**Overwintering Nests:**

**Scientific Name:** Amobia spp. (Sarcophagidae, Miltogramminae)

**Taxon Code:** DI

**Common Name:** flesh fly

**Material Code:** Material SubCode: Materials:

**Cross Wall:**

**Side Wall:**

**Plug:**

**Borewidth (mm):**

**Provisions/Faeces:** cleptoparasite on the provisions of various bees and wasps

**Cocoon:** overwinters in dark brown puparium

**Immatures:** tapering white maggot in summer; many puparia overwinter.

**Adult:** some dead adults may be trapped in the winter nest if there was a summer emergence; small (3-5mm) housefly-like
Overwintering Nests:

Scientific Name: Ancistrocerus antilope
Taxon Code: aaA
Common Name: Potter Wasp
Material Code: 8 Material SubCode: 8c
Materials: Mud
Cross Wall: Simple
Side Wall: None
Plug: 4 mm
Borewidth (mm): 6.4-9.6
Provisions/Faeces: Inchworms
Cocoon: Very pale yellow
Immatures: Overwinters as white prepupa

Adult: Adult is larger than Symmophus.

Nest Block:

Immatures:

Adult:
Overwintering Nests:

**Scientific Name:** Anthidium manicatum  
**Taxon Code:** amA  
**Common Name:** carder bee  
**Material Code:** 4  
**Material SubCode:**  
**Materials:** Plant hairs  
**Cross Wall:** Felt  
**Side Wall:** Felt  
**Plug:** Gravel and debris  
**Borewidth (mm):** 8.0-9.6  
**Provisions/Faeces:** pollen  
**Cocoon:** Brown ellipsoid, smaller than bore  
**Immatures:** Overwintering form  
**Adult:** Males are bigger than females and territorial

Nest Block:
Overwintering Nests:

Scientific Name: Anthrax irroratus (Bombyliidae)
Taxon Code: BO
Common Name: bee fly
Material Code: 
Material SubCode: 
Materials: attacks various hosts
Cross Wall:
Side Wall:
Plug:
Borewidth (mm):
Provisions/Faeces: parasitoid, attacks various hosts
Cocoon:
Immatures: overwinters as larva or prepupa; the white maggot with a single mouthhook turns into a pupa with bristles and horns
Adult: if some cells emerged before winter there may be a shed pupal skin or a trapped adult fly with patterned wings

Adult:

Immatures:
**Overwintering Nests:**

<table>
<thead>
<tr>
<th>Material Code:</th>
<th>8</th>
<th>Material SubCode:</th>
<th>9a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials:</td>
<td>Mud</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross Wall:</td>
<td>Cells are joined barrels loose in bore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side Wall:</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plug:</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borewidth (mm):</td>
<td>8.0-9.6</td>
<td>single amputated spider</td>
<td></td>
</tr>
<tr>
<td>Provisions/Faeces:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocoon:</td>
<td>thin, grey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immatures:</td>
<td>overwinters as prepupa but commonly parasitized, with the hyperparasite already emerged, leaving an empty cocoon</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Adult:**

![Image of Adult]

**Immatures:**

![Image of Immatures]

**Scientific Name:** Auplopus

**Common Name:** spider wasp

**Taxon Code:** aAA

**Common Name:** spider wasp

**Scientific Name:** Auplopus
Overwintering Nests:

Scientific Name: Chaetodactylus krombeini
Taxon Code: MI
Common Name: mites
Material Code: Material SubCode: Materials:
Cross Wall:
Side Wall:
Plug:
Borewidth (mm):
Provisions/Faeces: cleptoparasite/predator?
Cocoon:
Immatures: writhing mass of small white mites in pollen mass
Adult: very small white mites (< 1mm)
Overwintering Nests:

Scientific Name: Chrysididae (Hymenoptera)
Taxon Code: CH
Common Name: cuckoo wasps

Material Code: Materials: Cross Wall:
Side Wall:
Plug:
Borewidth (mm):
Provisions/Faeces: parasitoid

Cocoon: brown pill cocoon with light silk patch
Immatures overwinters as white grub with mandibles, in cocoon

Adult: large (5-7mm) heavily sculptured blue-green metallic wasp
**Overwintering Nests:**

