

## THE COCCIDÆ OF BRITISH NORTH AMERICA.

BY GEO. B. KING, LAWRENCE, MASS.

(Continued from page 315.)

*Eulecanium Fitchi*, Sign. This seems to be a very serious pest. The specimens sent by Dr. Fletcher came from Mr. J. D. Evans, of Trenton, Ont., and the scales were infesting a plot of six acres of blackberry bushes, just as they were about ready for the market. Fortunately, however, of the first lot received, over one half of the scales were destroyed by a fungus, and of the second lot, about one third at least. Trenton is a new locality for this scale. In addition, the scale insects were infested to a remarkable extent by two species of *Hyperaspis* and two species of Chalcid parasites.

*Eulecanium juglandis*, Bouché. Very seriously infesting plum trees in Nova Scotia. Coll., Prof. Mackay. This is a new locality.

*Eulecanium Canadense*, Ckll. This has been found on maple and elm at Arnstein, Ont., which is a new locality.

*Aspidiotus perniciosus*, Comst. I received this on twigs of gray willow growing at London, Ont. Coll., J. Dearnness.

*Aspidiotus ancylus*, Putn. This was sent by Mr. Dearnness, on plum and shell-bark hickory from East Essex Co., Ont.

*Aspidiotus hederæ*, Vall. Received from Mr. Dearnness, who found it on English ivy on a house-plant set out of doors, at London, Ont.

*Chionaspis Lintneri*, Comst. Found on leather-wood (*Dirca palustris*) growing near the shore of Lake Huron, in mixed woods, about 40 miles from London, Ont., May, 1899. Coll., Mr. Dearnness. The food-plant and locality are new.

*Chionaspis pinifoliæ*, Fitch. On exotic pine at Leamington, Ont., and on Austrian and Scotch pine at London, Ont. Coll., Mr. Dearnness.

*Chionaspis furfurus*, Fitch. Two lots of this scale were received on bark of mountain ash from Ridgetown, Ont., and one lot on twigs of apple from London, Ont. Coll., Mr. Dearnness.

## NEW SPECIES.

*Pulvinaria viburni*, n. sp. (Native.) ♀.—Scale 4 mm. long,  $3\frac{1}{2}$  wide, to 5 long and 4 wide. Colour, red-brown. Ovisac, clear white. Texture, the same as in *P. innumerabilis*. Boiled in caustic potash the skin becomes colourless. Antennæ of 8 joints, measuring as follows in  $\mu$ : Joint 1 (36), 2 (40), 3 (60), 4 (48), 5 (36), 6 (24), 7 (24), 8 (40). Formula 34(28)(15)(67). Leg: coxa 112; femur, with trochanters,



180; tibia 136; tarsus 80. Stigmatal spines in threes, one long and thin, two short and stout. Marginal spines numerous, simple,  $24\ \mu$  long.

Hab.—On *Viburnum pubescens* in the woods at Aylmer, Prov. Quebec, about nine miles from Ottawa; on the same twigs were *Eulecanium corylifex*, Fitch. Coll., Dr. Fletcher. This species is allied to *P. innumerabilis*, *P. tiliae* and *P. marmorata*, and I thought at first it was the last species, but it seems to be distinct.

*Eulecanium Guignardi*, n. sp. (Native.) ♀.—Scale coffee-brown, 5 mm. long,  $3\frac{1}{2}$  broad,  $2\frac{1}{2}$  high. The smaller, which were more numerous, 4 mm. long,  $2\frac{1}{2}$  broad and 2 high. Dorsum quite convex. Texture of the scale thin, somewhat shiny. Cleared and mounted, well-boiled examples are colourless, while those not so are of a yellowish-brown. Skin minutely pitted. Antennæ 7-jointed. Measurements in  $\mu$ : Joint 1 (48), 2 (44), 3 (60), 4 (64), 5 (28), 6 (24), 7 (52). Sometimes joints 3 and 4 are equal; 1 and 2 seem to be variable, often equal, and in this case they would measure  $40\ \mu$  long, respectively; joint 7 is very constant at  $52\ \mu$  long. Legs ordinary. Margin with two rows of spines, one short and stout, the other short, thin and sharp, 16 and  $8\ \mu$ , respectively. Spines of the lateral cleft in threes, nearly of equal lengths, although in some the centre one would be the longest.

Hab.—On plum trees at Niagara, Ont.; sent to me from the Division of Entomology of the Canadian Department of Agriculture, and named after J. A. Guignard, Asst. Entomologist, Experimental Farm, Ottawa. Newly-hatched larvæ translucent, with a slight tinge of pale green and with a distinct dark greenish-gray dorsal longitudinal band. In about six days the colour changes to a light yellow. Antennæ 6-jointed: Joint 1 (20), 2 (12), 3 (28), 4 (12), 5 (16), 6 (32). Front leg: coxa 24; femur and trochanter 52; tibia 40; tarsus  $24\ \mu$  long. Anal tubercles long, each with one long bristle and one short spine. Marginal spines  $12\ \mu$  long. Anal ring normal, with 6 bristles. The above described species has considerable resemblance to *Eulecanium vini* of Europe, but is described as new, after a careful study of various species and reference to all the literature at my disposal.

