

FURTHER NOTES ON THE SWIFT, *APUS APUS* L., AS A PREDATOR OF
FLIES (DIPTERA)

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For some years Dr. David Lack, F.R.S., has paid special attention to the biology of the Swift and during the past three years his assistant Mr. D. F. Owen has collected the food from young and adult birds at the nest. The latter has kindly allowed me to examine the diptera portion and an account of the results was published this year (Parmenter, L. and Owen, D. F., 1954).

On August 6th, 1954, Mr. Owen collected three meals from swifts at Oxford and noted that a larger number of Syrphidae was present than he expected. He therefore sent me the meals, in alcohol, but unfortunately all the tubes were smashed in the post. However it was possible to identify all the Syrphidae and sort the remainder of the food as follows:

DIPTERA (including 37 Syrphidae): 150. HYMENOPTERA, 157: Ichneumonidae, 78; Chalcidae, 16; Braconidae, 9; Cynipidae, 2; Formicidae, 1; Unidentified, 51. HEMIPTERA, 237: Heteroptera, 6. HOMOPTERA: Auchenorrhyncha, 145; Aphididae, 86. COLLEOPTERA: 70. Unidentified insects: 87. SPIDERS, 5. Grand total, 706.

SPECIES OF DIPTERA

Tipulidae: *Cylindrotoma distinctissima* (Mg.)* 1 ♂, Bibionidae: *Dilophus febrilis* (L.) 1 ♂, Stratiomyidae: *Microchrysa polita* (L.) 1 ♂, Asilidae: *Dioctria linearis* (F.)* 1 ♂, Empididae: *Platypalpus* sp. 17, Dolichopodidae: *Chrysotus* sp. 12, *Dolichopus* sp. 1, *Hercostomus* sp. 2, Phoridae: unident. 5, Syrphidae: *Platycheirus clypeatus* (Mg.) 1 ♀, *Sphaerophoria scripta* (L.) 1 ♂, *Syrphus balteatus* (Deg.) 5 ♂♂, 18 ♀♀, *S. cinctellus* (Zett.) 1 ♀, *S. edrollae* (F.) 10 ♀♀, *S. vitripennis* Mg. 3 ♀♀, Trypetidae: *Tephritis conjuncta* (Lw.) 1 ♀, *T. vespertina* (Lw.) 1 ♀, Lonchaeidae: *Lonchaea* sp. 1, Sepsidae: *Sepsis* sp. 10 ♀♀, Opomyzidae: *Geomyza combinata* (L.) 1 ♀, Sphaeroceridae: *Paracollinella fontinalis* (Fall.) 3, *Trichiaspis equina* (Fall.) 2, Drosophilidae: *Scaptomyza graminum* (Fall.) 1, Chloropidae: *Chlorops* sp. 3, Cordiluridae: *Scatophaga stercoraria* (L.) 4 ♀♀, Muscidae: *Caricea tigrina* F.* 1 ♀, *Coenosia* sp. 1, *Egle* sp. 3, Diptera Acalypterae unident. 38.

Mr. Owen (*in litt.*) stated 'The weather had been bad (rain, very overcast, and considerable wind at times) before the meals were collected, and there was no sun, until just after the meals were collected'. As Syrphidae were taken in noticeable numbers and as they are sun-lovers and do not emerge from resting places in the weather conditions such as were prevalent at Oxford at the time, the hypothesis is put forward that the feeding birds must have flown into an area of sunshine which was possibly approaching Oxford. This may have been accidental, but is contrary to the usual behaviour of this species of bird as previously known, for the breeding birds were believed to feed close to the nests.

The preponderance of female Syrphidae is also noticeable and may be further proof of the Swifts flying low over the ground, their usual behaviour

* Species not previously recorded as prey of the Swift in Oxford.

in windy or cool weather. Female Syrphidae are usually found closer to the ground—for oviposition—than the males.

The studies of the captures by the Swift has emphasized the need to know more about the flight habits of the various species of Diptera, especially in the upper regions of the air, and of changes in the proportion of the sexes during emergence and the flight period.

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