AL, SP.

P. r.: VOGGRIN 1955; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

*Andrena semilaevis* Pérez 1903

*Andrena saundersella* Perkins 1914

European species. In Slovenia near Radovna (AL), on Kum (PA) and on Nanos (SM).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

*Andrena seminuda* Friese 1896

*Andrena setigera* Alfken 1911

East Mediterranean species. Slovenia: SP.

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (DYLEWSKA 1987).  
Univoltine. Flies in April and May.

*Andrena similis* Smith 1849

*Andrena rufohispida* Dours 1872

West Palaearctic species. Slovenia: SM, SP.

P. t.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

*Andrena simontornyella* Noskiewicz 1939

Mediterranean species. Slovenia: SM.

P. t.: GOGALA 1991b; GOGALA 1994

Polylectic species (DYLEWSKA 1987, pers. obs.).

Bivoltine. Flies from March to May and in July and August.

*Andrena spinigera* (Kirby 1802)

*Andrena dragana* Friese 1887

*Andrena trimmerana*, Dylewska 1987 (nec Kirby 1802)

Palaearctic species. Present in the whole of Slovenia.

P. t.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (DYLEWSKA 1987).

Univoltine (SCHMID-EGGER et SCHEUCHL 1997, pers. obs.). In Slovenia it flies from March to May. If the specimens, flying in summer, belonged to the same species, this species would be called *A. trimmerana* Kirby. But the summer specimens are probably a distinct species or the second generation of *A. carantonica* (SCHMID-EGGER et SCHEUCHL 1997).

*Andrena strohmeilla* Stoeckert 1928

European species. Slovenia: AL, PA, DI, SP.

P. t.: VOGGRIN 1955; GOGALA 1994

Probably polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

*Andrena subopaca* Nylander 1848

Eurosiberian species. Present in the whole of Slovenia.

P. t.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

*Andrena susterai* Alfken 1914

Pontic species. Slovenia: SM, SP.

P. t.: GOGALA 1994

Polylectic species (DYLEWSKA 1987, pers. obs.).

Bivoltine. Flies in April and May and in July and August.

*Andrena symphyti* Schmiedeknecht 1883

North Mediterranean species. Present in the whole of Slovenia.

P. t.: VOGGRIN 1955; GOGALA 1994

Oligolectic, specialized on *Symphytum* (Boraginaceae). Nests in burrows in the ground, excavated

by itself (WESTRICH 1990).  
Univoltine. Flies from April to June.

***Andrena taraxaci*** Giraud 1861

Palearctic species. Slovenia: SM, PD, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Cichoriaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

***Andrena tarsata*** Nylander 1848

Boreomontane species. In Slovenia on Korensko Sedlo (AL) (GOGALA 1994).

Oligolectic, specialized on *Potentilla* (Rosaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

***Andrena thoracica*** (Fabricius 1775)

Palearctic species. Slovenia: SM, Stol (AL).

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Bivoltine. Flies from April to June and from July to September.

***Andrena tibialis*** (Kirby 1802)

Eurosiberian species. In Slovenia near Maribor (SP) (GOGALA 1994).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Andrena truncatilabris*** Morawitz 1878

Mediterranean species. In Slovenia near Strunjan (SM).

Oligolectic, specialized on Brassicaceae (OSYČNJUK 1977).

Univoltine. Flies in May and June.

***Andrena tscheki*** Morawitz 1872

*Andrena nigrifrons* Smith 1853

North Mediterranean species. Slovenia: SM, DI, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Brassicaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

***Andrena vaga*** Panzer 1799

*Andrena ovina* Klug 1810

Eurosiberian species. Slovenia: SM, PA, DI, PD, SP.

P. r.: GRAEFFE 1902; GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to May.

***Andrena variabilis*** Smith 1853

Mediterranean species. In Slovenia near Dragonja (SM) (GOGALA 1994).

Polylectic species. Nests in burrows in the ground, excavated by itself (DYLEWSKA 1987).  
Bivoltine. Flies in May and June and from August to October.

*Andrena varians* (Rossi 1792)

European species. In Slovenia near Hrpelje on Karst (SM).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in April and May.

*Andrena ventralis* Imhoff 1832

Palaeartic species. Slovenia: SM, PA, PD, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on *Salix* (Salicaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in April and May.

*Andrena ventricosa* Dours 1873

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species (DYLEWSKA 1987, pers. obs.).

Bivoltine. Flies from April to June and in July and August.

*Andrena viridescens* Viereck 1916

*Andrena cyanescens* Nylander 1852

European species. Slovenia: SM, PA, DI, SP.

P. r.: VOGGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Veronica* (Scrophulariaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

*Andrena vulpecula* Kriechbaumer 1873

North Mediterranean species. Slovenia: SM, DI, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on *Helianthemum* (Cistaceae) (pers. obs.).

Univoltine. Flies in May and June.

*Andrena wilkella* (Kirby 1802)

*Andrena xanthura* (Kirby 1802)

*Andrena convexiuscula* (Kirby 1802)

Holarctic species. Slovenia: SM, PD.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

*Panurgus* Panzer 1806

*Panurgus banksianus* (Kirby 1802)

European species. Slovenia: AL, PA, Nanos (SM).

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Cichoriaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

***Panurgus calcaratus*** (Scopoli 1763)

West Palaearctic species. Slovenia: AL, PA, SP, SM.

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Cichoriaceae. Nests in burrows in the ground, excavated by itself. Communal species (WESTRICH 1990).

Univoltine. Flies from July to September.

***Camptopoeum*** Spinola 1843

***Camptopoeum frontale*** (Fabricius 1804)

East Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Oligolectic, specialized on *Centaurea* (Asteraceae). Nests in burrows in the ground, excavated by itself (OSYČNJUK 1977).

Univoltine. Flies from June to August.

***Melitturga*** Latreille 1809

***Melitturga clavicornis*** (Latreille 1806)

Eurosiberian species. In Slovenia near Maribor (SP) (GOGALA 1994).

Oligolectic, specialized on Fabaceae (mainly *Medicago*). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

Melittidae

***Melitta*** Kirby 1802

***Melitta dimidiata*** Morawitz 1876

North Mediterranean species. In Slovenia along the river Sava near Črnuče (PA).

Oligolectic, specialized on *Onobrychis* (Fabaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

***Melitta haemorrhoidalis*** (Fabricius 1775)

Eurosiberian species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

***Melitta leporina*** (Panzer 1799)

Eurosiberian species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae (mainly *Medicago*). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

***Melitta nigricans*** Alfken 1905

European species. Slovenia: PA, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Lythrum* (Lythraceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

***Melitta tricineta*** Kirby 1802

*Melitta melanura* (Nylander 1852)

Eurosiberian species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on *Odontites* (Scrophulariaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in August and September.

***Macropis*** Panzer 1809

***Macropis europaea*** Warncke 1973

*Macropis labiata* auct.

Eurosiberian species. Present in the whole of Slovenia.

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Lysimachia* (Primulaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

***Macropis fulvipes*** (Fabricius 1804)

Eurosiberian species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Lysimachia* (Primulaceae). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

***Dasyroda*** Latreille 1802

***Dasyroda hirtipes*** (Fabricius 1793)

*Dasyroda plumipes* (Panzer 1797)

Palaeartic species. Slovenia: SM, PA, DI, SP.

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Cichoriaceae and Asteraceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

## Megachilidae

*Dioxys* Lepeletier & Serville 1825*Dioxoides* Popov 1947*Dioxys cincta* (Jurine 1807)

Mediterranean species. In Slovenia near Komen on Karst (SM).

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Megachile parietina* and *M. pyrenaica* (WESTRICH 1990). I have personally observed it together with *Hoplitis pallicornis*, its presumed host on Karst, in the nesting place.

Univoltine. Flies in May and June.

*Dioxys tridentata* (Nylander 1848)

European species. Slovenia: SM, PA.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Hoplitis anthocopoides* and *Megachile parietina* (WESTRICH 1990).

Univoltine. Flies in June and July.

*Lithurgus* Latreille 1825*Lithurgus chrysurus* Fonscolombe 1834

Mediterranean species. In Slovenia near the spring of the Rižana river and near Sečovlje (SM).

Oligolectic, specialized on Asteraceae (e.g. *Centaurea*). Nests in burrows in wood, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

*Lithurgus cornutus* (Fabricius 1787)*Lithurgus fuscipennis* Lepeletier 1841

Mediterranean species. In Slovenia near Petišovci (SP).

Oligolectic, specialized on Asteraceae. Nests in burrows in wood, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

*Trachusa* Panzer 1804*Trachusa byssina* (Panzer 1798)*Trachusa serratulae* Panzer 1805

European species. Present in the whole of Slovenia.

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself. The cell partitions are made of leaf fragments, coated with resin on the inside (WESTRICH 1990).

Univoltine. Flies from June to August.

*Anthidiellum* Cockerell 1904*Anthidiellum strigatum* (Panzer 1805)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Fabaceae. Free standing nests, fixed to plant or rock substrates, are made of resin (WESTRICH 1990).

Univoltine. Flies from June to August.

*Rhodanthidium* Isensee 1927

*Rhodanthidium septemdentatum* (Latreille 1809)

North Mediterranean species. Slovenia: SM, Soča (AL).

P. r.: GOGALA 1991b

Probably polylectic species, visiting mainly Fabaceae and Lamiaceae. Nests in empty snail shells of the genus *Cepaea* (pers. obs.). The cell partitions are made of resin (O'TOOLE & RAW 1991).

Univoltine. Flies from May to July.

*Icteranthidium* Michener 1948

*Icteranthidium grohmanni* (Spinola 1838)

*Anthidium latreillei* Lepeletier 1841

Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly *Eryngium* (Apiaceae) (pers. obs.).

Univoltine. Flies from July to September.

*Pseudoanthidium* Friese 1898

*Pseudoanthidium scapulare* (Latreille 1809)

*Anthidium lituratum* (Panzer 1801)

*Anthidium nanum* Mocsáry 1881

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (e.g. *Centaurea*). Nests in hollow stems. The cell partitions are made of cottony plant down (WESTRICH 1990, pers. obs.).

Univoltine. Flies from June to August.

*Anthidium* Fabricius 1804

*Anthidium cingulatum* Latreille 1809

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Probably polylectic species, visiting mainly Lamiaceae (pers. obs., GRAEFFE 1902, WARNCKE 1981).

Univoltine. Flies from June to August.

*Anthidium loti* Perris 1852

*Anthidium variegatum* (Fabricius 1781)

North Mediterranean species. Slovenia: SM.

Known foodplants are Fabaceae (WARNCKE 1981) and Lamiaceae (pers. obs.).

