

A hibernating greater horseshoe bat (*Rhinolophus ferrumequinum*) in the mainland coastal dunes of Zuid-Holland

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In response to a number of reports of break ins at various places along the coast of Zuid-Holland, an enforcement check by Buitengewoon Opsporings Ambtenaar (BOA / community service officer) J.A. Dijkhuizen took place on 28 January 2021 in a small number of accessible bunkers in the Natura 2000 area Solleveld-Kapittelduinen, located between Den Haag and Hoek van Holland (province of Zuid-Holland). During this check, which was performed according to COVID-19 measures which were in place at the time, a free-hanging and notably unusual bat was found in the entrance area. Since the bunker was freely accessible and was in fact entered regularly by members of the general public, the help of a census coordinator (first author of this article) was called in. Once arrived on the spot, he determined the bat in question was a greater horseshoe bat (*Rhinolophus ferrumequinum*, figure 1). Since the entrance of the bunker, which had been broken open, was to be sealed off with brickwork that same afternoon on request of the BOA, the check needed to be done as soon as possible (flight entrances for bats were already present). To prevent vandalism or an onrush of interested public, and to prevent people from entering nearby bunkers which had been broken open as well, it was decided to keep quiet on the discovery for the time being.

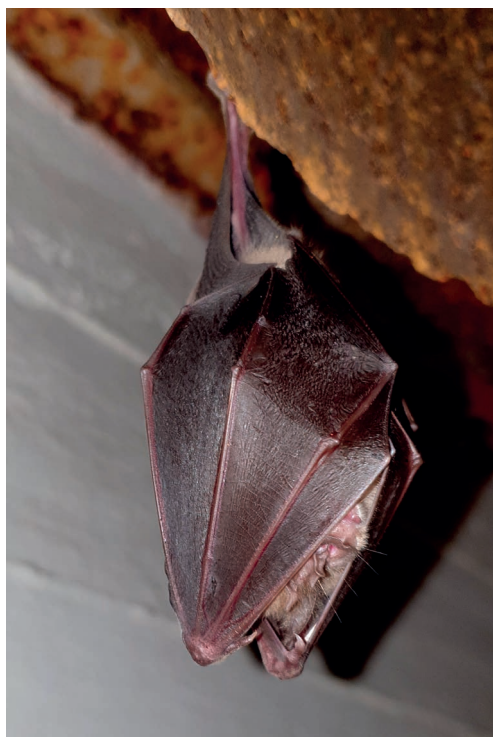


Figure 1. Greater horseshoe bat Natura 2000 area Solleveld-Kapittelduin, January 2021. Photo: Kees Mostert.

During the following yearly census on 18 December 2021, it was found that the bunker had been broken open once again. The greater horseshoe bat was not found again. After some enquiries, it transpired that the bunker had been broken open late spring 2021. Everything points to the bat having left the bunker under its own power.

The greater horseshoe bat is predominantly a Mediterranean species in Europe. The northern limit of its distribution has shifted ever further south during the second half of the twentieth century. In Germany, the species has practically disappeared (Dietz et al. 2011) and in southern England only a small population remains. In recent years a few were found in the border area of Flanders and Wallonia.

According to De Selys-Longchamps (1841) the species was commonly found in the Netherlands during the winter in the marl quarries near Maastricht. Between 1908 and 1935, only nine specimens were still found here. The species was found regularly during winter census in the quarries after 1937. The increase in observations was presumably related to the discovery in 1939 of a summer colony of 75-80 bats in the Caestertgroeve marl quarry, in the Belgian part of the Sint-Pietersberg. The maternity colony in the Caestertgroeve disappeared in the 1940 and the last summer observation there was made on 23 June 1951 (Thissen & van der Coelen 2016). The last winter mentions of hibernating animals in the Caestertgroeve date from the autumn of 1984 and the winter of 1986 (Vergoossen & van der Coelen 1986).

In the 1970-1974 period, a hibernating greater horseshoe bat was still found in the Riesenberggroeve quarry and in 1982 and 1984 another one was found in the Sint-Pietersberg. The use during the 1950s, 1960s and early 1970s of pesticides such as DDT, to which this particular bat species is very sensitive, and disturbance of winter and summer roosts are probably the causes of its disappearance. Remarkably, a solitary animal was found in the winter of 1992 and the four subsequent winters in Fort Rijnauwen near Utrecht (van Vliet & Mostert 1997).

Does this case of a hibernating greater horseshoe bat in the coastal area of Zuid-Holland stand on itself or is there more going on? In the winters of 2021 and 2022, the presence of a hibernating greater horseshoe

bat in the direct vicinity of the Caestertgroeve was established (Hans Weinreich, personal communication). Climate change may be playing a role here and as a consequence of it, the species may re-establish itself as a hibernating species in the Netherlands. Based on the historical distribution, the chances of this occurring are probably the greatest in the marl quarries of Zuid-Limburg.

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Abstract: In response to a number of reports of break ins, an enforcement check took place on 28 January 2021 in bunkers in Natura 2000 area Solleveld & Kapittelduinen. During this check, which was performed according to the COVID-19 measures which were in place at the time, a free-hanging greater horseshoe bat was discovered by coincidence in the entrance area. The entrance, which had been

broken open, was subsequently bricked up to prevent disturbance since flight entrances were already present elsewhere in the bunker. During the most recent census in December 2021, the animal was no longer found. Everything points to the animal having left the bunker on its own power. Apart from a solitary animal near

Utrecht during four winters in the 1990s, the species was last found in the Netherlands in 1986 in the Sint-Pietersberg in the province of Limburg.

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