DIET OF NESTLING LITTLE SWIFTS *APUS AFFINIS* AT A TRANSVAAL COLONY

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INTRODUCTION

The Little Swift *Apus affinis* is classed by Maclean (1986) as a breeding summer migrant to the highveld. Breeding colonies may number up to several hundred birds but are generally smaller in the Johannesburg area (pers. obs.). Little Swifts are aerial feeders but little else is known about their diet apart from the fact that they feed on 'aerial arthropods' (Maclean 1986). This note is intended to indicate that other useful information aside from the standard mensural and moult data can be derived from normal ringing activities.

METHODS

Little Swifts were caught and ringed at a breeding colony (n = approx. 60 prs.) north of Johannesburg during the month of February 1993. The colony was situated in a tunnel under the Krugersdorp - Pretoria highway (25°54'S, 28°03'E) in the Diepsloot area. Birds were trapped using a method similar to that described by Earlé (1984) except only one side of the tunnel was covered with a net and birds were plucked from the net as soon as they hit it after trying to fly through the tunnel. Swifts would enter the tunnel from the open end, see the ringers gathered eagerly at the opposite end and attempt to escape by flying over their heads. Once a swift had entered the tunnel, it had passed the so-called 'point of no return' since maneuverability was impossible at speed and the swift became committed to attempting escape over the waiting ringer's head. Although the swifts hit the net at considerable speed there were no injuries or casualties amongst the birds caught.

All netting was done in the late afternoon when the birds were returning to feed chicks and as a result most birds had food items in their mouth when they hit the net. These were collected from each bird and pooled in a daily collection for later identification. Most prey items were carried in the bill and even quite large moths and dragonflies were commonplace. Food was occasionally regurgitated in the form of a food bolus but it was difficult to distinguish between this and squashed soft food from the bill and so no distinction was made.

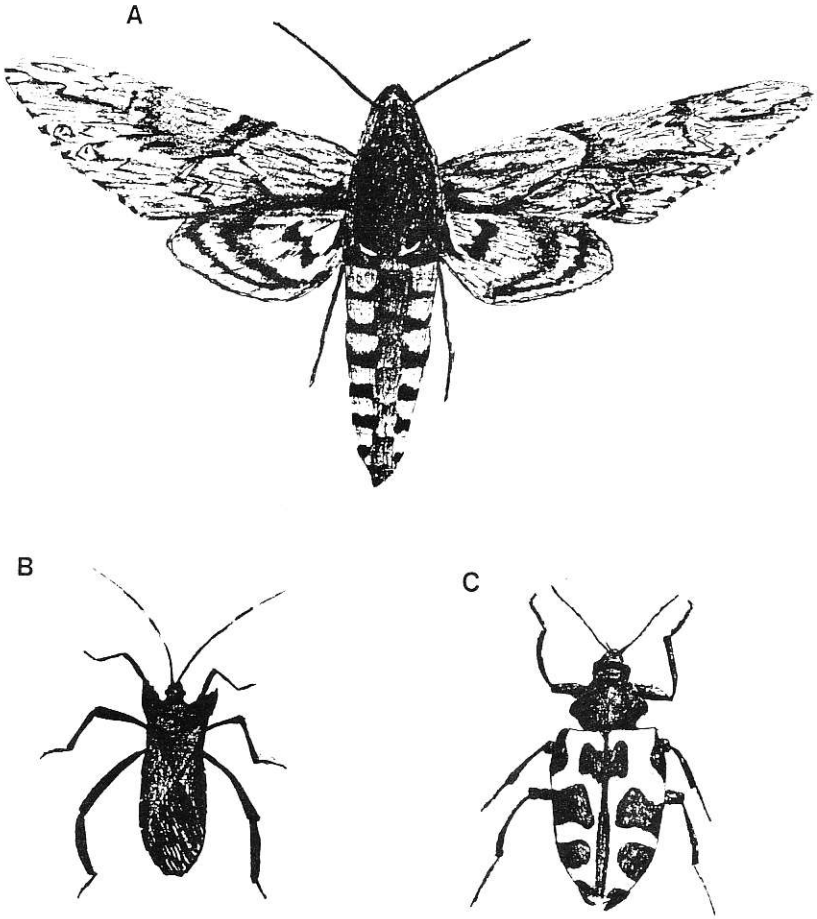
Samples were taken from 50 swifts on the 2nd, 12th and 15th February 1993.

