ANYSTID (or WHIRLIGIG) MITES

CLASS: ARACHNIDA (arachne=spider)
ORDER: ACARI (acarus=mite)
Suborder: Prostigmata
Family: Anystidae

IMPORTANCE General predators, important in pest control. Highly mobile and voracious, able to suppress aphid populations. Not likely feasible for biological control against spider mites due to long generation time, prey size discrimination, impairment by spider mite webbing, cannibalism and rearing difficulties.

DISTRIBUTION Canada: 2 spp. (36)

BIOLOGY Female lays up to 3 egg clusters of 23 eggs each (sometimes in chains), attached to moss or bark on trees, or on soil. Egg to adult (11 life stages): 49 days. Half of lifetime spent in inactive stages (egg, prelarva, molting phase). Larvae return to trees. Males perform behavioral dance prior to transferring stalked spermatophores. Generally equal sex ratios, but females predominate in agriculture, 2 or more generations/year.

FOOD SOURCE Spider mites (39/day), aphids, lepidopteran eggs, scales, thrips, leafhoppers, and nearly any other insect or mite they can catch and puncture. Prey selection includes chance encounters and tactile contact. Toxins may be used to subdue prey. Prey type may change body colour. Cannibalistic tendencies.

SEASONAL OCCURRENCE:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

MONITORING Methods - Berlese funnel, branch beatings, pantrap, pitfall trap.
Habitats - Common on plants infested with phytophagous mites. Also on ground, tree trunk, foliage, moss, under bark. Higher numbers on non-crop plants in agricultural fields and border rows than on crops themselves, possibly due to pesticide applications and/or residues, or lack of prey.

CONSERVATION
Mowing - Leave some weeds to provide a longer succession of prey.
Pesticide Toxicities -
High: acephate (Orthene™), benomyl (Benlate™), carbaryl, chlorpyrifos (Dursban™), cryolite, deltamethrin (Decis™), demeton, dichlorvos, dicofol (Kelthane™), dieldrin, methoxyld (Lannate™), parathion, permethrin (Ambush™), sulprofen, sulphur.
Moderate: diazinon, endosulfan (Thiodan™), malathion, maneb (Manzate™), naled (Dibrom™), oils, soap (Insecticidal Soap™).
Low: Bacillus thuringiensis (Dipel™), captan, chlorimequat (Cycocel™), copper, dimethoate (BGaine™), diazinon (drench), dichloran (Botran™), dinocap (Karathane™), fenbutatin oxide (Vendex™), iprodione (Rovral™), kinoprene (Enstar™), nicotine, pirimicarb (Pirimor™).
Safe: lime sulphur.

RECOMMENDED READINGS: 76, 118

(29, 64, 97, 107)
ANYSTID (or WHIRLIGIG) MITES

DESCRIPTION

**Adults** 0.8-1.2 mm. Medium to large (for mites), soft, oval to elongate with 1-4 pairs of legs. Change in prey type may change colour from usual bright orange to red or reddish-black (Figs. 110 and 111).

**Eggs** 195x155 μ. Oblong, starts out translucent, turning bright orange.

Figure 110 - Anystid mite.

Figure 111 - Anystid mite.