Univoltine. Flies from May to August.

***Anthidium manicatum*** (Linnaeus 1758)

Palearctic species. Slovenia: SM, PA, AL, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Lamiaceae and Fabaceae. Nests in various pre-existing cavities. The cell partitions are made of cottony plant down, the nest is closed with small stones or similar objects from the surroundings (WESTRICH 1990).

Partly bivoltine. Flies from May to October.

***Anthidium montanum*** Morawitz 1864

Alpine species. In Slovenia near the village Soča (AL).

Probably oligolectic, specialized on Fabaceae. Nests in various pre-existing cavities. The cell partitions are made of cottony plant down (WESTRICH 1990).

Univoltine. Flies from June to August.

***Anthidium oblongatum*** (Illiger 1806)

North Mediterranean species. Slovenia: SM, DI, PA, SP.

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Fabaceae. Nests in various pre-existing cavities. The cell partitions are made of cottony plant down (WESTRICH 1990).

Univoltine. Flies from June to August.

***Anthidium punctatum*** Latreille 1809

West Palearctic species. Slovenia: SM, AL, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in crevices in the ground and between rocks. The cell partitions are made of cottony plant down (WESTRICH 1990).

Univoltine. Flies from June to August.

***Anthidium septemspinusum*** Lepeletier 1841

Palearctic species. Slovenia: SP, PA, DI.

P. r.: GOGALA 1994

Polylectic species, visiting mainly Lamiaceae and Fabaceae. The cell partitions are made of cottony plant down (SUGIURA 1991). I have personally observed it exclusively on *Vicia* (Fabaceae).

Univoltine. Flies from June to August.

***Stelis*** Panzer 1806***Stelis breviscula*** (Nylander 1848)

West Palearctic species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Heriades truncorum* (WESTRICH 1990, pers. obs.).

Univoltine. Flies from June to August.

***Stelis minuta*** Lepeletier & Serville 1825

West Palearctic species. In Slovenia near Podčetrtek (SP) and near Brezovica near Lj. (PA).

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Osmia leucomelana* and some other species of the genus *Osmia*, probably also *Heriades truncorum* (WESTRICH 1990).

Univoltine. Flies from June to August.

***Stelis nasuta*** (Latreille 1809)

Mediterranean species. In Slovenia near Komen on Karst (SM).

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Megachile parietina* and *M. pyrenaica* (WESTRICH 1990).

Univoltine. Flies in June and July.

***Stelis odontopyga*** Noskiewicz 1925

North Mediterranean species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Osmia spinulosa* (WESTRICH 1990).

Univoltine. Flies from June to August.

***Stelis ornatula*** (Klug 1807)

West Palaearctic species. Slovenia: PA, SM, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Osmia claviventris* (WESTRICH 1990) and some other species of the genus *Osmia*, e.g. *Osmia leucomelana*, personally confirmed host in Slovenia.

Univoltine. Flies in June and July.

***Stelis phaeoptera*** (Kirby 1802)

European species. Slovenia: SM, PA, AL, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Osmia fulviventris*, *O. leaiana* and some other species of the genus *Osmia* (WESTRICH 1990). A personally confirmed host is *Osmia leaiana*.

Univoltine. Flies from May to August.

***Stelis punctulatissima*** (Kirby 1802)

*Stelis aterrima* (Panzer 1798)

European species. Slovenia: DI, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: probably *Anthidium manicatum* and some other species of the genus *Anthidium* (WESTRICH 1990), although some authors list the species of the genus *Osmia*.

Univoltine. Flies from June to August.

***Stelis signata*** (Latreille 1809)

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Anthidiellum strigatum* (WESTRICH 1990).

Univoltine. Flies from June to August.

***Heriades*** Spinola 1808

*Eriades*, Friese 1898

***Heriades crenulatus*** Nylander 1856

Mediterranean species. Slovenia: SM, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae and Cichoriaceae. Nests mainly in burrows in wood. The cell partitions are made of resin (WESTRICH 1990).

Univoltine. Flies from June to September.

***Heriades rubicola* Pérez 1890**

Mediterranean species. Slovenia: SM, SP.

P. I.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (pers. obs.). Nests in hollow plant stems (BENOIST 1929).

Univoltine. Flies from June to September.

***Heriades truncorum* (Linnaeus 1758)**

West Palaearctic species. Present in the whole of Slovenia.

P. I.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae and Cichoriaceae. Nests mainly in wood burrows (WESTRICH 1990, pers. obs.). The cell partitions are made of resin (WESTRICH 1990).

Univoltine. Flies from June to September.

***Protosmia* Ducke 1900*****Protosmia glutinosa* (Giraud 1871)**

Mediterranean species. Slovenia: SM.

P. I.: GOGALA 1991b; GOGALA 1994

Probably polylectic species (pers. obs.). Nests in empty mason bee nests (*Megachile*, subgen. *Chalicodoma*), sphecid wasps of the genus *Sceliphron*, and bees of the genus *Anthophora*. The cell partitions are made of resin (BENOIST 1929, POPOV 1961).

Univoltine. Flies in May and June.

***Chelostoma* Latreille 1809*****Chelostoma campanularum* (Kirby 1802)**

West Palaearctic species. Present in the whole of Slovenia.

P. I.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests mainly in burrows in wood. The cell partitions are made of clay or sand (WESTRICH 1990).

Univoltine. Flies in July and August.

***Chelostoma distinctum* Stoeckhert 1929**

*Osmia cantabrica* (Benoist 1935)

North Mediterranean species. Slovenia: SM, PA, AL, SP.

P. I.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests mainly in burrows in wood. The cell partitions are made of clay or sand (WESTRICH 1990).

Univoltine. Flies in June and July.

***Chelostoma emarginatum* (Nylander 1856)**

Mediterranean species. Slovenia: SM, SP.

P. I.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Ranunculus* (Ranunculaceae) (BENOIST 1929, pers. obs.).

Univoltine. Flies from April to June.

***Chelostoma florissomne* (Linnaeus 1758)**

West Palaearctic species. Present in the whole of Slovenia.

P. I.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Ranunculus* (Ranunculaceae). Nests mainly in burrows in wood. The cell partitions are made of clay and sand (WESTRICH 1990).  
Univoltine. Flies in May and June.

***Chelostoma foveolatum*** (Morawitz 1868)

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae) (pers. obs.).

Univoltine. Flies in July and August.

***Chelostoma grande*** (Nylander 1852)

Alpine species. In Slovenia near Podkoren (WESTRICH 1993), on Pl. Vogar and in Bohinj (AL).

Oligolectic, specialized on Dipsacaceae. Nests mainly in wood burrows (WESTRICH 1993).

Univoltine. Flies from June to August.

***Chelostoma mocsaryi*** Schletterer 1889

East Mediterranean species. In Slovenia near Dragonja (SM).

Oligolectic, specialized on *Ornithogalum* (Liliaceae) (pers. obs.).

Univoltine. Flies in May and June.

***Chelostoma rapunculi*** (Lepelletier 1841)

*Chelostoma fuliginosum* (Panzer 1798)

*Heriades nigricornis* Nylander 1848

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests mainly in burrows in wood. The cell partitions are made of clay and sand (WESTRICH 1990).

Univoltine. Flies from June to August.

***Chelostoma ventrale*** Schletterer 1889

Mediterranean species. In Slovenia near the villages Dragonja and Padna in Istria (SM).

Univoltine. Flies in May and June.

***Hoplitis*** Klug 1807

***Hoplitis adunca*** (Panzer 1798)

West Palaearctic species. Slovenia: SM, AL, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on *Echium* (Boraginaceae). Nests in various pre-existing cavities, e.g. in burrows in wood. The cell partitions are made of sand and clay (WESTRICH 1990).

Univoltine. Flies in June and July.

***Hoplitis anthocopoides*** (Schenck 1853)

*Osmia caementaria* Gerstaecker 1869

*Osmia spinolae* auct.

West Palaearctic species. In Slovenia in Trnovski Gozd (DI), in the Soča valley (SM) and along the Sava river near Črnuče (PA).

P. r.: GRAEFFE 1902

Oligolectic, specialized on *Echium* (Boraginaceae). Nests in hollows in stones are made of sand (WESTRICH 1990).

Univoltine. Flies in June and July.

***Hoplitis jheringii*** (Ducke 1898)

Mediterranean species. In Slovenia near Vipava (DUCKE 1900) and near Komen (SM).

Oligolectic, specialized on *Hippocrepis* (Fabaceae) (DUCKE 1900).

Univoltine. Flies from April to June.

***Hoplitis lepeletieri*** (Pérez 1879)

Alpine species. In Slovenia in Bohinj (AL).

Oligolectic, specialized on *Echium* (Boraginaceae). Nests in hollows in stones are made of sand (WESTRICH 1990, pers. obs.).

Univoltine. Flies in June and July.

***Hoplitis loti*** (Morawitz 1867)

*Osmia morawitzi* Gerstaecker 1869

*Osmia difformis* Pérez 1879

Alpine species. In Slovenia on Košuta in the Karavanke and in Bohinj (AL).

P. r.: GOGALA 1991b

Probably oligolectic, specialized on Fabaceae. Nests in hollows in stones are made of sand (WESTRICH 1990).

Univoltine. Flies from June to August.

***Hoplitis pallicornis*** (Friese 1895)

*Osmia difformis*, Ducke 1900

East Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1994

Probably polylectic species. Known foodplants are *Salvia* (Lamiaceae) and *Onosma* (Boraginaceae). Nests in hollows in stones are made of sand (pers. obs.).

Univoltine. Flies from May to July.

***Hoplitis ravouxi*** (Pérez 1902)

*Osmia brachyceros* Blüthgen 1920

West Mediterranean species. In Slovenia near Podčetrtek (SP).

P. r.: GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in hollows in stones are made of sand (WESTRICH 1990).

Univoltine. Flies in June and July.

***Osmia*** Panzer 1806

*Anthocopa* Lepeletier 1825

*Metallinella* Tkalcu 1966

***Osmia acuticornis*** Dufour & Perris 1840

North Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1994

Probably oligolectic, specialized on Fabaceae. Nests in hollow stems. The cell partitions are made of masticated pith or masticated leaves (WESTRICH 1990).

Univoltine. Flies in June and July.

***Osmia andrenoides* Spinola 1808**

North Mediterranean species. Slovenia: SM, Soča (AL).

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Lamiaceae. Nests in empty snail shells. The cell partitions are made of masticated leaves (WESTRICH 1990).

Partly bivoltine. Flies from May to July and in August and September.

