

surface shining, sparsely punctured; antennæ about 35-jointed, 3 subequal to 4 + 5; head shining, polished, with shallow, widely-separate punctures; a large impunctate spot on the lower inner orbits; middle fovea deep, spear-shape, with the long point above; lateral postocellar furrows distinct, converging to the occiput, postocellar area parted by a longitudinal furrow; anterior lobe of mesonotum and scutellum impunctate; prothorax, lateral lobes of mesonotum and pleuræ punctured like vertex; laterally the pronotum has a large hump; legs normal; venation as in *I. Kincaidi* Roh.; abdomen finely reticulate; last ventral segment of the abdomen almost as long as wide, the apex gently rounded. Colour reddish-brown; clypeus, labrum, mandibles, smooth inner orbital area, posterior orbits, four longitudinal lines on vertex, anterior lobe of mesonotum, scutellum, part of lateral lobes, pleuræ and abdomen straw-yellow; antennæ and legs darker than body, partly brown. Wings hyaline, venation brown.

Type locality: Minn. Collection of W. H. Ashmead.

Type, No. 12763, U. S. N. M.

This species is allied to *I. brunnicans* (Nort.), but the scape is shorter, the last ventral segment is nearly as long as wide (not half as long as wide as in *brunnicans* Nort.), the labrum has a long spear-shaped tooth (not broad with the anterior margin triangular, as in *brunnicans*), and the colour is lighter. It is not marked with black, as is *I. ochrocera* (Nort.).

THE LARCH SAW-FLY (*LYGÆONEMATUS ERICHSONII*, HARTZ.) IN MINNESOTA.

BY A. G. RUGGLES, ST. ANTHONY PARK, MINN.

The Larch Saw-fly has become a very serious pest on the tamaracks in northern Minnesota. Reports of damage from several parts of the State came to the Minnesota Entomologist's office during the fall of 1909. The writer, in July, examined the damage that had been done to the tamaracks in the State preserve of Itasca Park. This park, a primeval forest of fifty square miles, contains within its borders Lake Itasca, the source of the Mississippi. Attention was first attracted to the great amount of timber, dying or dead, in the swamp regions around the shores of the lake. At first it was thought that the trees were being killed by an excess of water, but upon closer examination it was proved beyond a doubt that *L. Erichsonii* was the cause. The moss under any of these trees, on being turned over, revealed many thousands of cocoons. Under absolutely dead trees only empty cocoons were found, but under trees

March, 1910

showing some sign of life, both empty cocoons and those containing living saw-fly larvæ were taken. The extent of the area infested by this insect was shown by the failure to find a single tamarack tree in this park, on high or low ground, under which, covered by the moss, were not some of the caterpillars in their cocoons. To be sure, the park is not very large; nevertheless, it shows something of the distribution of the insect. Other considerable areas east and north of the park show a like distribution.

At the time of arrival in the park, July 20th, the saw-fly larvæ were all mature. A few days afterward they had disappeared. On going through the woods and over the swamps one could find thousands of dead larvæ, drowned in little pools of water under the trees. Brook trout (*Salvelinus fontinalis*, Mitch.) caught in a small brook which runs through one corner of the park, always looked very plump, and upon examination their stomachs proved to be gorged with saw-fly larvæ.

Many cocoons were collected, and by next year it should be known whether many or any species of parasites destructive to this pest are at work.

TWENTY-SECOND ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF ECONOMIC ENTOMOLOGISTS.

The twenty-second annual meeting of the American Association of Economic Entomologists was held at the Harvard Medical School (Brookline), Boston, Mass., December 28 and 29, 1909. The first session was called to order by President W. E. Britton, of New Haven, Conn., who presided throughout the meeting, and who delivered the annual address on, "The Official Entomologist and the Farmer." The programme was crowded with papers which were of great economic importance to the Entomologist and the Agriculturist, although a few were more technical in character, and dealt with some of the fundamental principles of scientific investigation of entomological matters. A discussion of different methods used in research work was of particular interest, as was also the reports of the progress that is being made in the field and parasite work in New England, for the purpose of controlling the Gypsy and Brown-tail moths. A report by Dr. W. P. Headden, of Colorado, concerning the injury to fruit trees caused by arsenical spraying, and the discussions that followed, brought out many new ideas on this important subject. An exhibit made by the local entomologists and members which was held in