Larval infestation in a common Pariah Kite *Milvus migrans* (Boddaert)

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Abstract This paper describes a case of larval infestation in a common Pariah Kite *Milvus migrans* (Boddaert). Examination on the larvae revealed that the larvae were of the family Sarcophagidae (Diptera).

Keywords Larva · Infestation · Pariah Kite · *Milvus migrans* · Sarcophagidae

Introduction

Common Pariah Kite *Milvus migrans* (Boddaert) is popularly known as *Cheel* in both Bengali and Hindi language in India. It is a large sized bird of about 24 inches. This bird is distributed throughout the India to about 2500 m in the Himalayas, Nepal, Bangladesh, Pakistan, Sri Lanka and Myanmar. It is a confirmed commensal of man and usually found in the neighborhood of human habitations, whether populated city or outlying hamlet. Its food includes offal and garbage mostly (Ali 1996). Myiasis or maggot infestation in this bird has not been reported till date. Pirali-Kheirabadi et al. (2010) reported a case of infestation by *Lucilia sericata* and *Lucilia cuprina* (Diptera, Calliphoridae) in a male Eurasian eagle owl *Bubo bubo* for the first

time in Iran. Myiasis in birds has been reported in geese due to the gold fly species *L. sericata* and *L. cuprina* (Rauchbach and Hadani, 1972), in duck due to *Sarcophagidae* (Wobeser et al., 1981), in turkey for cutaneous myiasis by *L. sericata* and *L. cuprina* (Al-Khalidi and Shareef, 1985), in finch by Muscidae (Fessler, 2006), in hawk by *Protocalliphora* (Tirrell, 1978), in nestling birds by *Protocalliphora braueri* larvae (Eastman et al., 1989) and in owls by Muscidae and *Protocalliphora avium* (Proudfoot, 2006; Tirrell, 1978). Herra and Bermudez (2012) reported a case of parasitism of a juvenile bird *Dendroica castanea* (Aves, Parulidae) by an unidentified species of *Philornis* sp. (Diptera, Muscidae). Some ectoparasites such as fleas (*Nosopsyllus fasciatus*, *Pulex irritans*), lice (*Menopon* and *Liperus*), and mites (*Dermanyssus gallinarum*) are commonly observed to infest birds. This paper reports a case of infestation in a common Pariah Kite *Milvus migrans* (Boddaert) by the larvae of flesh flies belonging to family Sarcophagidae of order Diptera.

Case history

A kite was felt down from flying suddenly in the playground of Rampurhat College Campus, Birbhum of West Bengal in India. Some students carried the dead bird to the Zoology Department. The dead kite (Fig. 1) was preserved in 4 % formaldehyde solution for the interest of demonstration to the students in the departmental museum. One of the authors (SKS) was informed about the fact a few months later and the preserved kite was examined by the author. After dissecting the bird, six dead matured maggots of third instars stage were found in the ocular region of the bird (Fig. 2).

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Fig. 1 The dead Kite (preserved specimen)

Fig. 2 Place of infestation (arrow marked) in the ocular region of the infested Kite

Fig. 3 Larva, whole body, lateral view

Examination of the larvae

The collected larvae (Fig. 3) from the bird were brought to the laboratory in Sonamukhi College, and kept preserved in 70 % alcohol. To study the larval characteristics, a larva was boiled in 4 % KOH solution and dissected under stereoscopic binocular microscope. By the study of the anterior spiracles, posterior spiracles and cephalopharyngeal skeleton, the possible identity of the larvae was determined. Larvae were legless and the head capsule also not well developed, that strongly support its placement in order Diptera. Again the larval body was smooth, without tubercles, posterior spiracles in a cavity (Thyssen 2010);

Fig. 4 Posterior spiracles

Fig. 5 Cephalopharyngeal skeleton, lateral view

spiracular openings oriented more or less vertically; posterior spiracles frequently within deep spiracular cavity on terminal segment; ecdysial scar usually not visible; peretreme not completely encircling each spiracular plate (Ebrahim 2010). These characteristic features strongly imply its position in the family Sarcophagidae.

Description of posterior spiracles (Fig. 4)

It is large and situated in a deep cavity; peretreme not wide; button absent; inner arc long, bifurcated at one end; ventral arc well developed and blunt at apex.

Description of cephalopharyngeal skeleton (Fig. 5)

It is not uniformly pigmented; hook part well developed, longer than basal part, pointed and curved backwards; dental sclerite strong and 'U' shaped; dorsal cornu less pigmented; ventral cornu with a narrow window.

Discussion

Members of the family Sarcophagidae are very much similar in appearance and thus difficult to identify, both as larvae and adults. Hundreds of species develop in excrement, carrion or any kind of decomposing matter and

several species may come before the forensic scientists (Smith, 1986). The maggots in the present case were infested the head of the kite, generally the ocular region and the areas near the right external ear opening. Perhaps the infestation took place during the visit of some maggot-infested corps by the bird. Possibly during feeding, some larvae were attached to the feathers of the bird and might have entered through the ear opening.

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