Birds were ringed at the net with standard SAFRING aluminium E-rings and released immediately. Netting was discontinued at approximately one hour before sundown to allow the swifts to feed their young and settle down in their nests for the night.

Insectivora were identified using Scholtz and Holm (1985) and Migdoll (1987). Insects were keyed to family if possible and in some cases to genus and even species. Unidentified insects were placed together in a group as were all arachnids. No attempt was made to ascertain the weight of individual insects since most were damaged and incomplete.

TABLE 1. **Arothropods identified in food collections from Little Swifts** *Apus affinis*

CLASSIFICATION	2 Feb	12 Feb	15 Feb	Total
Order Odonata				
Suborder Anisoptera				
Gomphidae	2			2
Libellulidae	3	1		4
Suborder Zygoptera				
Coenagrionidae	1			1
Order Isoptera				
Hodotermitidae		12+		12+
Order Mantodea				
Mantidae		1		1
Order Orthoptera				
Tettigonidae	2		1	3
Acrididae	1			1
Tetrigidae?		1		1
Order Hemiptera				
Coreidae	1			1
Alydidae	1			1
Order Neuroptera				
Chrysopidae	1			1
Myrmeleontidae	4	2	3	9
Order Coleoptera				
Elateridae	1			1
Melyridae	7		1	8
Unidentified	2	1	1	4
Order Diptera				
Tipulidae		1		1
Culicidae	5+	8+	2	15+
Muscidae?	1		1	2
Order Hymenoptera				
Sphecidae	1			1
Formicidae				
Dorylus spp.		2	1?	3
Order Lepidoptera				
Aegeridae	1			1
Sphingidae				
Herse convulvi		1		1
Articiidae				
Utetheisa pulchella	1			1
Pieridae				
Belenois aurota		1	1	2
Unidentified Insects	23	14	12+	49+
Arachnids				
Order Araneae			3?	3
No. of Orders and Families: 25				Total: 129



Some insects eaten by Little Swifts:

(A) Hawk Moth *Herse convolvuli*, fam. Sphingidae. Length 45 mm
(B) Twigwilter Bug, fam. Coreidaie, length 31 mm
(C) Softwinged Flower Beetle, fam. Melyridae, length 12 mm

Also, the volume of unidentified insects and material constituted more than 65% of the total food mass collected, with Lepidoptera constituting 10% and Odonata close to 20%. No weight comparisons were calculated for the smaller insects and arachnids as this would have been impractical and inaccurate.

RESULTS

Table 1 shows the relative numbers and families of Arthropods identified from food collections of Little Swifts during three days in February 1993.

DISCUSSION

The species percentage composition of the Little Swift's diet could not be calculated due to the large quantity of unidentified arthropods and the short duration of the study period. Nevertheless, it was possible to identify and establish certain orders and families which comprised most of the birds' diet in that area at that time.

It is interesting to note that Little Swifts have fairly cosmopolitan tastes and on the 2nd of February when the temperature at 14h30 was 27°C, a high proportion of prey items consisted of medium-sized members of the orders Hemiptera and Coleoptera (see Table 1). On the other two days the temperature at 14h30 was below 23°C; only one Coleopteran was found and there were no Hemiptera.

It is assumed that the food items fed to the chicks, which were close to leaving the nest and hence almost fledged, represent a large part of the parent birds' diet as well.

Walter *et al.* (1987) in a study of the diet of Swift Tern chicks suggested that "one-day collections during ringing operations can give a reasonable estimate of prey species composition during the latter part of the chick-rearing period in the Swift Tern." The few results presented here indicate the potential of more intensive dietary studies in our region where little is known concerning the diets of most insectivorous birds.

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