



Short Notes on Bionomics and Taxonomy of *Sarcophaga (Parasarcophaga) Albiceps* (Meigen, 1826), a Fly of Veterinary Importance

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Abstract

There are three families of Dipterans, namely Calliphoridae, Oestridae, and Sarcophagidae, that have been found to cause, a condition called myiasis in cattle, this condition may result in a decrease in milk, meat, and wool production. The current study envisages to use of taxonomy and bionomics to understand and identify, one of the most ubiquitous myiasis-causing flies fly, viz., *Sarcophaga (Parasarcophaga) albiceps*, a fly with high economic and veterinary importance, by field workers.

Keywords: Sarcophagidae; India; Morpho Descriptions; *Sarcophaga (Parasarcophaga) Albiceps*; Museology

Introduction

Myiasis is the contamination of living or dead vertebrate tissue by the larvae of various flies. Myiasis has been observed in both humans and animals. Myiasis is a condition in which open wounds are infested with Diptera fly larvae. These infestations can annoy farm animals and disrupt normal habits such as feeding and resting. The condition has the potential to reduce milk, meat, and wool production [12].

Myiasis contamination is found all over the world. Different genera from three families, including Oestridae, Calliphoridae, and Sarcophagidae, have been known to for playing a role in the development of myiasis in animals and humans. In addition to health issues, myiasis can cause a slew of financial issues. One important way to control this contamination is to reduce the number of flies that cause myiasis. Other treatments for contamination include surgical approaches and the removal of fly larvae from infected areas [15].

There are different flies that which can cause different types of myiasis and not all cases are treated similarly, therefore the identification of the fly in question is of utmost importance. Therefore, there is a need for in- hand identification for workers. That's why

this taxonomic review of *Sarcophaga (Parasarcophaga) albiceps* [21], is required, to understand and identify it in the field, for proper veterinary management of farm animals.

Methodology

Literature Survey

Indian species of the family Sarcophagidae were culled from on-line sources and other pertinent literature, including the Catalog of Life [1], Systema Dipteroorum [3], Oriental Catalog [31], The fauna of British India [28], and State Fauna Series [30].

Analytics

The life data catalogue was searched with the inclusion criteria "Sarcophagidae, India (States, Union territories, and geographical regions), myiasis", then-current valid names were compiled and hand sorted using Systema Dipteroorum data, and this primary data was compared to the Oriental catalogue and other literature. It was decided to use the Australian catalogue nomenclature system.

Collection and storage

The use of sweep nets was used to catch the flies from stray cow's in Madhyamgram and insect killing jar was used, following all the safety procedures. Babers fluid was used as storing fluid.

Morpho-description and microscopy

Identification of specimens using light microscopy (1600 X 3 in 1 USB Digital Microscope Camera Endoscope 8LED Magnifier with Stand 3-in-1 Type-c Electronic Magnifier Endoscope) and morph-description Morphogenetic keys of verified reference materials were used.

Results and Discussion

- Section Schizophora----(22)
- Sub Section Calyptratae----(23)
- Super Family Oestroidea----(24)
- Family Sarcophagidae----(25)
- Sub Family Sarcophaginae----(27)
- Genus *Sarcophaga*----(21)
- Sub Genus Bellieria----(23)
- Sub Genus Parasarcophaga----(26)

Sarcophaga (Parasarcophaga) albiceps

- **Head:** A frons equal to three-fifths an eye-width. frontal width that of an eye. Lateral verticals wanting. Frontals are nearly straight. Facials are weak. Genals golden. Postocular Cilia, except the outer row, are irregular. Frontal stripe black, parafrontalia together not as wide, these and the face strongly to slightly- golden, the frons with black reflections. Antenna) black, third segment two and a half to three times - the second. Palpi black.
- **Thorax:** Ground-colour dark grey. Propleura bare, Acrosti-etals 1: 1. Posterior dorsocentrals 4.
- **Abdomen:** Second segment bare. Genital segment 1 no marginal's. Genital segment 2 black, exceptionally red.
- **Wings:** I bare, no costal bristle. Segment iii of costa twice v.
- **Legs:** Mid-femur-With comb and long basal fringe. Mid-tibiae bare. Hind. demur with lower hind macrocheatal row and fringe...; hind tibiae double fringed.
- **Length:** 8-11 mm.
- **Host:** Bovine (Bull) [14], cutaneous myiasis of buffalo, cows, and humans [13].
- **Materials examined:** 3 ♂ collected in Kolkata.



Figure 1: Dorsal view.



Figure 2: Frontal view of the head.

Distribution in India given in tabular form

Sl. No.	Distribution in India	References
1	Andaman Is.	[1-4,11,17,20]
2	Andhra Pradesh	[1-3,28,4,11'17,20]
3	Arunachal Pradesh	[1-3,28,4,11,17,20]
4	Assam	[1-4,11,17,20]
5	Bihar	[1-4,11,17,20]
6	Chandigarh	[1-3,17,20]
7	Dādra and Nagar Haveli	[1-3]
8	Damān and Diu	[1-3,17,20]

9	Delhi	[1-4,11,17,20]
10	Goa	[1-4,11,17,20]
11	Gujarat	[1,3,17,20]
12	Haryana	[1-4,11,17,20]
13	Himachal Pradesh	[1-4,11,17,20]
14	Jammu and Kashmir	[1,2,3,4,11]
15	Jharkhand	[1,3,29]
16	Karnataka	[1-4,11,17,20]
17	Kerala	[1-4,11,17,20]
18	Lakshadweep	[1-4,11]
19	Madhya Pradesh	[1-4,11,17,20]
20	Maharashtra	[1-4,11,17,20]
21	Manipur	[1-4,11,17,20]
22	Meghalaya	[1-4,11]
23	Mizoram	[1-4,11,17,20]
24	Nagaland	[1-4,11,17,20]
25	Nicobar Is.	[1-4,11,17,20]
26	Orissa	[1-4,11,17,20]
27	Pondicherry	[1-3,17,20]
28	Punjab	[1-4,11,17,20]
29	Rajasthan	[1-4,11,17,20]
30	Sikkim	[1-4,11,17,20]
31	Tamil Nadu	[1-4,11,17,20]
32	Tripura	[1-4,11,17,20]
33	Uttar Pradesh	[2,4,11,17,20]
34	West Bengal	[2,4,11,17,20,29]

Table 1

Distribution elsewhere

Europe, Palestine, and North China in the Palearctic region. Throughout the Oriental region, the westernmost records being Abbottabad including the hills up to 6000 ft., CEYLON, BURMA, Tong-king, Formosa, Sumatra, Java, Lombok, and New Guinea in the Australian region [28].

Conclusion

The Sarcophagids are well known for parasitoidism and are important in documenting lapse time since death and climate change, as they are holometabolus insects. The species under scrutiny is found in high altitudes, and in dry places. It has been bred from

a dead rabbit and human excrement. It is recorded as parasitic to *Nonagria sp.*, and as the cause of tissue in myiasis in a bull [14], cutaneous myiasis of buffalo, cows, and humans [13]. Therefore, it is imperative to understand and identify this least worked-out species in taxonomic context. In the near future, I will try studies will be focused on other members of this family which have some negative effects on cattle via myiasis for fast in hand taxonomic identification, this might ultimately lead to timely treatment and better antibiotic selection.

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