die einzelnen Formen, wenn gewünscht, hiernach zu bezeichnen, nicht aber auf unbestimmte und schwankende, an den verschiedensten Orten wiederkehrende äußere Kennzeichen. Damit würde der unmäßigen Zersplitterung der Bezeichnungen vorgebeugt und Mißdeutungen verhütet.

57. 28 Locusta

Descriptions of the Postembryonic Stages of Locusta australis Brunner v. W.

(Contribution No. 7, Entomological Laboratory, Sugar Experiment Stations, Mackay, Queensland.)

By A. A. Girault.

The following descriptions are drawn up so as to enable the identification of the young of this species heretofore not possible. The egg still remains unidentificable. In general, the coloration of the young resembles that of the adult.

Stadium I.

Length, 6-7 mm. Greatest width of head, 1,65 mm. General color dark, mottled with greyish. Eyes reddish. A broad dark stripe across median line of vertex its centre with a narrow grevish line; a similar stripe on each side from the eye margin to the posterior margin of the head (all three stripes sometimes obscure). Cheeks and clypeus sometimes lighter yellowish and mottled or else the whole head so excepting the stripes on vertex. Femora and tibiae with more or less obscure transverse greyish bandings. Abdomen with a broad dark spiracular or lateral stripe. Lateral stripe from posterior margin of eye continued over the pronotum, on each side of the meson and more narrowly and obscurely along the whole abdomen. Pronotum and abdomen finely carinated along the median line. Posterior tibiae dark. Lateral, pronotum with longitudinal greyish streaks originating at the posterior margin. A more or less obscure dorsilateral greyish stripe on abdomen separating the broader, dark spiracular and dorsal (or mesal) stripes. Tarsi 3-, apparently 4-jointed, the two apparent intermediate joints subequal, shortest, in the cephalic or intermediate legs more plainly 3-jointed, the intermediate joints short but four joint pads are evident. Antennae 13-jointed, the distal five joints short, each a half or less the length of any of the preceding six joints, the two proximal joints also short; joint 3 longest and then 6, 7 and 8. Body densely, finely polygonally reticulated, including the antennae. Claws and pulvillus well developed. Wingspads not visible.

Nelson, North Queensland, April 16, 30, 1912; May 8, 10, 1912.

Characteristics: 13-jointed antennae; more obseure and darker coloration; head width; obscurely banded legs; one or more transverse distal antennal joints and the relative length of the antennal joints.

Stadium II.

— Length, 9—9.5 mm. Greatest width of head, 2,50 mm. The same but the head now all lighter, brownish or pinkish yellow or ochreous and obscurely mottled, the stripe from the posterior margin of

the eye emphasized, especially its mesal dark portion and its central ochreous line; also the median stripe of the vertex. They all vary somewhat, being more or less distinct as the case may be. But the stripe along each side of the carinate meson of the pronotum and abdomen is now velvety black and conspicuous while ventrad of it, the pronotum is like the head, ochreous and more or less mottled. From the cephalic margin of the pronotum, in the centre of the dark stripe, there is a short commalike ochreous dash, in reality a slight prolongation of the central ochreous line of the dark stripe from the posterior margin of the eye; occasionally, there is a second smaller dash more mesad. The meson is very narrowly ochreous. The legs are usually wholly dark except the posterior femora whose fine longitudinal ridges are ochreous. The cephalie and intermediate tarsi are more distinctly 3-segmented. Antennae 19jointed, the third joint longest, then the fourth, then the fourteenth; none of the joints are transverse. Eyes red. Wingpads very small but present.

Nelson, North Queensland, April 30, 1912; May 6, 10, 24, 1912.

Characteristics: 19-jointed antennae, the third and fourth joints longest; more definite color pattern; head width; usually uniformly dark colored legs; the absence of transverse antennal joints and the presence of the minute wing pads.

Stadium III.

— Length, 14—18 mm. Greatest width head, 3,5 mm. The same as the preceding stage but the posterior tibiae are brownish in their middle as are also portions of the femora and tibiae of the first two pairs of legs. The vertex may be intensely black, obscuring its median line. Antennae with joints 3 and 4 divided, making 21 joints in all; joint 3 longest, then 8, 12, 16, 17 and 21; many of the joints quadrate but none transverse; third joint one and two thirds times the length of joint 4. Sometimes, there are only 20 joints when 3 and 5 become subequal, the latter undivided. Eyes olivaceous. Wing pads still adhering to the dorsum like flat plates.

Nelson, North Queensland, May 10, 1912.

Characteristics: 20—21-jointed antennae; brownish on the legs; head width and large wing pads; non-reddish eyes.

Stadium IV.

— Length, variable, from about 15 to 25 mm. Greatest width of head, 4.5 mm. Still more decidedly colored, black and rufous or nearly; legs nearly all rufous except the tarsi, spotted with black dots. Vertex all black, its median line very narrow. The same as in the preceding stage. Wing pads now free and in the position assumed when adult, somewhat longer than wide, reaching only to distal third of segment of the abdomen 2.

Antennae 22-jointed, joints 5 and 11—15 longest, the third joint longer than the fourth and sometimes subequal to joint 5. A more or less abscure, velvety black longitudinal line in the middle of the vertex on each side of the median line. Eyes dark red.

to be continued.

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