- **Scientific Name:** Dermestidae (Coleoptera)
- **Taxon Code:** DE
- **Common Name:** dermestid or skin beetle
- **Material Code:** Material SubCode: Materials:
- **Cross Wall:**

**Side Wall:**

**Plug:**

**Borewidth (mm):**

**Provisions/Faeces:** scavengers in cells

**Cocoon:**

- **Immatures:** beetle larva with long hairs

- **Adult:** hairy, often patterned beetles

---

**Nest Block:**

**Adult:**

**Immatures:**

![Adult Image](image1)

![Immatures Image](image2)
Overwintering Nests:

Scientific Name: Gasteruption (Gasteruptiidae)
Taxon Code: GA
Common Name:
Material Code: Materials:
Cross Wall:
Side Wall:
Plug:
Borewidth (mm):
Provisions/Faeces: parasitoids
Cocoon:

Immatures: legless grubs
Adult: wasp with abdomen attached high on thorax

Nest Block:

Gasteruptiidae
Overwintering Nests:

Scientific Name: Hylaeus spp.
Taxon Code: hAA
Common Name: masked bee
Material Code: 5
Material SubCode:
Materials: Bee 'cellophane', not a true silk
Cross Wall: Cell is a clear bubble
Side Wall: None
Plug: Several flimsy walls
Borewidth (mm): 3.2-4.8
Provisions/Faeces: Nectar and pollen
Cocoon: None. Cells serial in small bores, adjacent in large
Immatures: Overwinters as white or yellow prepupa

Adult: Black; note white or yellow face marks and wasp-like appearance, without patch of hair on underside of abdomen

Immatures:
Overwintering Nests:

Scientific Name: Ichneumonidae (various species)
Taxon Code: ICH
Common Name: Ichneumon wasps
Material Code: Material SubCode:
Materials: Cross Wall:
Side Wall:
Plug:
Borewidth (mm):
Provisions/Faeces: parasitoids
Cocoon: various
Immatures: legless larva with indistinct head capsule
Adult: narrow waisted wasp with > 16 antennae segments, females with distinct ovipositor -- characteristic wing venation

Nest Block:

Immatures:
Overwintering Nests:

Scientific Name: Isodontia mexicana
Taxon Code: imA
Common Name: sphecid wasp
Material Code: 7  
Materials: Grasses
Cross Wall: Felt
Side Wall: None
Plug: Protruding straws
Borewidth (mm): 6.4-9.6
Provisions/Faeces: katydids
Cocoon: Papery, crackles
Immatures: Overwinters as bicoloured prepupa (green 'tail')

Adult: Black, spiny legs
**Overwintering Nests:**

<table>
<thead>
<tr>
<th>Scientific Name:</th>
<th>Megachile pugnata</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxon Code:</td>
<td>mpA</td>
</tr>
<tr>
<td>Common Name:</td>
<td>sunflower bee</td>
</tr>
<tr>
<td>Material Code:</td>
<td>1</td>
</tr>
<tr>
<td>Materials:</td>
<td>Mud and mastic</td>
</tr>
<tr>
<td>Cross Wall:</td>
<td>Layers of mud and mastic</td>
</tr>
<tr>
<td>Side Wall:</td>
<td>None</td>
</tr>
<tr>
<td>Plug:</td>
<td></td>
</tr>
<tr>
<td>Borewidth (mm):</td>
<td>6.4-9.6</td>
</tr>
<tr>
<td>Provisions/Faeces:</td>
<td>pollen</td>
</tr>
<tr>
<td>Cocoon:</td>
<td>Clear whitish</td>
</tr>
<tr>
<td>Immatures:</td>
<td>Overwinters as white, slightly curled grub</td>
</tr>
<tr>
<td>Adult:</td>
<td>Robust; lower cheek ends in a spur</td>
</tr>
</tbody>
</table>
Overwintering Nests:

Scientific Name: Megachile campanulae  
Taxon Code: mcA  
Common Name: megachilid bee  
Material Code: 2  
Material SubCode: 2a  
Materials: Resin  
Cross Wall: Abundant dark flowing resin  
Side Wall: None  
Plug: Resin and debris, 8 mm  
Borewidth (mm): 4.8  
Provisions/Faeces: pollen  
Cocoon: Grey-white  
Immatures: Overwinters as slightly curled white grub

