

Short report about bat migration at Måkläppen (Falsterbo) 2018

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Introduction

Since 2007 we are running automated detector systems for bat migration studies on the German East Frisian Islands (BACH et al. 2005, BACH et al. 2009, FREY et al. 2012). Out of that experience and the fact that bats often use the same migration routes as birds in northern Europe we tested whether it was possible to survey bat migration at Måkläppen, since Falsterbo is known as a bird and bat migration point in southern Sweden (AHLÉN 1997, KARLSSON 2004). We are using an automated detector monitoring. Although we only could check a short part of the migration period and that we know that bats cross the Öresund in front of the Falsterbo Lighthouse, it turned out, that we got a good first picture about bat migration (time and species) (BACH et al. 2017).

Methods

Due to renewed permission we are allowed to continue the study on Måkläppen for several years. 2018 we started at 18th of April and took in our equipment at 29th of October 2018. Like before we used an AnaBat™ SD1 Bat detector (Titley Electronics, Australia) for the automated detector monitoring. The AnaBat system is a so-called dividing system and we used the dividing factor 8. The monitoring time was determined between sunset and sunrise. Like the years before we reloaded the battery with a solar panel and used a modem which allowed us to download the data instantly. Because the system worked well over the whole study period, we only entered Måkläppen for installation and deinstallation. The equipment was fetched on the 29th of October.

Due to the dividing system in several cases bats can only be determinate up to a genus or group level, such as *Pipistrellus* spec. or “Nyctaloid” that contains not clearly determinable bats of the genus *Nyctalus*, *Eptesicus* and *Vespertilio*.

The detector was situated at the seamark at the outermost part of Måkläppen (see fig. 1).

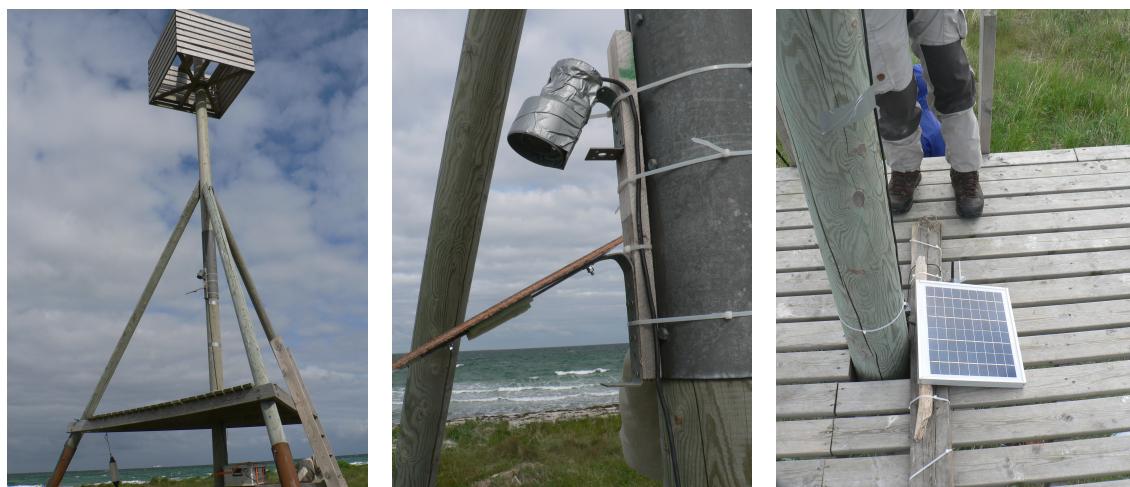


Fig. 1. Position of the AnaBat detector at the seamark (left), microphone with reflection mirror (middle) and the solar panel (right).

Results and discussion

All together in 2018 we recorded 1283 bat contacts of at least eight species and the genus (*Myotis*) that cannot be determined further with that detector system. *Pipistrellus pygmaeus* (Dvärgpipistrell) was the most common bat recorded, followed by *Pipistrellus nathusii* (Trollpipistrell) and *Eptesicus nilssonii* (Nordfladdermus). Most astonishing was again (like

already in 2017) the low numbers of *Nyctalus noctula* (Större brunfladdermus), a typical migrating bat species (tab. 1). Only in one pass *Nyctalus leisleri* (Mindre brunfladdermus), in five cases a *Vespertilio murinus* (Gråskimlig fladdermus) and nine passes of *Pipistrellus pipistrellus* (Sydpipistrell) were recorded. Five bat contacts each were recorded of the genus *Myotis* and of “Nyctaloid”, a species group that contains the species of the genus *Nyctalus*, *Eptesicus* and *Vespertilio* (see tab. 1). Especially for *Nyctalus noctula*, *Eptesicus nilsonii* and the group Nyctaloid the activity was lower than the mean average in the years before. The activity of *Eptesicus serotinus* was nearly the same as in 2010 but lower than in the other years. In contrast to that the activity of *Pipistrellus pygmaeus* was higher than in most of the years before.

