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Notes on Aphididae

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NOTES ON APHIDIDÆ

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A list of the Aphididæ of the State as far as collected was published in the proceedings of this Academy for 1890-91 as part of the catalogue of Iowa Hemiptera. It was known at the time to be very incomplete, but it was considered best to include only such species as had been actually observed. As the past season was favorable, especially during autumn, for collecting in this family, considerable more material has been added. We present, therefore, a supplemental list with notes on habits and references to host plants.

Siphonophora erigeronensis Thos. On Erigeron canadensis. (Common "Horse Weed.") This is one of the most common species, occurring on a number of common weeds besides the above, and also on greenhouse plants.

Siphonophora sp. Apparently identical with S. Geranii Oestl. On leaves of Ostrya virginica (Hop Hornbeam).

Siphonophora tiliæ Monell. On Tilia americana (Basswood).

Siphonophora granaria Kby. On volunteer oats and has been abundant in different parts of the State. Was overlooked in making up the previous list.

Siphonophora sp. On Trifolium pratense (Red Clover).

Siphonophora sp. On Scrophularia nodosa.

Siphonophora sp. On Cicuta maculata (Poison Hemlock).

Siphonophora sp. On Polygonum Hartwrightii.

Phorodon humuli Schrank, on Hop. Collected on Des Moines river in Boone county, and on Squaw creek in Story county.

Phorodon sp. On Monarda punctata (Horse Mint). This species is probably identical with the Phorodon which Mr. T. A. Williams lists without description as Phorodon monardæ n. sp. on Monarda fistulosa.

Siphocoryne xanthii Oestland. On Xnathium canadense (Cocklebur). This pretty species was quite abundant on the above plant during the latter part of the summer.

Rhopalosiphum nymphaeæ L. On Nymphæa odorata (Pond Lily). What is apparently the same species occurred also on the Arrow leaf Sagittaria variabilis.

Rhopalosiphum rhois Monell. (?) On Rhus glabra (Sumach).

Rhopalosiphum serotinæ Oestl. (?) On apple leaves.

Aphis maidis Fitch. Abundant on corn, Broom corn and Sorghum. Given in previous list but not from this locality.

Aphis monardi Oestl. On Monarda punctata (Horse Mint).

Aphis mimuli Oestl. On Mimulus ringens (Monkey Flower).

Aphis helianthi Monell. (?) On Helianthus gross-serratus. Taken in Tama county and at Ames.

Aphis sp. On Amaratus albus (?) (Tumble Weed).

Aphis cardui L. On Thistle.

Aphis sp. Probably A. Asclepiadis Fitch, on Asclepias cornutum (Milkweed). Perhaps the same as S. asclepiadis of last list

Aphis setariæ Thos. On Panicum crus-galli (Barnyard grass).

Aphis eupatorii Oestl. (?) On Eupatorium perfoliatum (Boneset).

Aphis ageratoides Oestl. On Eupatorium Ageratoides.

Aphis sp. Probably Aphis lonicera Monell. On cultivated Honey suckles.

Aphis œnotheræ Oestl. On Œneothera biennis (Evening Primrose).

Aphis marutæ Oestl. (?) On Cratægus coccinea (Hawthorn).

Aphis frondosæ Oestl. On Bidens frondosa (Burr Marigold).

Aphis euonymi Fab. On Euonymus atropurpurus (Wahoo). Included in previous list under A. rumicis but now considered distinct. It agrees more closely with A. viburni but is given as a distinct species by Buckton.

Aphis cratægifoliæ Fitch. On Cratægus tomentosa (Thorn).

Hyalopterus pruni Fab. On Plum and Choke cherry.

Hyalopterus arundinis Fab. Pruni Fab. (?) On Phramites communis. At first only the winged form of Hyalopterus pruni was found on the plum, and in no case was the apterous viviparous form found. The blades of Phragmites showed that the Aphids had been there for some time and probably for most of the summer. Pupæ of both the viviparous females and of the males were found in the colonies on Phragmites. There is no difference in structural characters of the winged viviparous forms found on plum and those found on Phragmites. Slight differences may be noted in color evidently due to age. Hence it seemed more than probable that this aphid migrated from the grass to leaves of some of the plum family to deposit the oviparous females; these latter depositing their eggs around the buds.

Winged forms were taken from the grass and confined on leaves of plum. These winged forms established colonies of oviparous individuals, and these deposited eggs around the buds.

Monellia caryella Fitch. On Hicoria alba and amara. One specimen listed in previous list, a single specimen from a small colony having been secured a few years ago (1889). The species was rather common this season, a point of interest, since this species was for some thirty years after its description by Fitch unrecognized by any other entomologist, but was a few years ago recorded in Minnesota by Mr. Oestlund about the same time our speciman was taken here.

Callipterus bellus Walsh. On Quercus coccinea. (?) In markings this resembles Monellia.

Callipterus asclepiadis Monell. On Asclepias cornutum.

Callipterus discolor Monell. On Oak. This and the preceding seem to be identical so far as descriptive characters go even when compared side by side in fresh specimens. It seemed possible that they move from Milkweed to Oak in autumn, but egg-laying broods and eggs were found on both plants.

Callipterus sp. On Quercus macrocarpa, and coccinea.

Callipterus sp. Probably the same as Chaitophorus spinosa Oestlund. On Quercus macrocarpa.

Callipterus trifolii Monell. Abundant in autumn on Trifolium pratense Red Clover). Mentioned in previous list as Callipterus. On Clover. Monell's descriptions in Canadian Entomologist had been overlooked.

Chaitophorus populifoliæ Fitch. On Populus monilifera.

