

THE DISTRIBUTION OF LEPTYSMSA MARGINICOLLIS (SERV.).

BY SAMUEL H. SCUDDER, CAMBRIDGE, MASS.

A single mature and one or two immature specimens of a *Leptyσμα* taken July 13 by Mr. A. P. Morse at Palm Springs in Southern California (on bunch grass in Palm Cañon), and a single specimen from the Colorado Desert, Aug. 13, sent me by the Stanford University, had the pale lateral stripe so faint and were found so far west of the regions from which our only known species, *L. marginicollis* (Serv.), had been reported, that I at first thought I had an undescribed species before me. Comparison, however, showed that there was no other mark of distinction and this mark was absent from several other specimens I found in my collection, collected by Crotch about San Diego, Cal., that is, in the same or adjoining counties. This greatly extends the published distribution of the species. In my recent Catalogue I gave

this as the "Southern States east of Mississippi." If I had gone over my collection carefully, I should have found specimens from the above localities and also from northeast Fla., Feb. (Maynard), Ft. Reed, Fla., April (Comstock) Appalachicola, Fla. (Thaxter), Georgia (Morrison), North Carolina (Shute), Smithville, N. C., Nov. 22 (Maynard), Vigo Co., Ind. (Blatchley), Auburn, Ala. (Baker), Houston, Tex., on water plants (Belfrage), Dallas, Tex., March 6 (Boll), Kansas (Uhler), and Nebraska (Miss Walker). Bruner does not give it in his list of Nebraska insects. It has also been reported from South Carolina (Stål) and Tennessee (De Haan), and I have received it from Biscayne Bay Fla. (Slosson). The range should therefore have been stated as Southern States from Atlantic to Pacific.

MISCELLANEOUS NOTES ON COCCIDAE FROM WESTERN MASSACHUSETTS.

BY GEO. B. KING, LAWRENCE, MASS.

All of the Coccids cited below were collected in the vicinity of Springfield, Mass. (Hampden County), by Dr. George Dimmock, who sent them to me for study, and the following records add

considerably to our already large list, and many new food plants are here listed for the first time.

(1) *Lecanium quercitronis* Fitch.
Several lots of this have been received,

infesting various species of oaks, and one lot from *Ulmus americana*; this was also infested with *Chionaspis americana* Johnson. *L. quercitronis* is new to Mass.

(2) *Lecanium lauri* Boisd. on *Laurus nobilis*, new to Mass., on a plant in the Springfield Natural History Museum.

(3) *Lecanium tulipiferae* Cook on *Liriodendron tulipifera*, new to Mass.; this is probably *L. liriodendri* Gmel., 1788. Although his description is very poor, Prof. Cook's is not very much better and the insect should be redescribed.

(4) *Lecanium canadense* Ckll. was received on elm twigs.

(5) *Lecanium cockerelli* Hunter was found on Populus sp.

(6) *Lecanium armeniacum* Craw. on black cherry (*Prunus serotina*). I find the same individual variation of the antennal segments as did Mr. Hunter in his Kansas specimens; it is new to Mass. Dr. Dimmock informs me that the dates of hatching were from 26 June to 8 July, 1898.

(7) *Lecanium quercifex* Fitch on various species of oak twigs, and *Rhus glabra* a new food plant, and a very common species.

(8) *Lecanium corylifex* Fitch. on *Corylus americana*.

(9) *Lecanium antennatum* Sign. on black oak; only two examples of this were found, but Prof. Cockerell's notes are so clear on this species, that there is no doubt as to the identity of the species sent me; it is new to Mass.

(10) A species very much like *Lecanium bituberculatum* Sign. new to Mass., and needing further study, was found on oak.

(11) *Lecanium hemisphaericum* Targ. on *Cycas revoluta* in the Springfield natural history museum.

(12) *Pulvinaria innumerabilis* Rathv. on *Quercus ilicifolia*, *Euonymus americana*, and *Viburnum dentatum*.

(13) *Pulvinaria machuræ* Kenn. in Fitch on *Ampelopsis quinquefolia*, a new food plant.

