

A BARN OWL WITH CONGENITAL ANOPHTHALMOS

JOHN H. ARNETT JR.

Accounts in the literature of congenital absence of the eyes in birds are few. Weissenborn (1839) reported this defect in an otherwise healthy fledgling pigeon (*Columba livia*), and Witherby described an emaciated young Raven (*Corvus c. corax*) with one eye absent, apparently due to a congenital anomaly (1917). Thus it seems to be of interest to report that the Academy of Natural Sciences in Philadelphia is in possession of the skin of a male Barn Owl (*Tyto alba pratincola*) in the adult plumage, the skull of which is deformed, particularly in the construction of the orbits. (See photographs).

The skull is within the normal range of size, the length being 7.1 cm. (bill-tip to occiput). The orbits, instead of forming deep sockets for the support of the eye-balls, are contracted in circumference, partially filled in by many irregular thin projections of the lining membranous bone, and partially sealed over by a thick, tough, cartilaginous membrane which is ossified in some places. In gradually dissecting down into this filled-in orbit, nothing was found which suggested a vestige of an eye. A flap of bone was removed from one side of the skull, and on that side the brain and optic nerve appeared to be normal. Another manifestation of the deformity may be seen in the zygomatic arch, which is abnormally short, very thin, and descends at an unusually steep slope. As far as can be determined, the auditory structures are not abnormal. Not visible in the photographs, the palatine bones are abnormally broad and flat, and laterally fused to the premaxillary bones.

The owl was found by Mr. William D. Beyer in Aldan, Delaware County, Pennsylvania, in mid-July, 1948. Early one morning he noticed it in his back yard, which is a short distance from a wooded area. He says, "Robins were pecking at its eyes, and it had run under the hedge . . . I saw at once that it had no eyes, and took it in our house to care for it. It seemed to be in good health. I tried to give it some raw meat to eat, but it just ignored it." It died the following day of unknown cause.

It seems useless to speculate on the causes of this congenital anomaly, except to point out that Stockard, by immersing developing fish embryos in solutions containing alcohol, magnesium, cholreton or ether consistently produced eye anomalies—mostly cyclopean monsters. He concluded that "many of the eye malformations met with in nature are probably due to some abnormal condition in the development environment having acted on the embryo." (1910).

The most likely explanation of how this owl turned up in Mr. Beyer's yard would seem to be that it was hatched nearby, possibly in the adjacent woods, sometime in the late spring; was fed by the parents until after the normal fledging time, (7-7½ weeks), (1938) and was finally left to fend for itself. Possibly urged by hunger it then left the nest, but being blind was unable to perch, and finally ended up on the ground. Probably it died either from starvation or from injuries sustained before it was found, or both.

When one considers how short must be the life expectancies of blind wild birds, it is not surprising that they are rarely encountered.

REFERENCES

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1938 Bent, A. C., Life Histories of N.A. Birds of Prey (Part 2),
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FIGURE 1. Skull of Normal Barn Owl

