TABLE II

Comparative lethal dosage of different piscicdal plants on P. shalynius, D. dangila *and* H. fossi'is

Botanical name	Part used	Minimum effective concentration (ppm)	Lethal time (hr)
Myrica esculenta Buch.-Ham.	bark	80–100	12–15
Polygonum hydropiper L. var. *hydropiper*	leaf	100–125	10–12
Potentila fulgens Wal *ex* Lehm.	root	150–200	8–10
Xeromphis spinosa (Thunb.) Keay (=*Randia dumetorum* Poir.)	fruit	120–140	10–12
Zanthoxylum armatum DC. (=*Z. alatum* Roxb.)	fruit	50–70	8–9

Some of the investigated plants for piscicidal action are *Barringtonia acutangula* (L.) Gaertn., *Croton tiglium* L., *Derris trifoliata* Lour. and *Milletia piscida* Wt.[8–11]. Many of the piscicidal plants contain saponin, alkaloids, glycosides and essential oils[7]. They mostly act on the nervous system causing paralysis or on the blood resulting in haemolysis or directly act on the muscle activity[12].

The behavioural responses of the fishes in relation to the toxins studied by the authors were similar to earlier workers made on different plants[8–11]. In the initial phase of treatment of the toxin, the fish was more active, then showed erratic movements, turned upside down and finally collapsed at the bottom of the jar. The gill movement increased at the initial phase and gradually decreased towards the lethal phase. It was also observed that the dosage required for air-breathing fishes was more compared to that of gill-breathers. Further studies on the purification of the toxins, their physiological mode of action and residual toxicity are in progress.

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Department of Zoology, North-Eastern Hill University, Shillong 793 014,
August 13, 1979.

S. N. RAMANUJAM,
B. K. RATHA.

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REPRODUCTIVE CYCLE OF THE INDIAN MOLOSSID BAT, *TADARIDA AEGYPTIACA*

REPRODUCTIVE patterns in bats fall into five main categories[1–4]. A synchronous breeding season and monoestry was recorded for all holarctic bats[3]. Some bats possess a synchronous breeding period, *i.e.*, in families Desmodontidae[10], Phyllostomatidae[6,7], Pteropodidae, Vespertilionidae[9], Emballonuridae and Molossidae[3,8], while palaeotropical bats have seasonal polyoestry[2,5].

Tadarida aegyptiaca, a molossid bat whose reproduction has been studied, has a sharply marked synchronous sexual cycle. Animals were collected at

weekly intervals from roost on Kandwa, Asirgarh and Burhanpur. These bats breed for a short period in the year and are reproductively quiescent for about 9 months, during the latter part of the year (Fig. 1).

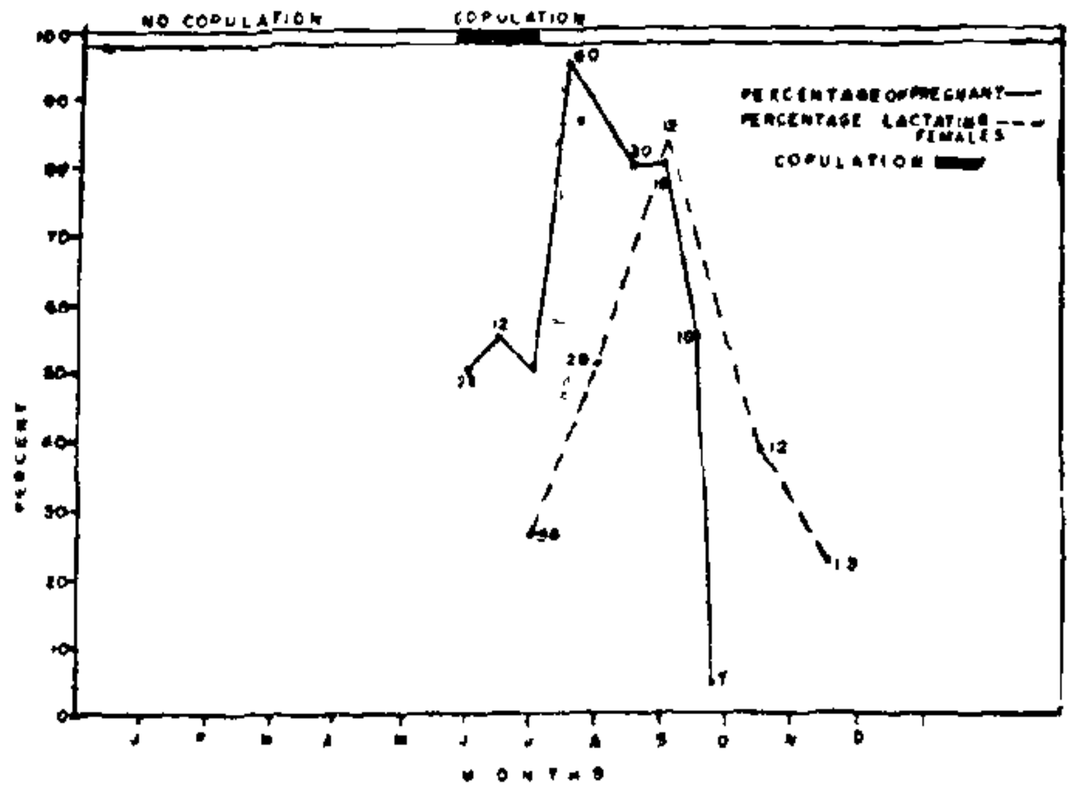

FIG. 1

The reproductive tract of more than three hundred specimens of *Tadarida aegyptiaca* was examined from December 1976 to November 1977. First copulation in the roost was noticed on 25th May and repeated up to second week of June. Pregnant females were found during the period from the last week of June to the third week of September. In June only 50% bats were pregnant but 85% of the females collected during July were found to be pregnant. The fertilized ovum was noticed on 8th June in the oviductal ampula of the animal. The blastocyst lodged in the mouth of the intramural uterine cornua on 17 June. The implantation was initiated between days 10 to 15 post-coitum, *i.e.*, shortly after entrance of the blastocyst into the bicornuate uterus. Ovulation follows immediately after copulation. The ovulation was first noticed between 3 to 5 June. First parturition was noticed on 3 September. This subsequent observation leads us to believe that the gestation period for *Tadarida aegyptiaca* is 77 to 90 days as reported for other members of the genus[8]. The curve for lactation is relative to that of pregnancy, but shows a time lag of two months.

Department of Zoology,
University of Saugar,
Sagar 470 003, M.P., India,
August 16, 1979.

S. K. KASHYAP.

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