Chaitophorus populicola Thos. (?) On Populus tremuloides. Aspen.

Chaitophorus sp. On Populus tremuloides (Aspen).

Chaitophorus nigra Oestl. On Salix nigra. (?) (Willow).

Chaitophorus sp. On Salix longifolia. (?)

Melanoxanthus sp. Apparently undescribed. Occurs at the base of willow bushes, and the secretion covering them is of such a color as to give the bushes the appearance of being covered with the sediment of high water. Usually hidden in rubbish or loose leaves. Only apterous forms have been taken.

Cryptosiphum sp. On Artemisia frigida. Probably C. Artemisiæ Buckton, but only apterous forms taken.

Schizoneura lanigera Hauss. Not abundant on Pyrus coronaria. Since previous list was published this species has been taken at Ames on Wild crab.

Tetraneura graminis Monell. On Leersia virginica.

Tetraneura ulmi L. On Ulmus americana winged forms of Tetraneura graminis were found flying from Leersia virginica, and at the same time winged specimens of Tetraneura ulmi were observed alighting and hiding under rough bark of the elm, where afterward the peculiar males and females of the latter were found as also the single egg of the female.

Colopha ulmicola Fitch. Included under Glyphina in previous list. Specimens this season were taken on the bark of Cork elm in October.

Colopha eragrostidis Middleton. On Eragrostis Frankii and Purshii. Not compared with the original description. So far as descriptive characters go there is no difference between this species and the one occuring on elm.

Pemphigus attenuatus n. sp. On Smilax rotundifoliæ. They accumulate in colonies extending for a foot or more along the vine and give it the appearance of being two or three times its normal diameter and of a grayish woolly surface, or as if covered with some abnormal growth. The lice hang by their beaks with the end of the body held at right angles to the vine so that the outer surface is quite uniform. Some specimens nearly the same if not identical with the winged forms of Smilax were taken in August, 1889. These were covered with an extremely long white excretion. In flight the dense cottony mass made them appear like large flakes of snow.

Description.—Body robust purple black. Head broad. Antennæ wide apart nearly as long as body, dusky throughout. Wings narrow, attenuate at tip, veins very slender, legs black, tibiæ slightly pale toward apex. Described at time of collecting.

Alate viviparous female form: Length of body 1.8 to 2 mm. of antenna, 1.33 to 1.34 (I 0.5; m. II 0.12 mm.; III 0. 22 mm.; IV 0.25 mm.; V 0.30 mm.; VI including nail 0.30 mm.) Width of body 0.7 mm.; length of wing, 3.6 to 3.9 mm.; width, 1 mm. Rostrum reaching beyond second pair of caxæ. Wings narrow, pointed, from which the name is derived. Third discoidal obsolete at base; the first and second discoidals approximate at point of issue. The same is true of the discoidals of hind wings. Stigma long and narrow; stigmal vein nearly straight and running nearly to apex of wing, approaching in this respect some species of Lachnus. Cauda and cornicles obsolete. Antennæ not annulate, third joint with

a few enlarged sensoria, remaining joints slightly rough or irregularly rugose. From specimens in balsam.

Apterous viviparous form: Length of body 3.50 to 3.90 mm.; width 1.80 to 2mm.; length of anntenna 130 to 140 mm. (Joint I 0.10 mm.; II 0.15 mm.; III 0.32 mm.; IV 0.25 mm.; V 0.27 mm.; VI 0.30 mm.) Antennæ slightly roughened and with a few hairs. Rostrum reaching second pair of coxæ, stout. Body walls and appendages brown, the fluids of the body give a dark olive green background, while the whole surface is covered with a gray flocculent secretion. In balsam the color changes to a purple black. Cauda obsolete Cornicles barely indicated.

Apterous males or larvæ: Length of body 1 mm width 0.4 to 0.5 mm.; Rostrum reaching nearly to end of abdomen, stout. Antennæ length 0.7 mm.; Only five joints visible. Eyes small, red.

LIFE HISTORIES OF JASSIDÆ.

BY HERBERT OSBORN.

Observations upon the grass feeding species of *Jassidæ* have been directed particularly throughout the season to learning important steps in their life history The first point which we tried to determine was the stage in which the winter is passed. Adults of *Deltocephalus inimicus*, *D. debilis*, *Agallia sanguineolenta* and many other species bad been taken in sheltered locations last season up to the time when actual winter commenced, and with the opening of spring search was at once begun for them in places where it seemed most likely that they might be found, viz: sunny spots of lawn on the south side of buildings, south slopes of sodded hills in the woods, under debris and weeds, and in such other places as seemed to afford any promise of shelter for them. The only distinctively grass feeders found were *Agallia sanguineolenta* and *Tettigonia hieroglyphica*, the former in a variety of situations, the latter only in the woods. No specimens whatever of *Deltocephalus*, *Diedrocephala* or other conspicuous grass feeding genera were found. Search for adults began March 8th and continued at short intervals till larvæ appeared all over grass land, and had adults been present they could hardly have escaped notice. This seemed to show pretty certainly that the eggs must be deposited in the fall and that the adults perish during winter if not in late autumn. To determine more accurately the place of deposition of the eggs and to secure additional evidence as to whether it was necessary for adults to survive the winter to oviposit, a pen about 6x10 feet was built, enclosing a patch of bluegrass lawn, the sides consisting of tightly fitting boards. The bottom edges were set nto the ground and all cracks and openings carefully stopped; the pen was open, however, at the top to sun and rain. This enclosed patch was carefully examined to make sure that no adults were present and both it and the outside territory were examined carefully at very freqent intervals to determine the first appearance