***Osmia apicata* Smith 1853**

*Osmia macroglossa* Gerstaecker 1869

East Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1994

Oligolectic, specialized on *Onosma* (Boraginaceae) (GRAEFFE 1902, pers. obs.). Nests in wall hollows (GRAEFFE 1902).

Univoltine. Flies from April to June.

***Osmia aurulenta* (Panzer 1799)**

North Mediterranean species. Slovenia: SM, DI, PA, SP.

P. r.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Fabaceae. Nests in empty snail shells. The cell partitions are made of masticated leaves (WESTRICH 1990).

Univoltine. Flies from April to July.

***Osmia bicolor* (Schrank 1781)**

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in empty snail shells. The cell partitions are made of masticated leaves (WESTRICH 1990).

Univoltine. Flies from March to June.

***Osmia bidentata* Morawitz 1876**

Mediterranean species. Slovenia: PA (Brezovica near Lj., Črnuče near Lj.).

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (e.g. *Centaurea*) (pers. obs.).

Univoltine. Flies from June to August.

***Osmia brevicornis* (Fabricius 1798)**

*Osmia atrocaerulea* Schilling 1849

*Osmia panzeri* Morawitz 1869

Mediterranean species. In Slovenia near the village Dragonja (SM).

Oligolectic, specialized on Brassicaceae. Nests in various pre-existing cavities, e.g. in burrows in wood. The nest is not partitioned into cells. It is closed with masticated leaves (WESTRICH 1990).

Univoltine. Flies from April to June.

***Osmia caerulescens* (Linnaeus 1758)**

*Osmia aenea* (Linnaeus 1761)

Holarctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Fabaceae and Lamiaceae. Nests in various pre-existing cavities, e.g. in burrows in wood. The cell partitions are made of masticated leaves (WESTRICH 1990).

Bivoltine. The first generation flies from April to July, the second in July and August.

***Osmia campanularis* Morawitz 1877**

Mediterranean species. In Slovenia near Sočerga (SM) (GOGALA 1994).  
Probably oligolectic, specialized on *Campanula* (Campanulaceae) (pers. obs.).  
Univoltine. Flies from May to August.

***Osmia cephalotes longiceps* Morawitz 1876**

East Mediterranean subspecies of the Mediterranean species. Slovenia: SM.  
P. r.: VAN DER ZANDEN 1991; GOGALA 1991b; GOGALA 1994  
Probably polylectic species, visiting Fabaceae and Lamiaceae (pers. obs.). Nests in burrows in wood. The cell partitions are made of masticated leaves (BENOIST 1931).  
Univoltine. Flies in May and June.

***Osmia cerinthidis* Morawitz 1875**

East Mediterranean species. In Slovenia in Bohinj (AL).  
Oligolectic, specialized on *Cerinth* (Boraginaceae). Nests probably in wood burrows (WESTRICH 1990).  
Univoltine. Flies in May and June.

***Osmia ciliaris* Pérez 1902**

East Mediterranean species. In Slovenia near Komen on Karst (SM).  
P. r.: GOGALA 1994  
Known foodplant is *Helianthemum* (Cistaceae) (pers. obs.).  
Univoltine. Flies from May to August.

***Osmia claviventris* Thomson 1872**

*Osmia leucomelana* auct.

European species. Present in the whole of Slovenia.  
P. r.: GOGALA 1991b; GOGALA 1994  
Polylectic species, visiting mainly *Lotus* (Fabaceae). Nests in hollow stems. The cell partitions are made of masticated leaves (WESTRICH 1990).  
Univoltine. Flies from June to August.

***Osmia cornuta* (Latreille 1805)**

North Mediterranean species. Slovenia: SM, SP.  
P. r.: GOGALA 1994  
Polylectic species. Nests in various pre-existing cavities. The cell partitions are made of clay (WESTRICH 1990). I have personally observed nests made of clay in crevices in a stone wall.  
Univoltine. Flies from March to May.

***Osmia croatica* Friese 1893**

East Mediterranean species. Slovenia: SM.  
P. r.: GOGALA 1991b; GOGALA 1994  
Oligolectic, specialized on Asteraceae (e.g. *Centaurea*) (pers. obs., DUCKE 1900).  
Univoltine. Flies from July to September.

***Osmia cyanoxantha* Pérez 1879**

Mediterranean species. In Slovenia near Padna in Istria (SM).  
Visits Fabaceae. Nests in empty cells of mason bees of the subgenus *Chalicodoma* (genus *Megachile*).  
The cell partitions are made of masticated leaves (BENOIST 1931).  
Univoltine. Flies from April to June.

***Osmia dalmatica*** Morawitz 1871

East Mediterranean species. In Slovenia near Lipica (GRAEFFE 1902), near Škocjan on Karst (GOGALA 1994) and near Vipava (SM).

Oligolectic, specialized on Dipsacaceae (WESTRICH 1993, pers. obs.). Nests in stone crevices are made of scraps of leaves (WESTRICH 1990).

Univoltine. Flies in May and June.

***Osmia gallarum*** Spinola 1808

Mediterranean species. Slovenia: SM, PA (Polhograjsko Hribovje).

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in various pre-existing cavities, mainly in burrows in wood. The cell partitions are made of masticated leaves or pith (WESTRICH 1990).

Univoltine. Flies from May to July.

***Osmia laevifrons*** Morawitz 1872

East Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Univoltine. Flies from June to August.

***Osmia leaiana*** (Kirby 1802)

*Osmia solskyi* Morawitz 1870

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae and Cichoriaceae. Nests in various pre-existing cavities, mainly in burrows in wood. The cell partitions are made of masticated leaves (WESTRICH 1990).

Univoltine. Flies in June and July.

***Osmia leucomelana*** (Kirby 1802)

*Osmia parvula* Dufour & Perris 1840

European species. Slovenia: SM, PA, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly *Lotus* (Fabaceae). Nests in hollow stems. The cell partitions are made of masticated leaves (WESTRICH 1990).

Univoltine. Flies from June to August.

***Osmia ligurica*** Morawitz 1868

North Mediterranean species. Slovenia: SM.

P. r.: TKALCU 1974a; GOGALA 1994

Oligolectic, specialized on Asteraceae (pers. obs., BENOIST 1931). Nests in hollow plant stems (BENOIST 1931).

Univoltine. Flies from May to July.

***Osmia melanogaster*** Spinola 1808

*Osmia aterrima* Morawitz 1872

*Osmia carniolica* Morawitz 1872

*Osmia notata* auct.

North Mediterranean species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1994

Probably oligolectic, specialized on Asteraceae. I have personally observed it on *Centaurea*. Nests probably in various pre-existing cavities (WESTRICH 1990).

Univoltine. Flies from May to July.

***Osmia mitis*** Nylander 1852

European species. In Slovenia on Golica (AL) and on Nanos (SM).

P. I.: GOGALA 1994

Oligolectic, specialized on *Campanula* (Campanulaceae). Nests in various pre-existing cavities. Nests are made of scraps of leaves (WESTRICH 1990).

Univoltine. Flies from June to August.

***Osmia mustelina*** Gerstaecker 1841

*Osmia emarginata* auct. partim

East Mediterranean species. Slovenia: SM, AL.

P. I.: GOGALA 1994

Polylectic species. I have personally observed it on Fabaceae and Lamiaceae. Nests in hollows in stones are made of scraps of leaves (WESTRICH 1990).

Univoltine. Flies from May to July.

***Osmia niveata*** (Fabricius 1804)

*Osmia fulviventris* (Panzer 1798)

West Palearctic species. Present in the whole of Slovenia.

P. I.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (e.g. *Cirsium*). Nests in various pre-existing cavities, mainly in burrows in wood. The cell partitions are made of masticated leaves (WESTRICH 1990).

Univoltine. Flies in June and July.

***Osmia parietina*** Curtis 1828

*Osmia angustula* (Zetterstedt 1838)

Boreomontane species. In Slovenia on Krvavec (AL) (GOGALA 1994).

Polylectic species, visiting mainly Fabaceae. Nests in various pre-existing cavities, mainly in burrows in wood. The cell partitions are made of masticated leaves (WESTRICH 1990).

Univoltine. Flies from May to August.

***Osmia pilicornis*** Smith 1846

Boreomontane species. In Slovenia in Polhograjsko Hribovje (PA) and near Podčetrtek (SP).

P. I.: GOGALA 1994

Polylectic species. I have personally observed it on Fabaceae. Nests in wood (WESTRICH 1990).

Univoltine. Flies from March to June.

***Osmia praestans*** Morawitz 1894

Mediterranean species. In Slovenia on Nanos (SM) (GOGALA 1994).

Oligolectic, specialized on *Campanula* (Campanulaceae) (BENOIST 1931).

Univoltine. Flies from June to August.

***Osmia rufa*** (Linnaeus 1758)

*Osmia bicornis* (Linnaeus 1758)

*Apis cornigera* Rossi 1790

Palaeartic species. Present in the whole of Slovenia.

P. I.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in various pre-existing cavities. The cell partitions are made of sand or clay (WESTRICH 1990, pers. obs.).

Univoltine. Flies from April to June.

***Osmia rufohirta*** Latreille 1811

North Mediterranean species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polyleptic species. I have personally observed it on Fabaceae and *Helianthemum* (Cistaceae). Nests in empty snail shells. The cell partitions are made of masticated leaves and the nest is closed with sand (WESTRICH 1990). On Karst it uses snail shells of the species *Pomatias elegans* (pers. obs.).

Univoltine. Flies from May to July.

***Osmia scutellaris*** Morawitz 1868

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (pers. obs.). Nests in hollow plant stems (BENOIST 1931).

Univoltine. Flies from June to August.

***Osmia spinulosa*** (Kirby 1802)

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae and Cichoriaceae.

Nests in empty snail shells. The cell partitions are made of masticated leaves (WESTRICH 1990).

Univoltine. Flies from June to August.

***Osmia submicans*** Morawitz 1871

*Osmia giraudii* Schmiedeknecht 1886

North Mediterranean species. Slovenia: SM, PA, PD.

P. r.: GOGALA 1991b; GOGALA 1994

Probably oligolectic, specialized on Fabaceae (pers. obs.). Nests in various pre-existing cavities, mainly in burrows in wood. The cell partitions are made of masticated leaves and sand grains (WESTRICH 1990). I have personally observed a nest in a burrow in wood.

Univoltine. Flies in May and June.

***Osmia tergestensis*** Ducke 1897

North Mediterranean species. In Slovenia near Komen on Karst (SM) and in Bohinj (AL).

P. r.: GOGALA 1994

Probably oligolectic, specialized on Fabaceae (GRAEFFE 1902, SCHMIEDEKNECHT 1930). The nest made of clay is built in grass tussock. The cells are lined with petals (BENOIST 1931).