Adult:  

Immatures:
Overwintering Nests:

Scientific Name: Megachile spp.
Taxon Code: mAA le
Common Name: Leafcutter Bees
Material Code: 6  Material SubCode:
Materials: Leafcuttings
Cross Wall: Discs
Side Wall: Cylinders or cupped nests, 'helices'
Plug: 20 mm, discs
Borewidth (mm): 4.8-9.6
Provisions/Faeces: pollen
Cocoon: Hidden
Immatures: Overwinters as pure white grub

Adult:
**Overwintering Nests:**

Scientific Name: Melittobia chalybii  
Taxon Code: CA  
Common Name: chalcid wasp  
Material Code: Material SubCode:  
Materials:  
Cross Wall:  
Side Wall:  
Plug:  
Borewidth (mm):  
Provisions/Faeces: parasitoid  
Cocoon: none formed  
Immatures: overwinters as prepupae and adults; many small white grubs feeding on host  
Adult: small (1-2mm) black wasps invading other cells during warm spells in winter
Overwintering Nests:

Scientific Name: Osmia tersula
Taxon Code: otA
Common Name: spring bee
Material Code: 3  
Material SubCode: 3a
Materials: Mastic
Cross Wall: Friable, green or greenish grey
Side Wall: Very little
Plug: 8 mm
Borewidth (mm): 4.8
Provisions/Faeces: pollen
Cocoon: Tough
Immatures: Only encountered in early summer

Adult: Overwinters as blue-black adult

Nest Block:

Adult:

Immatures:
**Overwintering Nests:**

Scientific Name: Osmia coerulescens  
Taxon Code: ocA  
Common Name: small spring bee  
Material Code: 3  
Material SubCode: 3b  
Materials: Mastic  
Cross Wall: More tenacious, dark green, red, slightly resinous  
Side Wall: Very little  
Plug: 12 mm  
Borewidth (mm): 4.6-6.4  
Provisions/Faeces: pollen  
Cocoon: Tough  
Immatures: Only in summer  
Adult: Overwinters as blue-black adults, males with orange dorsal fur
**Overwintering Nests:**

Scientific Name: Osmia lignaria  
Taxon Code: olA  
Common Name: large spring bee  
Material Code: 8  Material SubCode: 8b  
Materials: Mud  
Cross Wall: Simple  
Side Wall: None  
Plug: 8 mm  
Borewidth (mm): 4.8-9.6  
Provisions/Faeces: pollen  
Cocoon: Egg shaped in larger bores, brown  
Immatures: Only in early summer  

Adult: Overwinters as big blue-black adult emerging in early Spring  

**Nest Block:**

![Nest Block Image]
**Overwintering Nests:**

<table>
<thead>
<tr>
<th>Scientific Name:</th>
<th>Osmia texana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxon Code:</td>
<td>otB</td>
</tr>
<tr>
<td>Common Name:</td>
<td>biennial spring bee</td>
</tr>
<tr>
<td>Material Code:</td>
<td>3</td>
</tr>
<tr>
<td>Material SubCode:</td>
<td>3c</td>
</tr>
<tr>
<td>Materials:</td>
<td>Mastic</td>
</tr>
<tr>
<td>Cross Wall:</td>
<td>Yellow-green, slanting, tough, lowest bore in picture</td>
</tr>
<tr>
<td>Side Wall:</td>
<td>None</td>
</tr>
<tr>
<td>Plug:</td>
<td>12 mm</td>
</tr>
<tr>
<td>Borewidth (mm):</td>
<td>8.0-9.6</td>
</tr>
<tr>
<td>Provisions/Faeces:</td>
<td>pollen</td>
</tr>
<tr>
<td>Cocoon:</td>
<td>Clear white or dark appearance</td>
</tr>
<tr>
<td>Immatures:</td>
<td>1st winter, slightly curled, white prepupa</td>
</tr>
<tr>
<td>Adult:</td>
<td>2nd winter, blue-black adult</td>
</tr>
</tbody>
</table>

**Nest Block:**

- **Immatures:**
- **Adult:**
**Overwintering Nests:**

Scientific Name: Passaloecus spp.

