

note positive, but not negative facts; and indeed the appearance of bats has so far been observed during three eclipses only. The appearance of bats in 1900 in Portugal in the middle of winter is worthy of note, when the eclipse took place „on a bitter cold morning shortly after sunrise” (Wheeler et al., l.c.) even though it had the maximum period of duration (7 1/2 minutes).

In summing up it must be stated that the behaviour of bats during an eclipse depends on so large a number of factors that it is impossible either to generalise over that matter.

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DAYTIME ACTIVITY OF *NYCTALUS NOCTULA* SCHREB.

MROCZEK BOROWIEC (*NYCTALUS NOCTULA* SCHREB.)

POLUJĄCY W DZIEŃ

On October 13th 1957 at about 12.30 p.m. at Puławy I saw one individual of *Nyctalus noctula* Schreb., mainly flying above the road which is bordered on both sides by forest. The bat flew backwards and forwards at a height of 10—30 m., over a limited area, from time to time making sallies into the forest. It was clearly evident from its movements that it was hunting for insects. It uttered loud squeaks completely different from those uttered by specimens of this species during their evening flights; they were also different from the sounds made during the day by the colonies of this species in tree holes. The day was sunny, completely cloudless, and almost no wind, temperature +14° C.

Data in literature on the daytime flights of bats most often refer to *Nyctalus noctula* Schreb. and this species is well-known for being the earliest of the European bats to fly out in search of food. It is also a known fact that bats fly especially often in the daytime during the migration period (Allen, 1940; Bauer, 1955; v. Finckenstein & Schäfer, 1934; Neubaur, 1954; Schweppenburg, 1923; Stadler, 1922 and others), at the same time catching insects. In addition, daytime flights take place, independently of migration, in the spring and particularly in the autumn, when the nights are so cold that there are very few insects about (Ryberg, 1947; Löhrl, 1955). Also, at these times of the year, several species of bat leave their hiding places earlier in the evening than in the summer (Altum, 1872; Vesey-Fitzgerald, 1949). Löhrl (l.c.) states that *N. noctula* hunts regularly in the autumn between 3 and 4 p.m.,

or even earlier, always flying in full sunlight. I myself doubt if these flights are indeed so regular, as in such case there would most certainly be more data concerning them in the literature. It sometimes happens that bats hunt during the daytime in the summer as well as when the weather during the preceding nights was bad (Van Gelder & Woodrow, 1952). Winter daytime flights also take place, caused by thirst (Vesey-Fitzgerald, l.c.) or by unfavourable changes of temperature in the hiding-place (Ryberg, l.c.).

It appears from the data given by Eisentraut (1937), Praeger (1928) and Schreitmüller (1941) that it is often difficult to determine the cause of the flights. The observations described above cannot be classed in any of the categories given. If the cause of this daytime appearance of bats was the cold October nights, there would be far more observations of this kind. Considering the commonness of this species at Puławy (Krzanowski, 1956) it would be possible to see many more specimens at one time rather than one single individual.

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UNUSUAL SUMMER HIDING-PLACE OF BATS
NIEZWYKŁE LETNIE KRYJÓWKI NIETOPERZY

Bats living in moderate climates leave their underground hiding-places in the spring and move, for the period of their active life, to warm hiding-places in lofts, in tree holes, etc. Of the Polish species the sole, and only partial, exceptions to this are *Myotis myotis* Borkh. and *Rhinolophus hipposideros* Schreb. The discovery of two further species of bats (*Myotis dasycneme* Boie and *Myotis mystacinus* Leisler) on July 17th 1957 in cold underground hiding-places is worthy of record.

In July 1957, 7 males of *M. dasycneme* Boie were found in a sewer