

Life history including behavior, parasitism and population density of *Papilio polytes polytes* (L)

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Papilio polytes polytes Linn. is a black bodied butterfly which is pest of economically important crops like citrus sp., Curry leaf plant and other Rutaceae. Being a holometabolous insect, metamorphosis of this insect is complete with egg, larva, pupa and adult stages. The eggs are spherical, pale yellowish when laid but become grayish black when close to hatch. Egg size ranges between 0.98 mm to 1.12 mm and its incubation period is 4 days. The five larval instars are lasted for 20.02, 22.64 & 20.94 days during rainy, winter and summer seasons respectively. 1st instar larva takes about 8 min. to form an exist hole by eating egg shell. The total duration of hatching is 100±10 sec. First instar to third instar period is 3-4 days and period of fourth and fifth instar is 4-6 days. Pupation takes about 30 minutes and occurs during 9.00–10.30 pm with about 1 day prepupal period. The pupal period is 9.87, 15.05 & 10.30 days during rainy, winter and summer seasons respectively. The emergence of adult occurs at dawn only (between 8.00 to 9.00 am) and it requires about 1 min. The longevity of adult is about 4 days only in all seasons under laboratory conditions and adult doesn't accept the provided artificial food. The average life cycle period is 32.65, 48.67 & 40.38 days during rains, winter and summer respectively. The significant observation is that when a particular batch of eggs collected in a given season from single plant, were either male dominating or female dominating. The female of this species exhibits in 3 different forms, one resembles typical male of its own and other two mimic the crimson rose *Pachliopta hector* and common rose *Pachliopta aristolochiae aristolochiae* butterflies. About 90% of the emerged females were mimics of the Crimson rose and common rose. The eggs and pupae were parasitized by *Trichogramma chilonis*, *Pteromalus puparium* and Tachinid fly. The highest population density was recorded in the month of July with an average of 25 larvae/curry leaf plant and 19.75 larvae/ acid lime plant. (Observations are along with live movies).

Biography

S.M.Gaikwad has completed his Ph.D. on biology of butterfly in 2008 from Shivaji University, Kolhapur, Maharashtra, India. He is a working as assistant professor in the Deptt. Of Zoology, Shivaji University, since 1998. G.P.Bhawane has completed his Ph. D. in Insect Endocrinology from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, India. He is a working as Professor in the Department of Zoology, Shivaji University, since 1983. His area of research is insect physiology and biodiversity. He has published more than 100 papers in reputed journals.

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