Univoltine. Flies from May to July.

***Osmia tridentata*** Dufour & Perris 1840

North Mediterranean species. Slovenia: SM, PD, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae.

Nests in hollow plant stems (WESTRICH 1990, pers. obs.). The cell partitions are made of masticated leaves and pith.

Univoltine. Flies from June to August.

***Osmia uncinata*** Gerstaecker 1869

Boreomontane species. Slovenia: PA (Brezovica near Lj, Sp. Brnik).

P. r.: GOGALA 1994

Polyleptic species. Nests under loose conifer bark (WESTRICH 1990).

Univoltine. Flies from April to July.

***Osmia versicolor*** Latreille 1811

Mediterranean species. In Slovenia near Kozina (SM) (GOGALA 1991b).

Probably polylectic species, visiting mainly Fabaceae. Nests in empty snail shells (WESTRICH 1990). Univoltine. Flies from May to July.

***Osmia villosa*** (Schenck 1853)

Alpine species. In Slovenia in Karavanke, on Pl. Vogar (AL) and on Čaven (SM).

P. r.: GOGALA 1994

Oligolectic, specialized on Cichoriaceae and Asteraceae. Nests in crevices between stones. The cell partitions are made of scraps of leaves and sand (WESTRICH 1990).

Univoltine. Flies from May to August.

***Osmia viridana*** Morawitz 1874

North Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1994

Nests in snail shells and empty mason bee nests (BENOIST 1931).

Univoltine. Flies from April to June.

***Osmia xanthomelana*** (Kirby 1802)

European species. In Slovenia in Polhograjsko Hribovje (PA).

Oligolectic, specialized on Fabaceae. The cells of a nest made of clay are built in grass tussock, among spruce needles, in decaying wood, etc. (WESTRICH 1990).

Univoltine. Flies in May and June.

***Megachile*** Latreille 1802

*Chalicodoma* Lepeletier 1841

*Creightonella* Cockerell 1908

***Megachile albisecta*** (Klug 1817)

*Megachile sericans* Fonscolombe 1832

Mediterranean species. In Slovenia near Strunjan (SM) (GOGALA 1994).

Oligolectic, specialized on Asteraceae (e.g. *Cirsium*). Nests in various pre-existing cavities, mainly in the ground. The cell partitions are made of masticated leaves and scraps of leaves (BENOIST 1940).

Univoltine. Flies from June to August.

***Megachile alpicola*** Alfken 1924

Boreomontane species. Slovenia: AL.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species (WESTRICH 1990), visits mainly Asteraceae and Cichoriaceae (pers. obs.). Nests in various pre-existing cavities, mainly in burrows in wood. Cells are made of scraps of leaves (WESTRICH 1990).

Partly bivoltine. Flies from May to September.

***Megachile apicalis*** Spinola 1808

Mediterranean species. Slovenia: SP.

Polylectic species. Nests in various pre-existing cavities (WESTRICH 1990).

Univoltine. Flies from May to August.

***Megachile atratula*** Rebmann 1968

West Mediterranean species. In Slovenia in the Sečovelje salt-flats (SM).

Visits Fabaceae, e.g. *Lotus tenuis* (pers. obs.).

Univoltine. Flies from June to September.

***Megachile burdigalensis*** Benoist 1940

*Megachile dorsalis* Pérez 1879: ♂ (nec ♀)

North Mediterranean species. In Slovenia in the Sečovelje salt-flats (SM).

P. r.: GOGALA 1998

Probably oligolectic species. Known foodplant is *Lotus tenuis* (Fabaceae) (pers. obs.).

Univoltine. Flies in July and August.

***Megachile centuncularis*** (Linnaeus 1758)

Holarctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species (WESTRICH 1990), visits mainly Asteraceae (pers. obs.). Nests in various pre-existing cavities. Cells are made of scraps of leaves (WESTRICH 1990).

Partly bivoltine. Flies from June to October.

***Megachile circumcincta*** (Kirby 1802)

European species. Slovenia: SM, AL, SP.

P. r.: GOGALA 1994

Polylectic species (WESTRICH 1990), visits mainly Fabaceae (pers. obs.). Nests in the ground, in burrows excavated by itself or in pre-existing cavities. Cells are made of scraps of leaves (WESTRICH 1990).

Univoltine. Flies from May to August.

***Megachile deceptor*** Pérez 1890

Mediterranean species. In Slovenia in the Sečovelje salt-flats (SM).

Visits Fabaceae (e.g. *Ononis*, *Lotus*) (DORN & WEBER 1988; pers. obs.). Nests in the ground (BENOIST 1940).

Univoltine. Flies from June to September.

***Megachile ericetorum*** Lepeletier 1841

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

According to WESTRICH (1990) oligolectic, specialized on Fabaceae, but I have observed it on Lamiaceae and Fabaceae. Nests in various pre-existing cavities, usually in the burrows in the clay banks. The cell partitions are made of clay or sand and coated with resin on the inside (WESTRICH 1990).

Univoltine. Flies in June and July.

***Megachile flabellipes*** Pérez 1895

*Megachile rubrimana* auct.

North Mediterranean species. Slovenia: SM.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (e.g. *Centaurea*) (pers. obs.).

Univoltine. Flies from July to September.

***Megachile genalis*** Morawitz 1880

European species. In Slovenia near Črnuče (PA) and Podčetrtek (SP).

P. r.: GOGALA 1994

Known foodplants are Asteraceae and Cichoriaceae. Nests in hollow stems. Cells are made of scraps of leaves (WESTRICH 1990).

Univoltine. Flies from June to September.

***Megachile lagopoda*** (Linnaeus 1761)

Palearctic species. Slovenia: SM, PA, AL.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visits mainly Asteraceae (WESTRICH 1990). Pers. obs.: Lamiaceae, Dipsacaceae, Fabaceae. Nests in the ground, in burrows excavated by itself or in pre-existing cavities (WESTRICH 1990).

Univoltine. Flies from July to September.

***Megachile leachella*** Curtis 1828

*Megachile argentata* auct.

West Palearctic species. Slovenia: SM, PA (Črnuče near Ljubljana).

Polylectic species, visiting mainly Fabaceae. Nests in burrows in sand, excavated by itself. Cells are made of scraps of leaves (WESTRICH 1990).

Univoltine. Flies from June to August.

***Megachile ligniseca*** (Kirby 1802)

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species (WESTRICH 1990). Pers. obs.: Asteraceae, Lamiaceae. Nests in various pre-existing cavities, mainly in wood burrows (WESTRICH 1990).

Univoltine. Flies from June to August.

***Megachile manicata*** Giraud 1861

East Mediterranean species. Slovenia: SM.

P. r.: FRIESE 1894–1901; GOGALA 1994

Probably oligolectic, specialized on Fabaceae (e.g. *Coronilla*) (pers. obs.). Nests made of sand built in hollows in stones (GRAEFFE 1902).

Univoltine. Flies in April and May.

***Megachile maritima*** (Kirby 1802)

European species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself. Cells are made of scraps of leaves (WESTRICH 1990).

Probably partly bivoltine. Flies from May to September.

***Megachile melanopyga*** Costa 1863

North Mediterranean species. Slovenia: SM, PD, DI (Iški Vintgar), SP.

P. r.: GOGALA 1991b; GOGALA 1994; EBMER 1997

Polylectic species (WESTRICH 1990), visits mainly Asteraceae (pers. obs.). Nests in grass tussocks (WESTRICH 1990).

Partly bivoltine. Flies from May to September.

***Megachile nigriventris*** Schenck 1870

Boreomontane species. In Slovenia on Pl. Vogar and in Logarska Dolina (AL).

P. r.: GOGALA 1994

Probably oligolectic, specialized on Fabaceae. Nests in decaying wood where it excavates burrows.

Cells are made of scraps of leaves (WESTRICH 1990).  
Univoltine. Flies in June and July.

***Megachile octosignata*** Nylander 1852

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Probably polylectic species (pers. obs.). Nests in crevices between stones. Cells are made of scraps of leaves (BENOIST 1940).

Univoltine. Flies from June to September.

***Megachile parietina*** (Geoffroy in Fourcroy 1785)

*Chalicodoma muraria* auct.

Mediterranean species. Slovenia: SM, AL.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visits mainly Lamiaceae and Fabaceae (WESTRICH 1990, pers. obs.). Nests made of sand built in hollows in stones (WESTRICH 1990, pers. obs.).

Univoltine. Flies in May and June.

***Megachile pilicrus*** Morawitz 1878

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (e.g. *Centaurea*). Nests in hollow plant stems (BENOIST 1940).

Univoltine. Flies from July to September.

***Megachile pilidens*** Alfken 1924

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visits mainly Fabaceae (WESTRICH 1990). Pers. obs.: Lamiaceae, Dipsacaceae, Asteraceae. Nests in various pre-existing cavities, mainly crevices between stones. Cells are made of scraps of leaves (WESTRICH 1990, pers. obs.).

Bivoltine. The first generation flies from June to August, the second in August and September.

***Megachile pyrenaea*** Pérez 1890

Boreomontane species. Slovenia: AL, Čaven (SM).

P. r.: GOGALA 1994

Polylectic species. Nests under stones or in the ground. Cells are made of scraps of leaves (WESTRICH 1990).

Univoltine. Flies from July to September.

***Megachile pyrenaica*** Lepeletier 1841

Mediterranean species. Slovenia: SM, Polhograjsko Hribovje (PA).

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visits Lamiaceae and Fabaceae (pers. obs., GRAEFFE 1902). Nests made of sand built on tree branches (BENOIST 1940).

Univoltine. Flies in May and June.

***Megachile rotundata*** (Fabricius 1784)

*Megachile pacifica* (Panzer 1798)

*Megachile imbecilla* Gerstaecker 1869

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species (WESTRICH 1990). Pers. obs.: Fabaceae, Apiaceae. Nests in various pre-existing cavities. Cells are made of scraps of leaves or petals (WESTRICH 1990).

Univoltine. Flies from June to August.

***Megachile versicolor* Smith 1844**

European species. Present in the whole of Slovenia.

P. r.: GRAEFFE 1902; VOGRIN 1955; GOGALA 1994

Polylectic species. Nests in various pre-existing cavities. Cells are made of scraps of leaves (WESTRICH 1990).

Partly bivoltine. Flies from May to September.

***Megachile willughbiella* (Kirby 1802)**

European species. Slovenia: AL, SM, PD, SP.

P. r.: GOGALA 1994

Polylectic species. Nests in decaying wood, where it excavates burrows, or in pre-existing cavities. Cells are made of scraps of leaves (WESTRICH 1990).

