lines on dorsum and a broader whitish spiracular line. Underside striped with alternate light and fuscous lines.

4th Instar

August 23. Length 16 mm. General colour and markings as before. Some individuals dark fuscous green with a broken whitish spiracular line, dark intersegmental rings and a pair of black spots on sides of A. 1 and A. 2.

5th Instar

August 31. Length 23 mm. Head milky green, mottled and feathered with light brown. Body grey-green with a tinge of cinnamon on ring joints, dorsum and sides with closely spaced pale brown lines, underside with black dots on segments. Some had a black mark on the centre of sides, in others the black was replaced with yellow. The cinnamon tinge varied among the larvae. The overall effect was to simulate the oak twigs, even to a thin short pubescence. They were full grown by September 4. Head pale biege with brown feathering as before. Body yellowish-brown with many fine lines and pale yellow dashes on sides of segments. September 12. All larvae pupated among the dead leaves at the bottom of jar.

Pupa

Size 11 mm. by 3 mm. Slender, smooth, slightly shiny, finely wrinkled on wing cases, punctate on A. segments, dark piceous brown. Cremaster a bifid spine with straight tips.

On Mounting Lice by the Ris Lambers Method for Aphids

In the spring of 1958 Mr. Ron Forbes of the Federal Crop Insect Laboratory on the Campus showed me some microscope slides of aphids—the finest and clearest preparations of their kind that I had ever seen. He stated that they were made by the Hille Ris Lambers method and I immediately wondered if Mallophaga and Anoplura could be enslided by the same technique.

Through the efforts of Miss Eleanor Higham, student technician, I now have about 1000 slides of these 2 Orders made by this method. For practical purposes it is nearly as good as the standard KOH-Canada balsam method with the advantage that it is very much faster; one can have finished slides in about 45 minutes.

The method is as follows:

Place the insects in 90 per cent alcohol in a just-boiling water-bath until soft and soggy-looking i.e. in from 2-5 minutes. Then remove them and place in 10 per cent KOH in hot water-bath for from 1 to 5 minutes; experience tells how long. Transfer to Chloralphenol solution in the hot bath for 2 to 3 minutes to clear and mount in Hille Ris Lambers medium.

The formula for the mounting medium is:

Gum arabic, clean white powdered	12 grams
Concentrated pure glycerine	6½ cc
Chloralhydrate	20 grams
Distilled water	40 cc

Dissolve the gum arabic with the other reagents in the water and filter through glass wool two or three times until crystal clear. Place in a dust-free oven at 40° C in a flat dish and let the medium evaporate to half its original volume. Cool, and keep in dropping bottle.

The chloralphenol is made from equal parts by weight of chloralhydrate and crystals of pure phenol or carbolic acid, heated over a water-bath for 5 to 10 minutes.

This technique works better for Mallophaga than for Anoplura whose tough hide sometimes prevents penetration of chemicals and clearing. It is a curious thing that some sucking lice will clear and make perfectly transparent mounts and others from the same batch become only semi-transparent: the same trouble occurs with the KOH-balsam method, and is not the fault of the Hille Ris Lambers technique.

Reference

D. Hille Ris Lambers. 1950. On mounting aphids and other soft-skinned insects. Entom. Berichten 13:55-58.

—*G. J. Spencer, University of British Columbia, Vancouver.*