



FIG. 6.—Some stages in the development of the ovary. (a) Stage 1. (b) Stage 2. (c) Stage 3. (d) Stage 4. (e) Stage 5. (f) Structure at the base of the oviduct, possibly a shell gland. o.d. = oviduct; oo. = oocytes; r.ov. = remains of oviduct; s.g. ? = ? shell gland; ♀ op. = female genital opening; b.p. = base of peraeopod 3.

Stage 2—The ovary is broader than in the previous stage and individual oocytes are distinguishable. Width = 0.8mm; length = 2.0mm. Fig. 6b.

Stage 3—The oocytes have expanded slightly and the ovary is no longer a flat structure; the oviduct is thicker and has a median swollen region which may represent a "shell gland". The dimensions have increased slightly from the previous stage. Fig. 6c.

Stage 4—The oocytes have expanded considerably and are globular in shape. They adhere to one another and seem to be incorporating oil globules at the same time as the "liver" is becoming empty of its reserves. Diameter of oocytes = 0.3mm x 0.4mm. Fig. 6d.

Stage 5—The oocytes are much more expanded and are free from one another, filling the peraeon cavity. Diameter of oocytes 0.5mm. Fig 6e. There is a distinct swollen structure which seems to be part of the oviduct and is attached at the base of the third peraeopod, near the female genital opening (Fig. 6f); this may represent the "shell gland" seen in Stage 3.

2. MALE

(a) Flagellum

Flagella of the second antennae of 234 males, ranging in total length from 13.0mm to 28.0mm, were examined and the number of segments developed varied from two to twenty-two. I have been unable to detect any correlation between increasing number of segments and total body length. (Only undamaged antennae were examined.) Four stages in the development of the second antennal flagellum are shown in Fig. 7.

(b) The "Excavate Organ"

Another structure develops in the male at the same time as the flagellum; this takes the form of a pair of "excavations" developing opposite one another on the inner margins of the rami of the first pair of uropods. At first these are shallow, hollowed out regions, but gradually they deepen and become lined with a row of strong bristles and filled with many fine hairs.