Partly bivoltine. Flies from June to September.

***Coelioxys* Latreille 1809**

***Coelioxys afra* Lepeletier 1841**

West Palearctic species. Slovenia: SM, PA, SP.

P. r.: ERLANDSSON 1991; GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Megachile pilidens* and *M. leachella* (WESTRICH 1990).

Univoltine. Flies from June to September.

***Coelioxys alata* Förster 1853**

European species. In Slovenia near Podčetrtek (SP) (GOGALA 1994) and near Hrastnik (PA).

Cleptoparasitic species. Host: probably *Megachile ligniseca* or *Anthophora furcata* (WESTRICH 1990).

Univoltine. Flies from June to August.

***Coelioxys aurolimbata* Förster 1853**

West Palearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Megachile ericetorum* (WESTRICH 1990).

Univoltine. Flies from June to August.

***Coelioxys conoidea* (Illiger 1806)**

*Coelioxys vectis* Curtis 1831

West Palearctic species. Slovenia: SM, PA, AL, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Megachile maritima* and *M. lagopoda* (WESTRICH 1990).

Probably partly bivoltine. Flies from June to September.

***Coelioxys echinata* Förster 1853**

*Coelioxys rufocaudata* Smith 1854

West Palearctic species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Cleptoparasitic species. Host: *Megachile rotundata* (WESTRICH 1990).

Univoltine. Flies in July and August.

***Coelioxys elongata*** Lepelletier 1841

Palearctic species. In Slovenia near Čepovan (DI), in Bohinj (AL) and near Podčetrtek (SP).

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: species of the genus *Megachile*, mainly *M. willughbiella* (WESTRICH 1990).

Probably univoltine. Flies from June to September.

***Coelioxys inermis*** (Kirby 1802)

*Coelioxys acuminata* Nylander 1852

West Palearctic species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Megachile centuncularis* and *M. versicolor* (WESTRICH 1990).

Probably partly bivoltine. Flies from May to September.

***Coelioxys mandibularis*** Nylander 1848

European species. Slovenia: AL (Pl. Vogar), SM (Komen on Karst).

P. r.: GOGALA 1991b

Cleptoparasitic species. Hosts: *Megachile versicolor*, probably also other species of the genera *Megachile* and *Osmia* (WESTRICH 1990).

Probably univoltine. Flies from June to August.

***Coelioxys obtusa*** Pérez 1884

Mediterranean species. In Slovenia near the village Dragonja (SM) (GOGALA 1994).

Cleptoparasitic species.

Univoltine. Flies in August.

***Coelioxys polycentris*** Förster 1853

North Mediterranean species. In Slovenia in the Sečovlje salt-flats (SM) (GOGALA 1994).

Cleptoparasitic species. Host: *Megachile deceptor* (WARNCKE 1992).

Univoltine. Flies in June and July.

***Coelioxys quadridentata*** (Linnaeus 1758)

*Coelioxys conica* (Linnaeus 1758)

European species. Slovenia: SM, PA, AL.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Anthophora furcata* (WESTRICH 1990) and some species of the genus *Megachile*, of which I can confirm *Megachile circumcincta*.

Univoltine. Flies from May to July.

***Coelioxys rufescens*** Lepelletier 1825

Palearctic species. Slovenia: AL (Bohinj), SP (Podčetrtek).

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: species of the genus *Anthophora*, mainly *A. plagiata* (WESTRICH 1990).

Univoltine. Flies from June to September.

## Apidae

***Ceratina*** Latreille 1802***Ceratina chalybea*** Chevrier 1872

*Ceratina callosa* auct.

Mediterranean species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in hollow plant stems (WESTRICH 1990).

Univoltine. Flies from April to September when a new generation appears which overwinters unfertilized.

*Ceratina cucurbitina* (Rossi 1792)

Mediterranean species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in hollow plant stems (WESTRICH 1990).

Univoltine. Flies from May to September when a new generation appears which overwinters unfertilized.

*Ceratina cyanea* (Kirby 1802)

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in hollow plant stems (WESTRICH 1990, pers. obs.).

Univoltine. Flies from April to September when a new generation appears which overwinters unfertilized.

*Ceratina dallatorreana* Friese 1896

Mediterranean species. In Slovenia in Istria (SM).

P. r.: GOGALA 1991b

Probably polylectic species. I have personally observed it on *Genista* (Fabaceae). Nests in hollow stems.

It reproduces parthenogenetically (DALY 1983). Univoltine.

*Ceratina dentiventris* Gerstaecker 1869

North Mediterranean species. In Slovenia near the village Dragonja in Istria (SM).

Univoltine. Flies from April to September.

### *Xylocopa* Latreille 1802

*Xylocopa iris* (Christ 1791)

*Xylocopa cyanescens* Brullé 1832

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Fabaceae and Lamiaceae. Nests in hollow plant stems (WESTRICH 1990).

Univoltine. Flies from April to August.

*Xylocopa valga* Gerstaecker 1872

Palaeartic species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Fabaceae (pers. obs.). Nests in burrows in wood, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to October. In autumn a new generation appears which overwinters unfertilized.

***Xylocopa violacea*** (Linnaeus 1758)

Mediterranean species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in wood, excavated by itself (WESTRICH 1990).

Univoltine. Flies from March to October. In autumn a new generation appears which overwinters unfertilized.

***Nomada* Scopoli 1770*****Nomada alboguttata*** Herrich-Schäffer 1839

European species. Slovenia: DI (Iški Vintgar), SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena barbilabris* (WESTRICH 1990, pers. obs.).

Partly bivoltine. Flies from April to June and from July to September, but the status of some forms, parasitizing other hosts (*Andrena ventralis*, *A. argentata*), is not clear. They could be distinct species (SCHWARZ et al. 1996).

***Nomada argentata*** Herrich-Schäffer 1839

European species. In Slovenia near Komen on Karst (SM).

P. r.: GOGALA 1991b

Cleptoparasitic species. Host: *Andrena marginata* (WESTRICH 1990).

Univoltine. Flies from July to October.

***Nomada armata*** Herrich-Schäffer 1839

European species. Slovenia: SM, PA, AL, SP.

P. r.: GRAEFFE 1902; ERLANDSSON 1991; GOGALA 1994

Cleptoparasitic species. Host: *Andrena hattorfiana* (WESTRICH 1990).

Univoltine. Flies from May to July.

***Nomada atroscutellaris*** Strand 1921

European species. Slovenia: PA, DI, AL, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Andrena viridescens* (WESTRICH 1990).

Univoltine. Flies in May and June.

***Nomada basalis*** Herrich-Schäffer 1839

*Nomada flavomaculata* Lucas 1849

Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Cleptoparasitic species. Univoltine. Flies in May and June.

***Nomada bifasciata lepeletieri*** Pérez 1884

European subspecies of the west Palaearctic species. Slovenia: SM, AL, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Andrena gravida* (WESTRICH 1990).

Univoltine. Flies from April to June.

***Nomada bluethgeni*** Stoeckert 1943

Pontic species. In Slovenia near Petišovci (SP).

Cleptoparasitic species. Host: *Lasioglossum marginellum* (STOECKHERT 1943). I myself found it together with *L. sexstrigatum*.

Bivoltine. Flies in May and June and in July and August.

***Nomada braunsiana*** Schmiedeknecht 1882

European species. In Slovenia near Komen (SM) (GOGALA 1994).

Cleptoparasitic species. Host: *Andrena pandellei* (WESTRICH 1990).

Univoltine. Flies in May and June.

***Nomada castellana*** Dusmet 1913

Eurosiberian species. Slovenia: PA (Brezovica near Lj.), SP (Podčetrtek).

P. r.: GOGALA 1994

Cleptoparasitic species.

Univoltine. Flies from May to July.

***Nomada confinis*** Schmiedeknecht 1882

*Nomada carniolica* Schmiedeknecht 1882

East Mediterranean species. Slovenia: SM, PA (Lancovo near Radovljica, locus typicus of *N. carniolica*).

P. r.: SCHWARZ 1966; GOGALA 1991b; GOGALA 1994

Cleptoparasitic species.

Univoltine. Flies in May and June.

***Nomada conjungens*** Herrich-Schäffer 1839

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena proxima* (WESTRICH 1990).

Univoltine. Flies in May and June.

***Nomada distinguenda*** Morawitz 1874

West Palaearctic species. Slovenia: SM, SP, Idrsko (AL).

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: small species of the genus *Lasioglossum*, e.g. *L. villosulum* (WESTRICH 1990).

Bivoltine. Flies in May and June and in July and August.

***Nomada emarginata*** Morawitz 1877

Eurosiberian species. In Slovenia on Nanos (SM) and near Podčetrtek (SP).

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Melitta haemorrhoidalis* (WESTRICH 1990).

Univoltine. Flies in July and August.

***Nomada errans*** Lepeletier 1841

North Mediterranean species. Slovenia: PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena nitidiuscula*, perhaps also *A. pallitarsis* (WESTRICH 1990).

Univoltine. Flies in July and August.

***Nomada fabriciana*** (Linnaeus 1767)

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena bicolor* and *A. fulvata* (WESTRICH 1990, pers. obs.).  
Bivoltine. Flies from March to May and from June to August.

*Nomada facilis* Schwarz 1967

European species. In Slovenia near Komen on Karst (SM).

Cleptoparasitic species. Host is probably *Andrena humilis* (WESTRICH 1990).

Univoltine. Flies in May and June.

*Nomada femoralis* Morawitz 1869

Mediterranean species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena humilis* (WESTRICH 1990).

Univoltine. Flies in May and June.

*Nomada flava* Panzer 1798

European species. Slovenia: SM, PA, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena nitida* and *A. carantonica*, perhaps also *A. nigroaenea* (WESTRICH 1990).

Univoltine. Flies from April to June.

*Nomada flavoguttata* (Kirby 1802)

West Palaearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena minutula* and related species of the subgenus *Micrandrena* (WESTRICH 1990).

Partly bivoltine. Flies from March to August.

*Nomada flavopicta* (Kirby 1802)

*Nomada jacobaeae* auct.

Eurosiberian species. Slovenia: SM, SP, PA.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Melitta leporina*, perhaps also *M. haemorrhoidalis* and *M. tricincta* (WESTRICH 1990).

Univoltine. Flies from July to September.

*Nomada fucata* Panzer 1798

West Palaearctic species. Slovenia: SM, PA, AL, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Andrena flavipes* (WESTRICH 1990).

Bivoltine. Flies from April to June and from June to August.

