

SEASONAL CYCLE, MIGRATION AND DEFENSIVE BEHAVIOUR OF *ODONTOPUS NIGRICORNIS* STAFI : A PEST OF *PTERYGOTA ALATA* (ROXB. R.BR.)

Archana Rani, S. K. Tomar* and S. C. Dhiman¹

Department of Zoology, D. A. V. (P.G.) College, Muzaffarnagar - 251 001, India.

¹Department of Zoology, M.S. College, Saharanpur - 247 001, India.

Corresponding author - S. K. Tomar, *e-mail : suniltomardav1970@gmail.com

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ABSTRACT : Seasonal cycle, migration and defensive behaviour of *O. nigricornis* is studied. Population of adults goes on peak in July and declines slightly in August and September. But, there remain almost constant during October to December and again decline in January and February due to cold temperature. Nymphal population increase in number from last week of March to June. There is only one generation in a year. Local migration in *Odontopus* occurs from main host to accessory host or sheltering plants, distant migration only occurs in absence of main food plant, *P. alata*. Warning colouration (Red and black) protect from enemies. Fleeing from the spot, on sensing danger is primary defensive act. Scent fluid secreted from the metathoracic and abdominal scent glands repel predators and parasites.

Key words : *Odontopus nigricornis*, *Pterygota alata*, seasonal cycle, migration, defensive behaviour.

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INTRODUCTION

Odontopus nigricornis Stafi (Heteroptera-Pyrrhocoroidea- Pyrrhocoridae) is a bright red coloured, medium sized, phytosuccivorous bug, found in good number in Saharanpur and adjacent districts, infesting the *Pterygota alata* (Roxb.) (Sterculaceae) and other accessory plants as reported by Dhiman (1983) and Archana *et al* (2021). The main food plant *P. alata*, is of immense economic value as it is used as timber, for making tea boxes, plywood, furniture etc. The bug population occur solitary or gregariously in field area under host tree (Archana *et al*, 2022). Various studies are made on this bug time to time by Kumar (1961), Rastogi and Dutta Gupta (1961), Sharma (1973), Sharma and Livingstone (1978), Dhiman (1986), Rani and Madhvandra (1995) and Archana *et al* (2020, 2021 and 2022). In present paper an endeavour is made to describe its seasonal cycle, migration and defensive behaviour which will arm economic entomologist to device a suitable control measure of this pest.

MATERIALS AND METHODS

Field observations are carried out in Horticultural

Experiment and Training Center, Saharanpur, where the main food plants, *P. alata* are planted in good numbers along the road sides. Migration, defensive behaviour and seasonal occurrence studies were conducted throughout the year for three consecutive years 2020 to 2022. Laboratory studies are observed by rearing the bugs in wooden wire gauze cages.

Four wooden wire gauzes were taken (12°×12°×12°) having openable top for keeping material inside it. In such cage water filled small petridish and wet cotton swab was placed. Fresh leaves and tender seeds of *P. alata* were also placed as food. In each cage freshly moulted imago pair of *O. nigricornis* was introduced. Besides these, a thermometer and dial hygrometer were also placed in each cage to record temperature and R.H.. The cages were kept on a wooden table in balcony. Stale food was replaced by fresh daily and a close vigil was kept to record necessary observations.

RESULTS AND DISCUSSION

Seasonal cycle : It was studied in natural habitat of *O. nigricornis* throughout the year in HRI and Training Center, Saharanpur. A constant vigil was kept to record

Moreover, when any predator, viz., praying mantis (*Hierudula* sp.) attack on this bug, it tries to escape by moving leg rapidly and secreting pungent foul smell from metathoracic and abdominal scent glands. This smell repel the enemies. Myer (1927) recorded warning colouration in the nymphs of *D. andrae* while Youdeowei (1968) said that there is a defensive secretion in *Dydercus* which acts as alarm phenomenon. Dhiman (1989) recorded the defensive role of scent gland fluid as well as fleeing on feeling danger.

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