

ander (1963), his terms are used here whenever applicable, i.e., *oviscapt* rather than subgenital plate (Dumbleton, 1963a).

#### Pupa

The pupae of New Zealand blepharocerids, with the exception of *Nothohoraia micragnathia* (Figs. 56 and 57), are in appearance similar to Figure 4 and do not show any great generic or specific differences. Dumbleton (1963a), however, used the ratio of the basal width to the length of the outer gill lamellae to assist in identification (Fig. 3). This practice is continued here, but many pupae remain unidentified as the pupal gills are often too damaged by natural causes to be measured.

#### Larva

The arbitrary terms used here to designate the body segments of blepharocerid larvae (Fig. 1) are the same as those used by Tonnoir (1923c), Stuckenberg (1958) and Dumbleton (1963a). The *cephalic division* includes the cephalic region, the three thoracic segments and the first abdominal segment and bears ventrally one sucker. The *median divisions*, five in number, represent single abdominal segments and bear suckers ventrally. The fifth median division (true sixth abdominal segment) is often almost completely fused to the anal division except for a lateral constriction. The *anal division* consists of four fused abdominal segments. Some of the confusion that existed over the number of segments fused into the cephalic and anal divisions is discussed by Craig (1967b).

The embryonic development of blepharocerid larval appendages shows that the lateral abdominal projections of the larva are probably homologous with the embryonic thoracic prolegs (Craig, 1967b). Therefore the term *abdominal proleg* is used for such structures (Fig. 1), rather than the terms claw or fulcrum (Kitakami, 1950), lateral process (Campbell, 1923; Dumbleton, 1963a), ambulatory process (Tonnoir, 1930b) or pseudopod (Johannsen, 1934; Stuckenberg, 1958; and Alexander, 1963).

The term *seta*, defined by Stuckenberg (1958) as a "more or less flexible, slender, pale, hair-like structure", is used here to describe small, clear, lanceolate structures on the dorsal armature and on the ventral surface of the posterior margin of the larva (Fig. 37). The term *spine* as defined by Stuckenberg (1958) and as used by Dumbleton (1963a) for a short, dark, rigid, hair-like structure on the larva is also used here (Fig. 61). The term *scale* is used for the clear, fan-shaped structures that make up the marginal armature of *Neocurupira* larvae (Fig. 37), and *hair* is used for long, thin, flexible structures on the adult head, larval posterior body margins and prolegs.

Because growth, which takes place during each larval instar, results in considerable changes in the shape of the cephalic, median and anal divisions (e.g., first instar Figs. 46 and 47), descriptions are normally made from late larvae. The number of antennal articles, the shape of the abdominal prolegs, number of tracheal gills, hair length and sucker size are all useful as diagnostic characters, for as Kitakami (1950) pointed out they remain constant throughout any one instar.

The sucker approximately doubles in size with each ecdysis and in New Zealand blepharocerids can be used to identify instars. The differences in size of suckers during any one instar can be used to some extent to identify the species of a larva.

As fixation of the larva causes the suckers to become slightly oval in shape, the *sucker width* is taken as the greatest measurement across the sucker (normally at right angles to the long axis of the larva).

#### Colour

Colour descriptions of larvae and adults are based on the Munsell Book of Color, with the specimen under liquid and illuminated obliquely.