*Nomada fulvicornis* Fabricius 1793

*Nomada lineola* Panzer 1798

Eurosiberian species. Slovenia: SP (Dobova), AL (Kamniška Bistrica).

Cleptoparasitic species. Hosts: *Andrena bimaculata* and *A. tibialis* (WESTRICH 1990).

Bivoltine. Flies from March to May and in July and August.

*Nomada furva* Panzer 1798

Eurosiberian species. In Slovenia near Maribor (SP) (GOGALA 1994).

Cleptoparasitic species. Hosts: small species of the genus *Lasioglossum*, e.g. *L. morio*, *L. leucopus* and *L. punctatissimum* (WESTRICH 1990).

Bivoltine. Flies from April to June and in July and August.

***Nomada furvoides*** Stoeckert 1943

Pontic species. Slovenia: SM (Komen), SP (Podčetrtek).

P. r.: STOECKERT 1943; GOGALA 1994

Cleptoparasitic species. Hosts: probably small species of the genus *Lasioglossum*, e.g. *L. semilucens* and *L. politum* (STOECKERT 1943).

Bivoltine. Flies in May and June and in July and August.

***Nomada fuscicornis*** Nylander 1848

European species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Cleptoparasitic species. Host: *Panurgus calcaratus* (WESTRICH 1990).

Univoltine. Flies from July to September.

***Nomada goodeniana*** (Kirby 1802)

Eurosiberian species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena nigroaenea*, *A. nitida*, *A. tibialis*, *A. thoracica* and *A. cineraria* (WESTRICH 1990).

Partly bivoltine. Flies from April to June and in July.

***Nomada guttulata*** Schenck 1861

Palearctic species. Slovenia: SM (Komen), SP (Podčetrtek).

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena labiata* (WESTRICH 1990).

Univoltine. Flies from April to June.

***Nomada hirtipes*** Pérez 1884

European species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena bucephala* (WESTRICH 1990).

Univoltine. Flies in April and May.

***Nomada incisa*** Schmiedeknecht 1882

East Mediterranean species. Slovenia: SM.

Cleptoparasitic species.

Univoltine. Flies in May and June.

***Nomada integra*** Brullé 1832

*Nomada ferruginata* auct.

European species. Slovenia: SM, PA, AL, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Andrena humilis* (WESTRICH 1990).

Univoltine. Flies from April to June.

***Nomada kohli*** Schmiedeknecht 1882

Mediterranean species. In Slovenia near the village Dragonja (SM).

Cleptoparasitic species. Host: *Lasioglossum puncticolle* (WESTRICH 1990).

Partly bivoltine. Flies from April to June and in July and August.

***Nomada lathburiana*** (Kirby 1802)

European species. Slovenia: SP.

Cleptoparasitic species. Hosts: *Andrena vaga* and *A. cineraria* (WESTRICH 1990).

Univoltine. Flies from March to June.

***Nomada marshamella*** (Kirby 1802)

*Nomada alternata* auct.

European species. Present in the whole of Slovenia.

P. t.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena carantonica*, *A. eximia*, *A. ferox* and *A. spinigera* (WESTRICH 1990).

Univoltine. Flies from April to June.

***Nomada moeschleri*** Alfken 1925

European species. In Slovenia on Krim and in Iški Vintgar (DI).

Cleptoparasitic species.

Univoltine. Flies from April to June.

***Nomada mutica*** Morawitz 1872

European species. Slovenia: SM, DI, PA, SP.

P. t.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Andrena ferox* (WESTRICH 1990). I have personally observed it visiting a nest of *A. spinigera*. The species is present also in areas where *A. ferox* has not been detected but *A. spinigera* is common.

Univoltine. Flies from April to June.

***Nomada nobilis*** Herrich-Schäffer 1839

North Mediterranean species. In Slovenia along the coast (SM).

Cleptoparasitic species. Univoltine. Flies from May to July.

***Nomada obtusifrons*** Nylander 1848

Boreomontane species. In Slovenia on Begunjščica (AL).

Cleptoparasitic species. Host: *Andrena coitana* (WESTRICH 1990).

Univoltine. Flies in July and August.

***Nomada opaca*** Alfken 1913

European species. Slovenia: PA (Črnuče near Ljubljana), SP (Podčetrtek).

P. t.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena fulvida* (WESTRICH 1990).

Univoltine. Flies in May and June.

***Nomada pallispinosa*** Schwarz 1967

East Mediterranean species. In Slovenia near Vipava (SM).

Cleptoparasitic species.

Univoltine. Flies from April to June.

***Nomada panzeri*** Lepeletier 1841

*Nomada glabella* Thomson 1870

*Nomada ruficornis* auct.

European species. Slovenia: AL, DI, SP.

P. t.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena helvola* and *A. lapponica* (WESTRICH 1990), probably also *A. rogenhoferi* (pers. obs.).

Univoltine. Flies from March to June.

***Nomada propinqua*** Schmiedeknecht 1882

East Mediterranean species. In Slovenia near Škocjan on Karst (SM) (GRAEFFE 1902).

Cleptoparasitic species.

Probably univoltine. Flies in May.

***Nomada rhenana*** Morawitz 1872

West Palaearctic species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Cleptoparasitic species. Host: *Andrena ovatula* (WESTRICH 1990).

Bivoltine. Flies in May and June and from July to September.

***Nomada ruficornis*** (Linnaeus 1758)

*Nomada bifida* Thomson 1872

Eurosiberian species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Andrena haemorrhoea* (WESTRICH 1990).

Univoltine. Flies from April to June.

***Nomada rufipes*** Fabricius 1793

Eurosiberian species. Slovenia: PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena fuscipes* and *A. denticulata* (WESTRICH 1990).

Univoltine. Flies from July to September.

***Nomada sexfasciata*** Panzer 1799

European species. Slovenia: SM, AL, PA, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Eucera tuberculata* and *E. longicornis* (WESTRICH 1990), according to personal observations also *E. caspica*.

Univoltine. Flies from April to June, in mountains also later.

***Nomada sheppardana*** (Kirby 1802)

West Palaearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: small species of the genus *Lasioglossum*, e.g. *L. nitidiusculum* and *L. sexstrigatum* (WESTRICH 1990). I have personally observed several specimens in a nesting place of *L. morio*.

Bivoltine. Flies from April to June and in July and August.

***Nomada signata*** Jurine 1807

European species. Slovenia: PA (Brezovica near Lj.), SP (Maribor).

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena fulva* (WESTRICH 1990).

Univoltine. Flies in April and May.

***Nomada stigma*** Fabricius 1804

*Nomada cinnabarina* Morawitz 1872

*Nomada austriaca* Schmiedeknecht 1882

West Palaearctic species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Cleptoparasitic species. Hosts: *Andrena labialis*, *A. schencki* and *A. decipiens* (WESTRICH 1990).  
Partly bivoltine.

*Nomada striata* Fabricius 1793

*Nomada ochrostoma* (Kirby 1802)

West Palaearctic species. Slovenia: SM, PA, AL, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena wilkella* and related species (WESTRICH 1990).

Univoltine. Flies from April to July.

*Nomada succincta* Panzer 1798

European species. Slovenia: SM, SP, AL.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena nitida* and *A. nigroaenea* (WESTRICH 1990).

Univoltine. Flies from April to June.

*Nomada symphyti* Stoeckhert 1930

European species. In Slovenia near Dobova (SP).

Cleptoparasitic species. Host: *Andrena symphyti* (WESTRICH 1990).

Univoltine. Flies in May and June.

*Nomada tridentirostris* Dours 1873

Mediterranean species. Slovenia: SM, PD.

P. r.: GOGALA 1991b

Cleptoparasitic species.

Bivoltine. Flies from April to June and in July (SCHWARZ 1967).

*Nomada trispinosa* Schmiedeknecht 1882

East Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Andrena taraxaci* (OSYČNJUK 1977).

Univoltine. Flies from April to June.

*Nomada verna* Schmiedeknecht 1882

East Mediterranean species. In Slovenia near Komen (SM).

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Host: *Andrena tscheki* (SCHMIEDEKNECHT 1930, pers. obs.).

Univoltine. Flies from March to May.

*Nomada villosa* Thomson 1870

*Nomada hillana* auct.

European species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Cleptoparasitic species. Host: *Andrena lathyri* (WESTRICH 1990).

Univoltine. Flies from April to June.

*Nomada zonata* Panzer 1798

West Palaearctic species. Slovenia: SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Andrena dorsata* and *A. congruens* (WESTRICH 1990).

Bivoltine. Flies from March to June and from July to September.

***Biastes* Panzer 1806*****Biastes brevicornis* (Panzer 1798)**

North Mediterranean species. Slovenia: SP (Dobova, Podčetrtek).

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Systropha curvicornis* (WESTRICH 1990).

Univoltine. Flies from June to August.

***Biastes emarginatus* (Schenck 1853)**

Eurosiberian species. Slovenia: PA (Brezovica near Lj.), SP (Podčetrtek).

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Rophites quinquespinosus* and *R. algirus* (WESTRICH 1990).

Univoltine. Flies from June to August.

***Biastes truncatus* (Nylander 1848)**

European species. Slovenia: AL (Begunjščica), SM (Nanos), SP (Podčetrtek).

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Dufourea dentiventris* and *D. inermis* (WESTRICH 1990).

Univoltine. Flies in July and August.

***Pasites* Jurine 1807*****Pasites maculatus* Jurine 1807**

Mediterranean-central Asian species. In Slovenia in the Sečovlje salt-flats and near Koštabona (SM).

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Nomia unidentata* and *N. diversipes* (IUGA 1958, pers. obs.).

Univoltine. Flies from May to August.

***Ammobates* Latreille 1809*****Ammobates vinctus* Gerstaecker 1869**

North Mediterranean species. In Slovenia near Koštabona (SM) (GOGALA 1994).

Cleptoparasitic species. Host: *Tetralonia inulae* (IUGA 1958).

Univoltine. Flies from June to August.

***Epeolus* Latreille 1802*****Epeolus cruciger* (Panzer 1799)**

*Epeolus variegatus*, Friese 1895

Eurosiberian species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Colletes succinctus* and *C. hederæ* (WESTRICH 1990, pers. obs.).

Univoltine. Flies from June to September.

***Epeolus variegatus* (Linnaeus 1758)**

Eurosiberian species. Slovenia: PA, SM, SP.

P. r.: GOGALA 1994

Cleptoparasitic species. Hosts: *Colletes similis*, *C. daviesanus* and *C. fodiens* (WESTRICH 1990).  
Univoltine. Flies from June to September.

*Triepeolus* Robertson 1901

*Triepeolus tristis* (Smith 1854)

North Mediterranean species. Slovenia: SM, SP.

