THE PREY OF THE DUSKY LEAF-NOSED BAT *HIPPOSIDEROS ATER* TEMPLETON IN AUROVILLE, SOUTHERN INDIA

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The Auroville plateau (approx. 10km. north of Pondicherry City), composed primarily of red ferralitic soil (Cuddalore series sandstone) contains some eroded ravines and gullies. One such ravine is Success Canyon ($11^0$98'N & $79^0$81'E), which has a very narrow meandering arm *c*. 25m. long, *c*. 10cm. wide at its narrowest point, and *c*. 9m. deep. This crevass remains cool and moist even during the hottest months of May and June (day-time temperatures can exceed 40^0C). The sheltered end of this crevass is the habitual day - time roost of a colony of 10-15 *Hipposideros ater.*

On 26 August 2003, a random sample of the droppings of *H.ater* was collected and analysed using a binocular microscope and established literature on insects (Borror, 1992; Mani, 1990) for all arthropod remains. The percentage of prey items consumed was divided into four categories as per Verzhutskii & Ramanujam (2002): Basic food (>20%), Constant food (5-20%), Supplementary food (1-5%) and Chance food (<1%).

The prey of the Dusky Leaf-nosed Bat *Hipposideros ater* is said to be beetles and low-flying insects such as gnats and mosquitoes (Bates & Harrison, 1997; Phillips, 1980). From our study a total of 2028 prey items were identified (Table 1). Coleoptera was the largest group predated on and constituted 41.81%. The other basic food was Lepidoptera which accounted for 21.64%. Constant food consisted of Diptera (19.77%) and Hymenoptera (5.32%). Supplementary food was Araneae, Blattaria, Isoptera and Hemiptera. Chance food taken was Orthoptera, Mantodea and Neuroptera.

Except for Araneae (Spiders) which constituted 1.97%, all others in the droppings of *H. ater* were insects. The bats ability to consume non-flying prey on bushes or on the ground was obvious from the presence of spiders, beetles and lepidopteran larvae in their faeces.

Two other species of hipposiderid bats exist in this region known as the Kaliveli watershed, and exist sympatrically. These are the Fulvous Leaf-nosed Bat *H. fulvus* and Schneider's Leaf-nosed Bat *H. speoris.* The interaction and ecological dynamics between these three species has been investigated (Jones *et al.*, 1994). This report suggested that the three species feed at different levels on different insects - *H. ater* at ground level and feeding on small insects, *H. fulvus* in the canopy and feeding on insects of intermediate size, and, *H. speoris* close to the treeline and feeding on large insects.

***Table 1. The prey of* Hipposideros ater.**

Prey	#	%	Category
Araneae (Spiders)	40	1.97	SF
Orthoptera (Grasshoppers, Crickets, etc.)	11	0.54	OF
Mantodea (Mantids)	9	0.44	OF
Blattaria (Cockroaches)	72	3.55	SF
Isoptera (Termites)	42	2.07	SF
Hemiptera (Bugs)	40	1.97	SF
Coleoptera (Bettles)	848	41.81	BF
Neuroptera (Lacewings & Ant - lions)	8	0.39	OF
Diptera (Flies)	401	19.77	CF
Lepidoptera (Butterflies & Moths)*	439	21.64	BF
Hymenoptera (Ants, Bees & Wasps)	108	5.32	CF
	2028		

* inclusive of 9 larvae
# - Number consumed; BF - Basic Food (>20%); CF - Constant Food (5-20%); SF - Supplementary Food (1-5%); OF - Chance Food (<1%)

Other authorities disagree and categorically state that all the three hunt close to ground (Bates & Harrison, 1997; Brosset, 1962; Madhavan *et al.*, 1978). It has specifically been mentioned that though they all hunt close to ground, the flying styles vary - *H. ater* is moderately fast and fluttering, *H. fulvus* is slow and fluttering, whereas *H. speoris* is slow, skilful and with continual changes of direction (Bates & Harrison, 1997). Hence, it stands to reason that all three species can co-exist without competition, simply by feeding on insects flying at different speeds and in different styles.

Nevertheless the dynamics remain ambiguous. Only a detailed and comprehensive analysis of the prey spectrums of all three species (and, for that matter, all other microchiropteran bats) can resolve the issue. Comparative analysis is the need of the hour and is sure to repay further investigation.

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