Tab. 1. Species composition and number of contacts 2018

scientific name	Swedish name	Number of contacts
<i>Nyctalus noctula</i>	Större brunfladdermus	12
<i>Nyctalus leisleri</i>	Mindre brunfladdermus	1
<i>Vespertilio murinus</i>	Gråskimlig fladdermus	5
<i>Eptesicus nilssonii</i>	Nordfladdermus	388
<i>Eptesicus serotinus</i>	Sydfladdermus	2
<i>Pipistrellus pygmaeus</i>	Dvärgpipistrell	425
<i>Pipistrellus nathusii</i>	Trollpipistrell	418
<i>Pipistrellus pipistrellus</i>	Sydpipistrell	9
Nyctaloid*		12
<i>Pipistrellus spec.</i>		6
<i>Myotis spec.</i>		5

* = Group Nyctaloid: *Nyctalus*, *Eptesicus*, *Vespertilio*

Like in the years before, except 2013, the bats did use the island in summer, but only after mid of July. There is a huge lack of activity between end of May and mid of July (see also BACH et al. 2017a). In contrast to the years before the activity in July was nearly the same as in August and September but covered by other species (fig. 2). The migration started around the same time as in most years before and continued until October (BACH et al. 2017a).

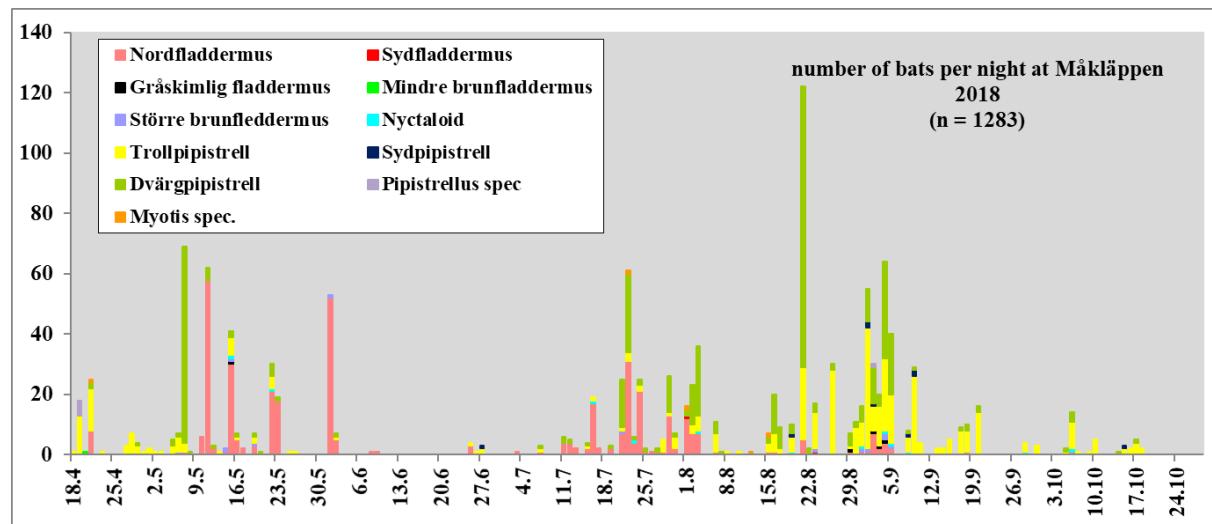


Figure 2. Bat activity in 2018

Pipistrellus nathusii, the main species of our interest, was nearly absent on Måkläppen during summer until 15th of August. It appeared during spring (mid of April – beginning of May)

and autumn migration period. The main migration of *Pipistrellus nathusii* took place between mid of August and beginning of September, but continued until mid of October with few gaps due to bad weather.

Pipistrellus pygmaeus was mainly recorded later in spring (mid of May – end of May) than *Pipistrellus nathusii* and earlier in the autumn migration period (it was already recorded foraging in July!). Although it was unclear whether *Pipistrellus pygmaeus* is migrating at Måkläppen, new results of an ongoing offshore bat migration project shows, that there is a clear migration of that species in the southern Baltic (BACH et al. 2017b, see also AHLÉN et al. 2009, MEYER 2010).

Eptesicus nilsonii was the main species that occurred in May and in July before the autumn migration started.

The results from all years show that bat migration (spring and autumn) take place along Måkläppen.

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Logg for visits at Måkläppen, Falsterbo 2018:

18 April 1100-1230 1,5 hour Installing equipment (PB, LB, SE)

29 October 1230-1400 1,5 hour Recovery of equipment (PB, SE)