P. I.: GOGALA 1994

Cleptoparasitic species. Hosts: *Tetralonia macroglossa* (WESTRICH 1990) and *T. nana* (pers. obs.).  
Univoltine. Flies in July and August.

*Epeoloides* Giraud 1863

*Epeoloides coecutiens* (Fabricius 1775)

European species. In Slovenia near Cerknica (DI) (GOGALA 1994).

Cleptoparasitic species. Host: *Macropis europaea* (WESTRICH 1990).

Univoltine. Flies in July and August.

*Anthophora* Latreille 1803

*Podalirius* Latreille 1802

*Anthophora aestivalis* (Panzer 1801)

European species. Slovenia: SM, SP.

P. I.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

*Anthophora bimaculata* (Panzer 1798)

West Palaearctic species. In Slovenia at the river Sava near Črnuče (PA).

P. I.: GOGALA 1994

Polylectic species, visiting mainly Asteraceae (e.g. *Centaurea*). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

*Anthophora crinipes* Smith 1854

North Mediterranean species. Slovenia: SM, PA (Polhograjsko Hribovje), SP (Podčetrtek).

P. I.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Lamiaceae and Boraginaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

*Anthophora dufourii* Lepeletier 1841

North Mediterranean species. Slovenia: SM.

P. I.: GOGALA 1991b

Oligolectic, specialized on Lamiaceae (IUGA 1958).

Univoltine. Flies in May and June.

***Anthophora furcata*** (Panzer 1798)

European species. Slovenia: AL, PA, SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Lamiaceae. Nests in the burrows in decaying wood, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

***Anthophora plagiata*** (Illiger 1806)

*Anthophora parietina* (Fabricius 1793)

West Palaearctic species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Anthophora plumipes*** (Pallas 1772)

*Anthophora pilipes* (Fabricius 1775)

*Anthophora acervorum* auct.

West Palaearctic species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990, pers. obs.).

Univoltine. Flies from March to June.

***Anthophora pubescens*** (Fabricius 1781)

North Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

***Anthophora quadrimaculata*** (Panzer 1806)

*Anthophora vulpina* (Panzer 1798)

West Palaearctic species. Slovenia: PA (Brezovica near Lj.), SP (Podčetrtek).

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from June to August.

***Anthophora retusa*** (Linnaeus 1758)

European species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Amegilla*** Friese 1897***Amegilla albigena*** Lepeletier 1841

Mediterranean-central Asian species. Slovenia: SM.

P. r.: GOGALA 1994

Probably polylectic species. IUGA (1958) lists Boraginaceae and Fabaceae as foodplants, I observed it on Lamiaceae.

Univoltine. Flies from June to August.

***Amegilla garrula*** (Rossi 1790)

North Mediterranean species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Lamiaceae (pers. obs., IUGA 1958).  
Univoltine. Flies from July to September.

*Amegilla quadrifasciata* Villers 1789

Palearctic species. Slovenia: SM (Istria).

P. r.: GOGALA 1994

Polylectic species. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

*Habropoda* Smith 1854

*Habropoda tarsata* (Spinola 1838)

North Mediterranean species. Slovenia: SM.

Polylectic species according to IUGA (1958), but in Slovenia it visits exclusively the bushes of *Coronilla* (Fabaceae) (pers. obs.).

Univoltine. Flies in April and May.

*Melecta* Latreille 1802

*Melecta albifrons* Forster 1771

*Melecta punctata* (Fabricius 1775)

*Melecta armata* (Panzer 1799)

West Palearctic species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: species of the genus *Anthophora*, mainly *Anthophora acervorum* (WESTRICH 1990).

Univoltine. Flies from April to June.

*Melecta luctuosa* (Scopoli 1770)

Eurosiberian species. Slovenia: PA, SP.

P. r.: LIEFTINCK 1980; GOGALA 1994

Cleptoparasitic species. Hosts: species of the genus *Anthophora*, mainly *Anthophora aestivalis* (WESTRICH 1990). I can confirm *Anthophora retusa* as its host.

Univoltine. Flies from April to June.

*Eupavlovskia* Popov 1955

*Eupavlovskia obscura simulatrix* Lieftinck 1969

East Mediterranean subspecies of the north Mediterranean species. In Slovenia near Padna in Istria (SM).

Cleptoparasitic species. Host: *Habropoda tarsata* (LIEFTINCK 1969, ERLANDSSON 1991).

Univoltine. Flies in April and May.

*Thyreus* Panzer 1806

*Crocisa* Jurine 1807

*Thyreus orbatus* Lepeletier 1841

*Crocisa scutellaris* auct.

Mediterranean species. Slovenia: PA (Brezovica near Lj.), SP (Podčetrtek).

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Anthophora quadrimaculata* (WESTRICH 1990).

Univoltine. Flies in July and August.

*Tetralonia* Spinola 1838

*Macrocera*, Friese 1896

*Tetralonia alticineta* (Lepelletier 1841)

*Tetralonia ruficornis* auct. partim

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on Asteraceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from July to September.

*Tetralonia dentata* (Germar 1839)

Pontic species. In Slovenia near Dobova (SP).

Oligolectic, specialized on Asteraceae (mainly *Centaurea*). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

*Tetralonia fulvescens* Giraud 1863

*Tetralonia acutangula* Morawitz 1876

*Eucera dufourii* (Pérez 1879)

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (IUGA 1958, TKALCU 1979).

Univoltine. Flies from June to August.

*Tetralonia inulae* Tkalcu 1979

*Tetralonia ruficornis* auct. partim

East Mediterranean species. Slovenia: SM, DI, PA.

P. r.: TKALCU 1979; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Asteraceae (e.g. *Buphthalmum*, *Inula*) (TKALCU 1979, pers. obs.).

Univoltine. Flies from June to August.

*Tetralonia macroglossa* (Illiger 1806)

*Tetralonia malvae* auct.

North Mediterranean species. Slovenia: SP.

P. r.: VOGGRIN 1955; GOGALA 1994

Oligolectic, specialized on Malvaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

*Tetralonia nana* Morawitz 1873

North Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Oligolectic, specialized on Malvaceae (pers. obs., IUGA 1958). Nests in burrows in the ground (pers. obs.).

Univoltine. Flies from July to September.

***Tetralonia salicariae*** (Lepelletier 1841)

West Palaearctic species. Present in the whole of Slovenia.

P. I.: GRAEFFE 1902; GOGALA 1994

Oligolectic, specialized on *Lythrum* (Lythraceae) (WESTRICH 1990), collecting pollen not only from *Lythrum* but also from *Melilotus* (Fabaceae) (pers. obs.). Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies in July and August.

***Eucera* Scopoli 1770*****Eucera caspica*** Morawitz 1873

Mediterranean species. Slovenia: SM.

P. I.: GOGALA 1991b; GOGALA 1994

Polylectic species, visiting mainly Lamiaceae and Fabaceae (IUGA 1958, pers. obs.).

Univoltine. Flies from March to June.

***Eucera clypeata*** Erichson 1835

*Eucera similis* Lepelletier 1841

Mediterranean-central Asian species. In Slovenia along the coast (SM).

Polylectic species (IUGA 1958). I have personally observed it on Fabaceae. Nests in burrows in the ground, excavated by itself (IUGA 1958).

Univoltine. Flies from May to July.

***Eucera interrupta*** Baer 1850

North Mediterranean species. Slovenia: SM.

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to July.

***Eucera longicornis*** (Linnaeus 1758)

*Eucera difficilis* Pérez in Friese 1896

Eurosiberian species. Present in the whole of Slovenia.

P. I.: GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from May to August.

***Eucera nigrescens*** Pérez 1879

*Eucera longicornis*, Friese 1896

*Eucera tuberculata* auct.

European species. Slovenia: SM, PA, PD, SP.

P. I.: GRAEFFE 1902; GOGALA 1991b; GOGALA 1994

Oligolectic, specialized on Fabaceae. Nests in burrows in the ground, excavated by itself (WESTRICH 1990).

Univoltine. Flies from April to June.

***Eucera nigrifacies*** Lepelletier 1841

*Eucera eucnemidea*, Iuga 1958

Mediterranean species. In Slovenia near Strunjan (SM).

It visits *Malva* (Malvaceae), *Knautia* (Dipsacaceae) and other flowers, but I haven't observed it collecting pollen.

Univoltine. Flies in May and June.

***Eucera parvula*** Friese 1895

East Mediterranean species. In Slovenia near Podčetrtek (SP) (GOGALA 1994) and near Strunjan (SM).

Probably oligolectic, specialized on Fabaceae (GRAEFFE 1902).

Univoltine. Flies in May and June.

***Eucera pollinosa*** Smith 1854

*Eucera chrysopyga* Pérez 1879

Mediterranean species. Slovenia: SM, SP.

P. r.: GOGALA 1994

Polylectic species (IUGA 1958). I have personally observed it on Fabaceae.

Univoltine. Flies from May to July.

***Bombus*** Latreille 1802

*Psithyrus* Lepeletier 1832

***Bombus argillaceus*** (Scopoli 1763)

North Mediterranean species. Slovenia: SM, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests in abandoned mouse nests (HAGEN 1988).

***Bombus barbutellus*** (Kirby 1802)

European species. Slovenia: SM, DI, SP.

P. r.: GRAEFFE 1902; VOGRIN 1955; GOGALA 1994

Cleptoparasitic species. Host: *Bombus hortorum* (WESTRICH 1990).

***Bombus bohemicus*** Seidl 1837

*Psithyrus distinctus* Pérez 1884

European species. Slovenia: AL, PA.

P. r.: VOGRIN 1955; GOGALA 1994

Cleptoparasitic species. Host: *Bombus lucorum* (WESTRICH 1990).

***Bombus campestris*** (Panzer 1801)

European species. Slovenia: PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Cleptoparasitic species. Hosts: *Bombus pascuorum* and *B. humilis* (WESTRICH 1990).

***Bombus confusus*** Schenck 1861

European species. In Slovenia near Podčetrtek (SP) (GOGALA 1994).

Polylectic social species. Nests in cavities above and in the ground (WESTRICH 1990).

***Bombus cryptarum*** (Fabricius 1775)

European species. In Slovenia near Postojna (DI) (RASMONT 1984).

Polylectic social species. Nests usually in mouse burrows, sometimes above ground (HAGEN 1988).

***Bombus flavidus*** Eversmann 1852

Boreomontane species. In Slovenia on Vremščica (SM) (GOGALA 1994).

Cleptoparasitic species. Host: *Bombus jonellus* (WESTRICH 1990, PEKKARINEN & TERÄS 1993).

