OPHTHALMOMYIASIS*†

BY

P. SIVARAMASUBRAMANYAM AND A. V. SADANAND

From the Departments of Ophthalmology and Medical Entomology, Madurai Medical College, Madurai, India

INFECTION and infestation of the eye and orbit by insect larvae are common in countries where standards of hygiene are low. Human ocular myiasis was first reported by Keyt (1900), and later from India (Elliott, 1910), Egypt (Wahba, 1915), and the United States (Herms, 1950). The external lesions may vary from the appearance of a few dark spots in the conjunctiva to destruction of the eye-ball and orbit. The adult flies which develop from the larvae are not parasitic, but the larvae may lay eggs by parthenogenesis which develop into future larvae and increase the destruction of the tissues.

The orbit may be invaded by the larvae of *Sarcophagidae*, *Oestridae*, and *Muscidae*; Elliott (1920) stated that the last are the most dangerous. Larvae may also penetrate the scleral coat, especially in children, thus producing a septic foul-smelling "fly-blown" orbit.

In the case here reported the eye was infested by *Callitroga macellaria*.

Case Report

A man aged 60 came to the hospital with a history of having injured his eye with a thorn 3 months before, and complaining of severe pain (Fig. 1).

FIG. 1.—Infestation of left eye.

FIG. 2.—Destruction of left eye-ball.

Examination.—The right eye was normal. The left eye showed massive oedema and chemosis of the lids, the whole orbit being filled with a fleshy mass crawling with maggots (Fig. 2).

The maggots (Fig. 3) were removed and the socket was irrigated with an antiseptic solution. The ocular structures were completely destroyed with total visual loss.

FIG. 3.—Full-grown maggot of *Callitroga macellaria*.

* Received for publication July 11, 1966.

† Address for reprints: 15 Goods Shed Street, Madurai-1, India.

Entomological Report.—The maggots extracted measured 15 to 17 mm. long. The body consisted of thirteen segments, each provided with a band of thick irregularly arranged spines. The posterior stigmal plates, the cephalopharyngeal apparatus, and the tracheal trunks were dissected out for examination (Figs 4 and 5).

FIG. 4.—Posterior stigmal plates, showing slit-like spiracles and incomplete peritreme.

FIG. 5.—Cephalopharyngeal apparatus.

The three slit-like spiracles in each posterior stigmal plate were almost parallel to each other, their tapering ends being directed towards a “button” situated at the open area of the peritreme. The non-pigmented tracheal trunks and the absence of spines on the dorso-lateral regions of the two penultimate segments assisted in the identification of the maggots as those of the secondary screw-worm fly *Callitroga macellaria* (Fabricius); family Calliphoridae, order Diptera.

Summary

A case is reported of ocular destruction by larvae of the genus *Callitroga*.

We wish to thank the Dean and Professor of Ophthalmology, Madurai Medical College, for permission to publish this paper.

REFERENCES

- ELLIOT, R. H. (1910). *Indian Med. Gaz. Calcutta*, **45**, 300.
 — (1920). “Tropical Ophthalmology”, pp. 191–198. Oxford University Press, London.
 HERMS, W. B. (1950). “Medical Entomology”, 4th ed., pp. 372–406. MacMillan, New York.
 KEYT, F. T. (1900). *Brit. med. J.*, **1**, 316.
 WAHBA, A. (1915). *Bull. Soc. Ophtal. d’Egypte*, p. 84.

ADDITIONAL BIBLIOGRAPHY

- ATTIAH, M. A. H., SALEM, H. H., and EL GAMMAL, Y. (1940). *Bull. ophthal. Soc. Egypt*, **33**, 16.
 BOULAI, J. (1909). *Clin. ophtal.*, n.s. **1**, 135.
 GANN, T. W. F. (1902). *Lancet*, **1**, 19.
 MACCALLAN, A. F. (1928). *Trans. ophthal. Soc. U.K.*, **48**, 1.
 MATHESON, R. (1950). “Medical Entomology”, 2nd ed., pp. 498–533. Comstock Publ. Co., Ithaca, New York.
 REIS, W. (1913). *Ophthalmology*, **10**, 152.