

during embryonic life, but as soon as the birdlet is hatched the eyes are closed and remain closed for several days. There is no evidence that any organic union occurs between the lid margins in these "born-blind" birds. In all probability the closed eyes are due to tonic contraction of the orbicularis as a light reflex act.

The muscles of the eyelids are the *orbicularis palpebrarum*, the *levator palpebrae superioris*, and the *depressor palpebrae inferioris*. According to Leuckart (*Graefe-Saemisch Handbuch d. ges. Augenheilkunde*, Vol. II, 1876, p. 145) and Doenecke, they are all striated muscles. However, Zietzschmann (*Ellenberger's Handbuch der vergl. mik. Anatomie*, I, p. 535) believes the orbicularis to be a smooth muscle. The depressor of the lower lid is much stronger (as one might expect from the fact that the latter is more mobile than the upper) and better developed than the levator of the upper lid. It is certainly attached to the lower margin of the tarsus, but it (probably) also spreads over the anterior surface of the lid plate and is attached there. According to Zietzschmann both muscles are joined at their origin in the depths of the orbit, where they form part of a common muscle mass; although Slonaker has not been able to verify this finding. Slonaker, however, agrees with Zietzschmann that the orbicularis is a smooth muscle, while both the depressor and levator palpebrae are striated.

In experimenting with the Sparrow the writer found that the third lid is the only one that closes when an object is "poked" at the bird's eye. The paired lid closes very slowly, if at all, under the stimulants used. The physiological experiments bear out what was found anatomically, viz., that the orbicularis is controlled by the sympathetic.

The *orbicularis* is an extremely thin muscle in the Sparrow, as may be seen by examining the accompanying figure. It appears as mere lines on horizontal section, and as small dots in vertical sections. It is attached to the skin and does not, as in Man, spread out and mingle its fibres with neighboring forehead, tarsus (of the lower lid) and lachrymal apparatus muscles.

There is not, so far as the writer could discover, any analogue in the Bird's lid of the human muscle of Riolan.

Although there is every reason to believe that the non-striated orbicularis of *Passer domesticus* is supplied by fibres deriving from the sympathetic, yet the extremely difficult histological problem of establishing this fact, by demonstrating the course of the fibres and determining their origin, has not yet been solved.

In the Hen the *ciliary feathers*, or eyelashes, more nearly re-