

## DESCRIPTION OF A NEW SEED CHALCID FROM SPRUCE

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The following new species has been reared from the seeds of Engelmann spruce (*Picea engelmanni*), from the Sitka spruce (*Picea sitchensis*), and from Colorado blue spruce (*Picea parryana*). It has been reared from seeds collected in Beulah and Glenwood Springs, Colorado; while the types come from Crescent City, California. The material has all been reared by Mr. J. M. Miller.

**Megastigmus piceæ**, new species.

In Marcovitch's correction to Crosby's table (Can. Ent., 1914, Vol. XLVI, p. 438) the female runs to *laricis* Marcovitch, but may be separated from that species as follows:

Propodeum with a median carina; face all yellow and without many long black hairs; cheeks yellow; flagellum yellow beneath; femora pale.....*laricis* Marcovitch.  
Propodeum with two short carinæ basally; face with median brownish spot and with many long blackish hairs; cheeks black; flagellum black; femora black basally.....*piceæ* Rohwer.

The male differs from the descriptions of *lasiocarpæ* and *laricis* in a number of characters.

*Female*.—Length 2.5 mm.; length of the ovipositor 2 mm. Head finely rugulose with the lines radiating from the ocelli and from the mouth parts; postocellar line one-fifth longer than the ocellocular line; intraocellar line subequal with the ocelloccipital line; pronotum and mesonotum transversely aciculate, on the prescutum the aciculations are much finer anteriorly, and they are more pronounced posteriorly; axillæ granular posteriorly; scutellum reticulate, anteriorly with a tendency towards striation;

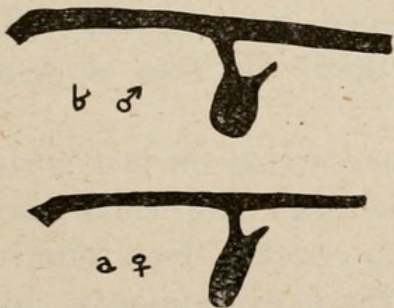


Fig. 13.—*Megastigmus piceæ*, stigmatal club.

stigmatal club as in Figure 1a. Black; palpi, mandibles, face below a line slightly above the bases of the antennæ, scape and pedicel beneath, yellow; face medianly with longish, subcircular, brownish spot; legs yellow, with the following black or brownish markings:

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Bases of the four anterior coxæ, the four anterior femora posteriorly and the posterior femora except apices; wings hyaline, venation brownish.

*Male*.—Length 2 mm. Sculpture as in the female. Black; palpi, face below a line slightly above the bases of the antennæ, posterior orbits to the height of the yellow on the face, scape and pedicel beneath, spot on the pronotum laterally, spots on the abdomen laterally on tergites three and four, *yellow*; legs yellow, coloured as in the female except tibiæ and tarsi are slightly brownish.

Crescent City, California. Described from four females, one, type, and four males, one allotype, recorded under Bureau of Entomology Number Hopk. U. S. 10850j. Material collected by P. D. Sergent and reared by J. M. Miller in April and May, 1914, from seeds of *Picea sitchensis*.

*Type*.—Cat. No. 19066, U. S. N. M.

## THE RATE OF HATCH OF SCALE INSECT EGGS.

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Scale insects, particularly those of the sub-family Lecaninæ, are among the most prolific insects, and evidently the normal death rate will be in the neighbourhood of 99.9%, since at least a thousand eggs is the normal reproduction and males are very rare in the two commonest species.

At what point in the life history the greater part of this reduction in numbers occurs has never been investigated fully, but we have now rather extensive data upon the rate of death before hatching.

A very large series of experiments was carried on last spring upon the effect of cyanide gas, and half the eggs from each insect experimented with were kept untreated as a check. Two hundred lots of a hundred insects each were in these experiments, and, estimating 500 untreated eggs in each, the data below gives the rate of hatch determined from observations on about 10,000,000 eggs.

These studies covered five species and twelve localities, Ontario and Santa Barbara in the South, and Anderson, about 500 miles to the north, give more than the average hatch, and the



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