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Note on the emergence of dimorphic males of the lac insect

B. P. MEHRA[1], A. H. NAQVI[2] and B. N. SAH[3]

Indian Lac Research Institute, Namkum, Ranchi, Bihar 834 010

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Usually there are about 20% male lac insects [*Kerria lacca* (Kerr.)] in *katki* and *aghani* life-cycles, 30% in *jethwi* life-cycle and 40% in *baisakhi* life-cycle* (Negi, 1956). These males are dimorphic, being pterygote or apterous, and many workers have observed their occurrence in different life-cycles (Mehra and Chauhan, 1963). This paper reports the results of a study taken up to find out if both the forms have a common mother.

Individual gravid female lac insects in their resinous coverings were collected from *Butea monosperma* (Lamk.) Taub. (*palas,* flame-of-the-forest), *Ziziphus mauritiana* Lamk. (*ber,* jujube), *Cajanus cajan* (Linn.) Millsp. (*arhar,* pigeonpea), *Moghania macrophylla* (Willd.) O. Kuntze (*bhalia*) and *Schleichera oleosa*(Lour.) Oken (*kusum,* lac-tree). One female insect was attached separately to one plant of *Moghania microphylla* in a garden pot to enable its progeny to grow on it. *M. microphylla* was chosen because it is a thornless quick-growing bush and sustains both *kusmi* and *rangeeni* strains of the lac insect. Cotton wool was tied at 2 convenient points on the stem at a distance of 30 to 50 cm so as to allow the crawlers to settle only in between them and facilitate examination. The whole plant except the top was then coverd with a muslin sleeve to prevent pests infesting the colony of the lac insects. At the time when the adult male lac insects were about to emerge, the plants were cut from the base and removed to the laboratory. The males,

**Katki*= June–July to October–November; the adult males emerge in August–September.
Aghani = June–July to January–February; the adult males emerge in September.
Jethwi = January–February to June–July; the adult males emerge in March–April.
Baisakhi = October–November to June–July; the adult males emerge in February–March.
Kusmi = The lac insect thriving on *Schleichera oleosa* (Lour.) Oken (*kusum,* lac-tree).
Rangeeni = The insect thriving on *Butea monosperma* (Lamk.) Taub. (*palas,* flame-of-the-forest), *Ziziphus mauritiana* Lamk. (*ber,* jujube) etc.

[1]Scientist S-2, [2]Scientist S-1, [3]Scientist S, Division of Entomology.

Table 1. Emergence of males from single mother lac insect

Life-cycle	Host of mother insect	No. of Females under observation	Females producing pterygote males		Females producing apterous males		Females producing both forms of male		
			No. of females	Average No. of males	No. of females	Average No. of males	No. of females	Average No. of pterygote males	Average No. of apterous males
				Baisakhi					
1963–64	Flame-of-the-forest	76	1	4	33	43.9 (3–134)	42	5.1 (1–31)	29.3 (1–123)
1964–65	Flame-of-the-forest	15	—	—	14	18.4 (2–80)	1	1	65.0
1965–66	Flame-of-the-forest	29	—	—	28	13.6 (3–47)	1	4	42.0
	Jujube	18	1	1	9	15.5 (3–30)	8	2.7 (1–7)	30.6 (8–85)
1967–68	Flame-of-the-forest	53	—	—	34	13.3 (1–36)	19	4.0 1–13)	51.3 (3–121)
1968–69	Flame-of-the-forest	19	1	2	16	15.5 (1–69)	2	2.5 (2–3)	37.5 (35–40)
	Pigeonpea	24	1	2	16	14.9 (3–31)	7	4.1 (1–9)	14.3 (3–31)
1969–70	Flame of-the-forest	20	—	—	6	5.1 (2–8)	14	7.7 (1–23)	18.1 (3-40)

				Katki						
1964	Flame-of-the-forest	10	—	—	10	4.2 (2–42)	—	—	—	
1965	Flame-of-the-forest	23	—	—	23	32.6 (5–223)	—	—	—	
1968	Flame-oi-the-forest	9	—	—	9	10.6 (3–31)	—	—	—	
	Moghania macrophylla	27	—	—	25	11.5 (1–33)	2	1.5 (1–2)	26.0	
1969	Flame-of-the-forest	44	—	—	43	26.6 (2–175)	1	2.0	11.0	
				Aghani						
1968–69	Lac-tree	21	—	—	21	6.5 (1–29)	—	—	—	
1969–70	Lac-tree	10	—	—	10	10.0 (1–24)	—	—	—	
				Jethwi						
1964	*Moghania macrophylla*	21	—	—	20	11.6 (1–42)	1	1	9.0	
1969	Lac-tree	11	—	—	11	4.8: (1–11)	—	—	—	
1970	Lac-tree	11	—	—	11	7.9 (1–26)	—	—	—	

Figures in parentheses denote variation.

on emerging, were trapped in the muslin sleeve and the 2 forms counted separately. The unemerged dead males on the host were counted by breaking open the resinous crust from each colony of the lac insect. The data are presented in Table 1. Only those mother insects from the cohort have been considered which produced males.

It was concluded that both the forms of males may have a common mother, besides each form having a separate mother.

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