

## HABITAT SELECTION FOR OVIPOSITION BY *PANTALA FLAVESCENS* (FAB.) (LIBELLULIDAE: ODONATA)

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### Abstract

The dragonfly *Pantala flavescens* (Fab) was observed for its habitat selection for oviposition in wetland simulated condition as well as in the wetlands at the Tamil Nadu Agricultural University, Coimbatore. These dragonflies preferred paddy fields with exposed water surfaces to fields with crop cover. The maximum number of dragonflies observed were between 0900 and 1200hr. Oviposition in female dragonflies were observed to be held by the male. The eggs were deposited randomly on water surface. The oviposition was more during months of June and July while the adult emergence were more in August.

### Keywords

*Pantala flavescens*, dragonfly, oviposition, habitat selection

### Introduction

Odonata is the only large order to be entirely carnivorous. Dragonflies are considered to be general and opportunistic predators, as they seldom diminish a prey population enough to be of obvious economic value. However, Krishnasamy *et al.* (1984) and, Joseph and Venkitesan (1995) have reported *Pantala flavescens* (Fab.) to be an effective predator against rice insect pests and on *Subabul* psyllids. Despite their importance as potential predators, meager attempts have been made to study their habits and ecology. In the present study the habitat selection, flight timing and their ovipositional behaviour is highlighted.

### Materials and Methods

The wetland condition was simulated adjacent to the Biocontrol Laboratory at Tamil Nadu Agricultural University (TNAU), Coimbatore. Two pits A and B (5 x 5 x 4m) were dug and filled with clay soil and farmyard manure to a depth of three metres. The pits were watered to cover 10-15 cm. On 16 July 1999, pit A

was planted with weeds *Bracharia mutica* Forskal, *Cyperus difformis* L., *Cyperus iria* L., *Echinocloa colona* (L.) and *Echinocloa crusgalli* (L.) while *Taichung* Native-1 (TN-1) rice seedlings (10 x 20cm spacing) were planted in pit B. *Subabul* trees were present on the hedges. Many *Pantala flavescens* were seen frequenting the pits along with other dragonflies *Diplacodes trinialis* (Rambur) and *Traemea limbata* between 0900 and 0100hr. After two weeks on 29 July 1999 the pits were covered with blue colour mosquito nets to a height of four feet from the bottom. Observations were recorded on the habitat selection, emergence of dragonflies from these pits and as well as from the wetlands at Paddy Breeding Station, TNAU, Coimbatore.

### Results and Discussion

In pit A, the weed growth was abundant completely covering the water surface, while in pit B there was exposed area of water surface between the rice seedlings. The dragonflies were seen frequenting pit B more number of times than pit A. Twenty-six days after planting the adults of *P. flavescens* were seen emerging from the pits (Table 1). It can be observed that the emergence of adults from the pit B (24) were more than that the pit A (1). The reason may be due to the preference of dragonflies to oviposit on the water surface in pit B which was not available in pit A and for the number of visits to pit B than pit A. This finding is confirmed by the observation in wet lands. At the Paddy Breeding Station, swarms of *Pantala flavescens* were observed in the fields with water meant for ploughing without any crop cover, while in the fields with paddy crop a maximum of three or four were seen in an area of 20 cents.

Though there were three species that visited the pits, only the adult emergence of *P. flavescens* were seen from these pits. The abundance of *P. flavescens* may be due the presence of *Subabul* tree with psyllids in the surrounding areas. Joseph and Venkitesan (1995) have reported a congregation of hordes of adults of *P. flavescens* near *Subabul* trees during the third week of August in 1992 in Palakkad District, Kerala.

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Table 1. Emergence of *Pantala flavescens* from the pits.

Date of emergence	No. of <i>P. flavescens</i>	
	Pit A	Pit B
13.viii.1999	1	3
14.viii.1999	-	11
15.viii.1999	-	8
16.viii.1999	-	-
17.viii.1999	-	2

The males of *P. flavescens* were seen holding their mates during oviposition. The eggs were laid randomly on the water surface. Oviposition usually was observed between 0900 and 1030hr. In the rice fields the oviposition was a common spectacle during the months of June-July in 1999. Swarms of *P. flavescens* were seen in the field with water which were in process for land preparation for the rice crop to be transplanted during August 1999.

On the banks of a tank adjacent to Paddy Breeding Station at TNAU, where a number of *Prosopis juliflora* (L.) trees are present, *P. flavescens* were observed to commence their flight around 0700hr. The maximum number of *P. flavescens* were seen flying between 0900 and 1200hr and in the afternoon around 1500hr few were seen hovering around the rice fields. At 1700hr the dragonflies were observed on grasses, bunds and other vegetation.

## References

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## TREATMENT OF FLY LARVAE INFESTATION IN ELEPHANTS AT NAMERI, ASSAM

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An emergency call from the authority of Nameri National Park, Assam gave us an opportunity to treat ailing elephants. From previous records, it was clear that seven of the 20 elephants had died in spite of treatment given by local veterinarians. Examination of the remaining elephants revealed that the animals were weak and anaemic. It was also found that the entire skin of the elephants showed eruptions of 1cm diameter at 2-3cm apart, giving oily appearance on the erupted areas. A fly larvae could be squeezed out of each erupted area. This confirmed the case of parasitic infestation.

### Treatment

All the elephants infested with fly larvae received similar treatment. Each elephant was injected with 21ml Ivermectin subcutaneously as a single injection. They were also treated with i/m injection of chlorpheniramine meclate (@ 30ml / elephant) for three days. Mineral mixture was prescribed to be continued with food for 30 days. All the affected elephants were cured and regained their health gradually.

Thousands of parasitic larvae causing irritation and tissue damage throughout the body of the elephants might have caused excessive histamine release leading to death of seven elephants. Ivermectin was effective in killing the fly larvae and chlorpheniramine neutralized the histamine effect. Mineral mixture was found to be sufficient in rectifying the anaemic status of the elephants. Similar type of skin infestation by fly larvae has been identified as hypoderma in goat (Soni, 1940). The identity of the fly could not be established in this case.

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### References

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