*Lecanium pini*, n. sp. (Native.) ♀.—Scale dark coffee-brown, 5 mm. long, 4 broad, 3 high. Antennæ rudimentary, although in some examples studied some showed a distinct three-jointed antenna, joint 2 longest, 9 a little longer than 1, measuring in  $\mu$ : Joint 1 (20), 2 (48), 3 (28). Length of the antenna  $96\ \mu$ . The third joint has a few short



hairs, about seven. Legs apparently wanting. Derm colourless, with the posterior half showing small round gland-pits. Posterior incision very long. Anal plates and around the anal area dark yellow. Newly-hatched larvæ dark ochreous, of the ordinary type, indistinctly 6-jointed, seemingly with only 5 distinct joints: Joint 1 (20), 2 (24), 3 (56), 4 (32), 5 (52). Front leg: coxa 44; femur and trochanter 80; tibia 56; tarsus 48  $\mu$  long. Anal tubercles with one long bristle and two short spines. Rostral loop large.

Hab.—On *Linus Austriaca*, London, Ont. Coll., Mr. John Dearnness. Received since from Prof. E. P. Felt, State Entomologist of New York. Prof. Felt's scales were taken at Kierner, N. Y., and are seemingly rare, as he found only a few at this time. Mr. Dearnness found his in quantities. In each case the scales were attached to the crowns of the leaves. As to the newly-hatched larvæ of *Lecanium* and *Eulecanium*, I wish to remark that in all the species yet studied by me, in the legs the tarsus is always shorter than the tibia. Mr. Maskell, Trans. N. Z. Inst., Vol. XXVIII., 1895, figures the larva of a typical *Lecanium*, and says of the legs that the tibiæ are shorter than the tarsi. He does not say of what species, however.

*Eulecanium Lymani*, n. sp. ♀.—Scale red-brown, distinctly pointed at each end, convex. Texture very thin, 3 and 4 mm. long, 2½ broad, 1½ high. Antennæ 6- and 7-jointed.

Measurements of joints in  $\mu$ :

Joint —	1	2	3	4	5	6	7
	32	40	56	40	24	24	48
	40	40	52	52	24	20	44
	32	40	100	20	24	48	

Middle leg: coxa 60; femur and trochanter 140; tibia 100; tarsus 64  $\mu$  long. Marginal spines short, sharp, 20  $\mu$  long, easily lost in boiling. Derm yellowish; no pits observed.

Hab.—On a young oak at Quebec. The tree was 10 ft. high, growing by the roadside, adjoining a grove of trees, and quite a distance from any farm, house or garden. The upper part of the tree was very badly affected. Collected by Mr. Henry H. Lyman, after whom I have the pleasure of naming the species. Allied to such species as *Eulecanium Macluratum*, Ckll. It seems to be very distinct and much different from any other *Eulecanium* found to infest oak trees. Just recently the Dominion Entomologist sent me the same thing on oak. Coll., Miss Lucy I. May, at North Hatley, Quebec.



*Eulecanium rosæ*, n. sp. (Native.) ♀.—Scale in many examples studied practically hemispherical, resembling in shape a small split-pea. Approximate size 4 mm. long,  $3\frac{1}{2}$  broad, 3 high. The colour is variable in the adult stage, light red-brown to a yellow-brown, considerably wrinkled and pitted, with a dull glossy surface. Texture moderately thick. Cleared and viewed by transmitted light, the skin is brownish, showing many round gland-pits of two sizes. Antennæ 6- and 7-jointed, measuring in  $\mu$ :

Joint—	1	2	3	4	5	6	7
	44	44	56	52	24	20	48
	40	44	96	24	24	44	

Joint one has 1 long hair; two 1 short; three has 2 long ones near the constricted end of the joint; four and five each have a short hair; six has 3 short, and seven has three whorls of hairs. Leg: coxa 80; femur 72; trochanter 128; tibia 112; tarsus 60; tarsal digitules 40  $\mu$  long; claw digitules 24  $\mu$  long. Width of coxa 52  $\mu$ , of the trochanter 40  $\mu$ .

Hab.—On rosebush at Sherbrooke, Quebec; found by Mrs. Brooks (Dr. Fletcher in litt.). *E. rosæ* differs very materially from the European *Lecanium* (*Eulecanium rosarum*) by the scale being nearly circular in outline, and having a 6- and 7-jointed antenna, while *E. rosarum* has a 7- and 8-jointed antenna.

(To be continued.)

CORRIGENDUM.—Page 315, instead of lines 4–6, read: “♀ Kahn-förmig, im Alten über halbkuglig, uneben, dunkelbraun. Die Eier ohne wollige Einhüllung. Länge 3 Linien. Am Weinstocke.”

## A NEW MEALY-BUG ON GRASS-ROOTS.

BY T. D. A. AND W. P. COCKERELL, EAST LAS VEGAS, N. M.

*Dactylopius roseotinctus*, n. sp.

Form and size about as in *D. Citri*; pink, distinctly segmented, with a slight covering of mealy powder; caudal tassels short but well-developed; lateral fringe of tassels very short, irregular, but plainly visible in fresh specimens. Females full of young show no signs of producing ovisacs.

Antennæ 8-jointed, joints measuring in  $\mu$ : (1) 45–66, (2) 51–60, (3) 45–48, (4) 39–45, (5) 42–45, (6) 30–36, (7) 30–36, (8) 84–93. Middle leg: Femur and trochanter 240  $\mu$ , tibia 210, tarsus (without claw) 78.



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