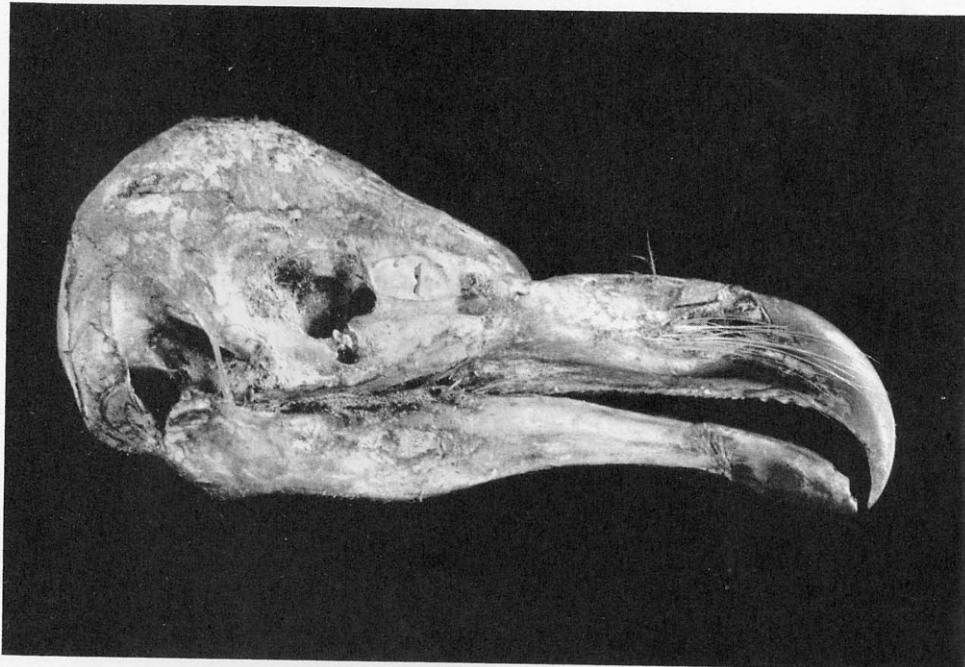


FIGURE 2. Skull of Barn Owl with congenital anophthalmos. The bristles in the nostrils and bits of tissue adhering to the skull are normal, though they have been removed from the skull in Figure 1, which has been more thoroughly cleaned.

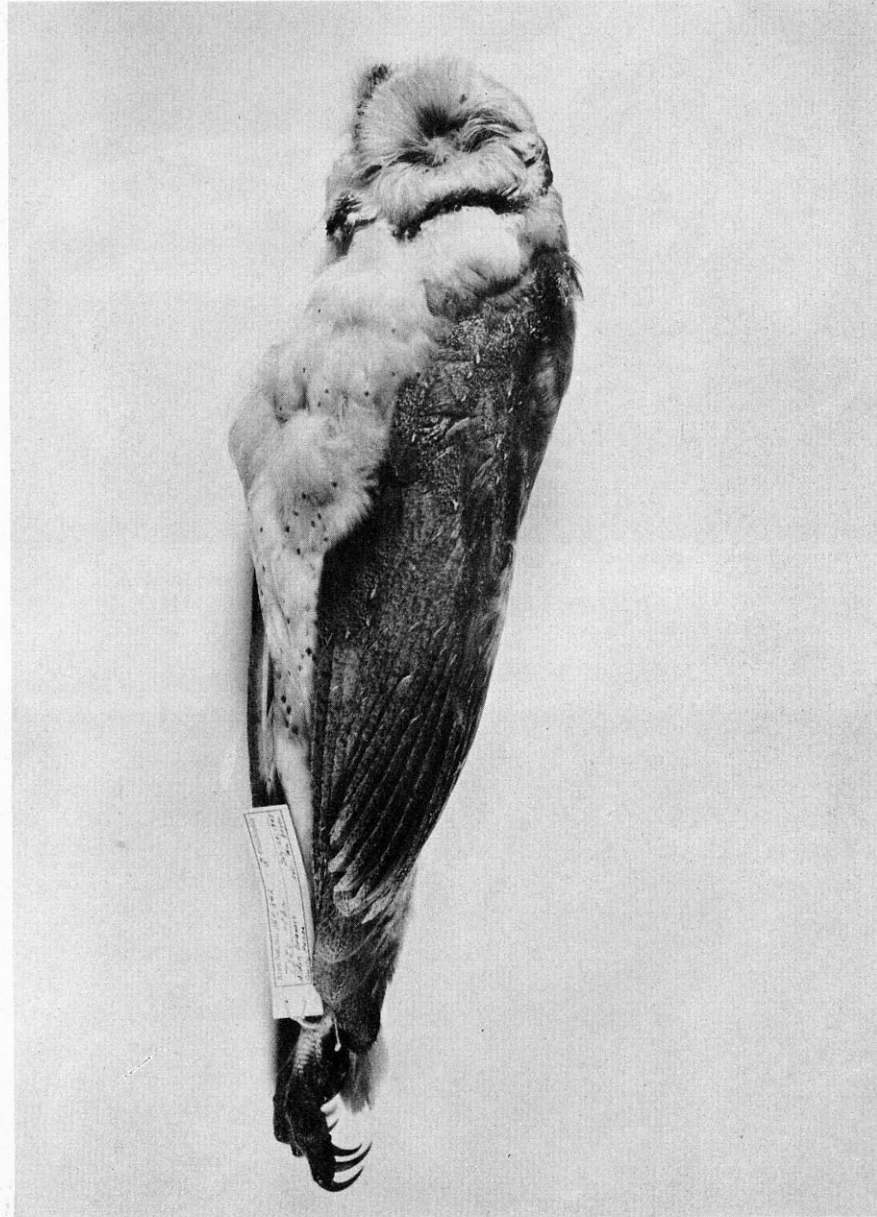


FIGURE 3. Skin of Barn Owl with congenital anophthalmos.