(14) *Pulvinaria acericola* W. and R. on sugar maple in deep woods, new to Mass.

(15) *Kermes kingii* Ckll. one example on oak.

(16) *Dactylopius longispinus* Targ. on *Cycas revoluta* in the Springfield natural history museum.

(17) *Chionaspis americana* Johnson on *Ulmus americana* with *L. quercitronis*.

(18) *Chionaspis ortholobis* Comst. on *Populus grandidentata*; this seems to be quite common at Springfield as I have received several lots.

(19) *Chionaspis furfurus* Fitch on *Amelanchier canadensis*, *Populus grandidentata* and apple; *P. grandidentata* is a new food plant.

(20) *Chionaspis pinifoliae* Fitch on Pinus sp.

(21) *Mytilaspis ulmi* L.; this is very common on ash (*Fraxinus americana*) *Acer rubrum*, willow, *Populus tremuloides*, *P. grandidentata*, red root or New Jersey tea plant (*Ceanothus americanus*) *Sassafras officinale*, and Ohio buckeye (*Aescu-*

lus glabra); the last four are new food plants. *Mytilaspis ulmi* L. (Syn. *M. pomorum* Bouché) has now been recorded throughout the world from 46 different food plants. I have it from 22 in Mass. *Chionaspis furfurus* Fitch is found on 14 different food plants in Mass.

(22) *Aulacaspis elegans* Leon, on

Cycas revoluta; this together with *Lecanium hemisphaericum* Targ. and *Dactylo-pim longispinus*, were on the same plant in the Springfield natural history museum. Previously recorded Coccids found at Springfield are *Gossyparia ulmi*, *Phenacoccus aceris*, *Ripersia kingii*, *Lecanium nigrofasciatum* and *Mytilaspis ulmi*.

LIFE HISTORIES OF NORTH AMERICAN GEOMETRIDAE.—XV.

BY HARRISON G. DYAR, WASHINGTON, D. C.

Racheospila saltusaria Hulst.

Egg (dissected from moth). Elliptical—strongly flattened above and below, but rounded, one end depressed from side view; shagreened, scarcely reticulate; size $.6 \times .5 \times .3$ mm. Color, orange red.

Stage I. Head round, slightly bilobed, pale brownish; width .25 mm. Joint 2 high, collared in front, the collar notched centrally; otherwise cylindrical, smooth, slender, the segments bent angularly when walking; pale yellowish, shining; feet normal, short. Skin rather sparsely minutely granular. No tubercles or setae except on the anal feet and a pair on anal plate, pale, slightly enlarged at tips. Anal plate long, pointed behind, round before with two conical, thick, subanal prongs, approximate and longer than the plate.

Stage II. Head rounded, the lobes bluntly highly produced, a wide notch between; yellowish, sutures and mouth brown, ocelli black; width .33 mm. Body cylindrical, joint 2 with two high cones in front; anal plate long, rounded, the thick subanal prongs projecting beyond. Greenish yellow, smooth, no marks, minutely frosted. Later an interrupted dorsal brown line appears.

Stage III. Head lobes sharply conically produced; green, shaded with brown over the sides; width .55 mm. A high double point on joint 2; anal plate elliptical, pointed, the thick subanal prongs reddish. All else smooth, subgranular frosted, green, a brown dorsal line represented by dashes in the incisures.

Stage IV. Head flat before, the lobes produced into thick conical horns, slightly constricted centrally; clypeus rather high; dark brown, face frosted with whitish, and with frosted streaks over the lobes especially behind; mouth black brown; width 1 mm. Body slender, uniform, a large single green hump on joint 2 with two approximate, dark brown horns on the summit, a little recurved outwardly. Anal plate long, pointed behind, excavate before; shields of anal feet large, triangular, excavate below posteriorly. Feet of joint 10 small, approximate to the anal ones. Body stiff, angular when walking, dark green, very faintly frosted with white granules posteriorly; a series of dark vinous-brown intersegmental dashes, frosty edged, connected by a darker green stripe; on joints 10 to 12 these are contracted to a continuous line. Anal plate green; thick prongs vinous,



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