Taxon Code: pAA

Common Name: aphid wasp

Material Code: 2  
Material SubCode: 2b

Materials: Resin

Cross Wall: Sparse yellow granular

Side Wall: None

Plug: 2 mm

Borewidth (mm): 3.2-4.8

Provisions/Faeces: Aphids

Cocoon: None, or a little silk

Immatures: Overwinters as bright yellow prepupa

Adult: Small black; no face marks
Overwintering Nests:

Scientific Name: Symmorphus canadensis
Taxon Code: scA
Common Name: potter wasp
Material Code: 8 Material SubCode: 8d
Materials: Mud
Cross Wall: Simple
Side Wall: None
Plug: 6 mm
Borewidth (mm): 3.2
Provisions/Faeces: Mix of small round yellow weevil or long thin Leaf Miner (coleopteran,
Cocoon: Often paler and more delicate than S. cristatus in the same nest blocks
Immatures: Overwinters as prepupae of various whitish shades
Adult: Very long flight period nesting even into late September

Nest Block:
**Overwintering Nests:**

Scientific Name: Symmorphus cristatus  
Taxon Code: scB  
Common Name: potter wasp  
Material Code: 8 Material SubCode: 8e  
Materials: Mud  
Cross Wall: Simple  
Side Wall: None  
Plug: 15 mm, protuberant  
Borewidth (mm): 4.8 or 3.2  
Provisions/Faeces: Black (willow leaf) chrysomelid grubs  
Cocoon: Tougher and yellow tan  
Immatures: Overwinters as brilliant yellow prepupa

**Nest Block:**

**Adult:**

**Immatures:**
Overwintering Nests:

Scientific Name: Trypoxylon collinum
Taxon Code: tcA
Common Name: mud dauber wasp
Material Code: 8  Material SubCode: 8g
Materials: Mud
Cross Wall: Simple
Side Wall: None
Plug:
Borewidth (mm): 4.8-6.4
Provisions/Faeces: Medium spiders
Cocoon: Dark brown varnished brittle cocoon; no flare at anterior end
Immatures: Overwinters as pale yellow prepupa

Adult:

Immatures:
Overwintering Nests:

Scientific Name: Trypoxylon frigidum
Taxon Code: tfA
Common Name: mud dauber wasp
Material Code: 8  Material SubCode: 8f
Materials: Mud
Cross Wall: Simple
Side Wall: None
Plug:
Borewidth (mm): 3.2
Provisions/Faeces: tiny spiders
Cocoon: Delicate pale brown cylinder
Immatures Overwinters as prepupa

Adult:

Nest Block:

Adult:

Immatures:
### Overwintering Nests:

<table>
<thead>
<tr>
<th>Scientific Name:</th>
<th>Trypoxylon lactitarse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxon Code:</td>
<td>tLA</td>
</tr>
<tr>
<td>Common Name:</td>
<td>mud dauber wasp</td>
</tr>
<tr>
<td>Material Code:</td>
<td>8</td>
</tr>
<tr>
<td>Material SubCode:</td>
<td>8h</td>
</tr>
<tr>
<td>Materials:</td>
<td>Mud</td>
</tr>
<tr>
<td>Cross Wall:</td>
<td>Simple</td>
</tr>
<tr>
<td>Side Wall:</td>
<td>None</td>
</tr>
<tr>
<td>Plug:</td>
<td>3 mm</td>
</tr>
<tr>
<td>Borewidth (mm):</td>
<td>8.0-9.6</td>
</tr>
<tr>
<td>Provisions/Faeces:</td>
<td>Densely packed flat spiders</td>
</tr>
<tr>
<td>Cocoon:</td>
<td>AsT. collinum but flared anteriorly</td>
</tr>
<tr>
<td>Immatures:</td>
<td>Overwinters as pale yellow prepupa</td>
</tr>
<tr>
<td>Adult:</td>
<td>Black with yellow hind tarsi</td>
</tr>
</tbody>
</table>

#### Nest Block:

**Adult:**

![Adult](image1)

**Immatures:**

![Immatures](image2)