***Bombus gerstaeckeri*** Morawitz 1881

Alpine species. In Slovenia on Olševa, in Bohinj and on Pl. Vogar (AL).

P. r.: GOGALA 1994

Probably oligolectic, specialized on *Aconitum* (Ranunculaceae). Social species. Nests in abandoned mouse nests or in rock crevices (WESTRICH 1990).

***Bombus hortorum*** (Linnaeus 1761)

European species. Present in the whole of Slovenia.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests in abandoned mouse nests or bird nests (WESTRICH 1990).

***Bombus humilis*** Illiger 1806

*Bombus helferanus* Seidl 1838

*Bombus variabilis* Schmiedeknecht 1878

European species. Slovenia: SM, PA, AL, SP.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests usually in thick vegetation above the ground (WESTRICH 1990).

***Bombus hypnorum*** (Linnaeus 1758)

European species. Slovenia: AL, PA, DI.

P. r.: GOGALA 1994

Polylectic social species. Nests above the ground, in cavities or rock crevices (WESTRICH 1990).

***Bombus jonellus*** (Kirby 1802)

European species. In Slovenia in Polhograjsko Hribovje (PA) (GOGALA 1994).

Polylectic social species. Nests in bird, squirrel or mouse nests (WESTRICH 1990).

***Bombus lapidarius*** (Linnaeus 1758)

West Palaearctic species. Slovenia: SM, AL, PA, SP.

P. r.: GRAEFFE 1902; VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests among stones, in buildings or in the ground (WESTRICH 1990).

***Bombus lucorum*** (Linnaeus 1761)

European species. Slovenia: AL, PA, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests in the ground, usually in abandoned nests of rodents (WESTRICH 1990).

***Bombus mendax*** Gerstaecker 1869

Alpine species. In Slovenia on Konjski Preval under Triglav (AL) (GOGALA 1991b).

Polylectic social species. Nests in old mouse nests (WESTRICH 1990).

***Bombus monticola*** (Smith 1849)

*Bombus lapponicus* auct.

Boreomontane species. Slovenia: AL.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests in mouse nests or in cavities (WESTRICH 1990).

***Bombus mucidus*** Gerstaecker 1869

Alpine species. In Slovenia in the Karavanke (AL).

P. r.: GOGALA 1991b

Polylectic social species. Nests in the ground (WESTRICH 1990).

***Bombus muscorum*** (Fabricius 1793)

*Bombus cognatus* auct.

European species. In Slovenia in the Sečovelje salt-flats (SM) (GOGALA 1991b).

Polylectic social species. Nests above the ground, e.g. in thick vegetation (WESTRICH 1990).

***Bombus norvegicus*** (Sparre-Schneider 1918)

European species. In Slovenia on Korensko Sedlo (AL) (GOGALA 1994).

Cleptoparasitic species. Host: *Bombus hypnorum* (WESTRICH 1990).

***Bombus pascuorum*** (Scopoli 1763)

*Bombus agrorum* (Fabricius 1787)

Eurosiberian species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests in or above ground (WESTRICH 1990).

***Bombus pratorum*** (Linnaeus 1761)

European species. Present in the whole of Slovenia.

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests usually above ground, sometimes in the ground (WESTRICH 1990).

***Bombus quadricolor*** (Lepeletier 1832)

European species. In Slovenia on Pl. Vogar (AL).

Cleptoparasitic species. Host: *Bombus soroeensis* (WESTRICH 1990).

***Bombus ruderarius*** (Müller 1776)

*Bombus derhamellus* (Kirby 1802)

*Bombus rajellus* (Kirby 1802)

West Palaearctic species. Slovenia: SM, DI, AL, SP.

P. r.: GRAEFFE 1902; VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests above the ground (WESTRICH 1990).

***Bombus rupestris*** (Fabricius 1793)

European species. Slovenia: AL, SM, DI.

P. r.: GRAEFFE 1902; GOGALA 1994

Cleptoparasitic species. Host: *Bombus lapidarius* (WESTRICH 1990).

***Bombus soroeensis*** (Fabricius 1776)

European species. Slovenia: AL, Čaven (SM).

P. r.: VOGRIN 1955; GOGALA 1994

Polylectic social species. Nests in mouse burrows (WESTRICH 1990).

***Bombus sylvarum*** (Linnaeus 1761)

European species. Slovenia: SM, PA, DI, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests in mouse burrows or in thick vegetation (WESTRICH 1990).

***Bombus sylvestris*** (Lepeletier 1832)

European species. Slovenia: PA.

P. r.: GOGALA 1994

Cleptoparasitic species. Host: *Bombus pratorum* (WESTRICH 1990).***Bombus terrestris*** (Linnaeus 1758)*Bombus audax* (Harris 1776)

West Palaearctic species. Slovenia: SM, DI, PA, SP.

P. r.: GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests usually in mouse burrows, sometimes above the ground (WESTRICH 1990).

***Bombus vestalis*** (Geoffroy in Fourcroy 1785)

West Palaearctic species. Slovenia: AL.

P. r.: VOGRIN 1955

Cleptoparasitic species. Host: *Bombus terrestris* (WESTRICH 1990).***Bombus wurflenii*** Radoszkowski 1859*Bombus mastrucatus* Gerstaecker 1869*Bombus wurfleini* Radoszkowski 1877

Boreomontane species. Slovenia: AL, DI, Vremščica (SM).

P. r.: VOGRIN 1955; GOGALA 1991b; GOGALA 1994

Polylectic social species. Nests usually in the ground (WESTRICH 1990).

***Apis*** Linnaeus 1758***Apis mellifera*** Linnaeus 1758*Apis mellifica* Linnaeus 1761

Palaearctic-Ethiopian species. Present in the whole of Slovenia.

Its natural distribution in Slovenia cannot be figured out because of cultivation. Today it is present in all parts of the country.

Polylectic social species. Nests in tree cavities.

In Slovenia two subspecies exist, but they interbreed and the hybrids are common:

*A. m. carnica* Pollmann 1879

Balkan subspecies, present in the whole of Slovenia.

*A. m. ligustica* Spinola 1806

Apenninic subspecies, predominant in the submediterranean region of Slovenia.

**The richness of the Slovenian bee fauna**

About 25 000 bee species are known in the world. About 4000 of them live in North America and a similar number in Eurasia. More than 7000 species live in South America, 4000 in Africa and about 3000 in Australia (O'TOOLE & RAW 1991).

536 known bee species are certainly less than the real number of species living in Slovenia, yet a high number considering the size of its surface. In Europe, more species are known in Spain (1043), France (865), Czech and Slovak Republics combined (690), Switzerland (580), Austria (647) and Germany (546). From the European part of the former Soviet Union, 950 species were reported (OSYČNIK et al. 1978).

**Tab. 1:** The number of bee species in some European countries and their surfaces in km<sup>2</sup>.

	No.	km <sup>2</sup>
Spain (CEBALLOS, 1956)	1043	505 496
France (RASMONT et al., 1995)	865	551 208
Czech and Slovak r. (ŠEDIVÝ, 1989)	690	127 859
Austria (SCHWARZ et al., 1996)	647	83 849
Switzerland (SCHWARZ et al., 1996)	580	41 288
Germany (SCHWARZ et al., 1996)	546	355 805
Slovenia (present work)	536	20 256
Poland (BANASZAK, 1991)	454	311 730
Belgium (RASMONT et al., 1995)	376	30 507
The Netherlands (BENNO, 1969)	328	32 450
Luxemburg (RASMONT et al., 1995)	274	2 586
Great Britain (RICHARDS, 1937)	240	244 016
Finland (ELFVING, 1968)	230	337 032
Denmark (JØRGENSEN, 1921)	217	43 069
Ireland (STELFOX, 1927)	80	70 283
Iceland (PETERSEN, 1956)	1	102 828

#### Acknowledgements

I am grateful to Stane Gomboc, Savo Breljih, Cene Furlan, Tomi Trilar, Matija Gogala and Slavko Polak for their contributions in collected material. Slavko Polak had also saved Mate Hafner's collection of bees that served as a source of important information. Some problematic species had been identified by Fritz Gusenleitner from Linz (genus *Andrena*), Maximilian Schwarz from Ansfelden (genera *Nomada* and *Coelioxys*), Andreas Werner Ebmer from Puchenu near Linz (family Halictidae) and Gijs van der Zanden from Eindhoven (family Megachilidae). My sincere thanks for the help I received during the preparation of the dissertation thesis, basis for the present work, go to the mentors Kazimir Tarman and Paula Durbešić, to Boris Sket for his beneficial critique, and to the late Narcis Mršič for his encouraging words. I am also grateful to the colleagues from the Slovenian Museum of Natural History for their help and support. The work was financially supported by the Ministry of Science and Technology of the Republic of Slovenia.

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Glasilo Prirodoslovnega muzeja Slovenije. Izdaja Prirodoslovni muzej Slovenije, sofinancirala sta Ministrstvo za kulturo in Ministrstvo za znanost in tehnologijo. Uredniški odbor: Breda ČINČ-JUHANT, Janez GREGORI (urednik), Huw I. GRIFFITHS (GB), Boris KRYŠTUFEK, Lojze MARINČEK, Ignac SIVEC, Kazimir TARMAN, Nikola TVRTKOVIĆ (HR) in Tone WRABER. Lektorja: Cvetana TAVZES (za slovenščino) in Helena SMOLEJ (za angleščino). Naslov uredništva in uprave: Prirodoslovni muzej Slovenije, 1000 Ljubljana, Prešernova 20. Izideta najmanj dve številki letno, naklada 600 izvodov. Tekoči račun pri LB št. 50100-603-40115. Tisk tiskarna Tone Tomšič, Ljubljana.

## SCOPOLIA

Journal of the Slovenian Museum of Natural History, Ljubljana, Edited by the Slovenian Museum of Natural History, subsidised by the Ministry of Culture and Ministry of Science and Technology. Editorial Staff: Breda ČINČ-JUHANT, Janez GREGORI (Editor), Huw I. GRIFFITHS (GB), Boris KRYŠTUFEK, Lojze MARINČEK, Ignac SIVEC, Kazimir TARMAN, Nikola TVRTKOVIĆ (HR) and Tone WRABER. Readers: Cvetana TAVZES (for Slovene) and Helena SMOLEJ (for English). Address of the Editorial Office and Administration: Slovenian Museum of Natural History, SI 1000 Ljubljana, Prešernova 20. The Journal appears at least twice a year, 600 copies per issue. Current account at LB No 50100-603-40115. Printed by tiskarna Tone Tomšič, Ljubljana.

