

Significance of Forensic Fly and Seasonal Variation in the Temperature of Developmental Stages in Lifecycle for Family Sarcophagidae, *Sarcophaga Africa*

Dr. Bhosale P.A.

Department of Zoology

Sundarrao More Arts, Commerce, and Science (Sr) College, Poladpur, Raigad, Maharashtra, India

bhosale_popat@rediffmail.com

Abstract: *Sarcophaga Africa*, is one of the hairy maggot flesh flies which feeds on meat carrion, and dead and decaying matter of animals to the completes its life cycle which is the useful for post mortem interval (PMI). Determination in forensic investigations. The actual life cycle hours and days are calculated due to their morphological parameter of their life cycle of *Sarcophaga Africa* were studied in different seasons; Life cycle in rainy season was completed in 270 ± 1.25 hrs (11.25 ± 0.40 days), when the maximum temperature was 27.02°C and the minimum temperature was 26.4°C ; in summer season when the maximum temperature was 36.6°C and the minimum temperature 33.2°C , the life cycle was completed in 220 ± 1.17 hrs (6.16 ± 0.10 days), while in cycle was completed in 310 ± 1.35 hrs (12.91 ± 0.21 days) when the maximum and minimum winter season life cm temperatures were 27.4°C and 17.2°C respectively. The temperature is the important role to determine the developmental stages of life cycle of *Sarcophaga Africa* which should be considered during PMI determination. The external parameters of different stages differ from season to season. Larvae were healthy and bigger in size in rainy season but in summer were short and small sized. The size of larvae in winter season was also smaller than the size in both summer and rainy seasons.

Keywords: Forensic Insect, PMI season , lifecycle duration; Temp change.

REFERENCES

- [1]. Smith KGV. (1986): A Manual of Forensic Entomology. Trustees of the British Museum (natural history). London. 1986.
- [2]. Gennard D. (2007): Forensic Entomology. An Introduction. John Wiley, Sons Ltd, England. 2007.
- [3]. Wells JD, Stevens JR. (2010): Molecular methods for Forensic Entomology. In: Forensic entomology: the utility of arthropods in legal investigations 2nd edition (JH Byrd JH, Castner JL, eds.) CRC Press, Boca Raton. 2010. pp. 437-452.
- [4]. Gomes, L., Augusto, W., Godoy, C. and Zuben, C.V. (2003): A review of post feeding larval dispersal in fleshflies: implications for forensic entomology. *Naturwissenschaften*. 93: 207-215.
- [5]. Nafte, M. (2000): Flesh and Bone: An Introduction to Forensic Anthropology. Durham, NC: Carolina Academic Press Queiroz, M.M.C.
- [6]. Campobasso C.P., Di Vella G. and Introna, F. (2001): Factors affecting decomposition and Diptera colonization. *Forensic Sci. Int*. 120: 18-27.
- [7]. Sukontason, K., Methanitikorn, R., Sukontason, K.L., Piangjai, S. and Olson, J.K. (2003): clearing technique to examine the cephalopharygeal skeletons of flesh fly larvae. *J. Vector Ecol*. 29: 192-195.
- [8]. Smith, K.G.V. (1986): A manual of forensic entomology, London, UK: Cornell University Press.
- [9]. Abd Algalil, F.M. and Zambare S.P. (2015): Effects of Temperature on the Development of sarcophagid fly of forensic importance *Oxysarcodexia terminalis*. *Indian Journal of Applied Research*, 5: 767- 769.

- [10]. Warren, J.A. and Anderson, G.S. (2013): Effect of Fluctuating Temperatures on the Development of a Forensically Important Blow Fly, *Protophormiaterraenovae* (Diptera: sarcophagidae) Environmental Entomology. 42:167- 172.
- [11]. Grassberger, M. and Reiter, C. (2002): Effect of temperature on development of the forensically important holarctic blow fly *Protophormiaterraenovae* (Robineau-Desvoidy) (Diptera: sarcophagidae) Forensic Science International.128: 177-182.