

Carcharodus alceae (Lepidoptera: HesperIIDae, Pyrginae) active at night

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Abstract. Nocturnal activity of *Carcharodus alceae* is documented for the first time. A specimen of this butterfly was observed while flying around a regular terrace lamp in Halkidiki, Northern Greece in a warm summer night. Photographs were taken at the time and are shown here.

Samenvatting. Een nachtelijke activiteit van *Carcharodus alceae* wordt hier voor het eerst in de literatuur gedocumenteerd. De vlinder werd vliegend rond een terraslamp waargenomen te Halkidiki, Noord-Griekenland tijdens een warme zomernacht. Foto's werden ter plaatse genomen en hier afgebeeld.

Résumé. Une activité nocturne de *Carcharodus alceae* est documentée ici pour la première fois dans la littérature. Le papillon a été observé lors qu'il volait autour d'une lampe de terrasse à Halkidiki, Grèce septentrional. Des photos, prises à l'endroit, sont présentées ici.

Key words: HesperIIDae – Pyrginae – *Carcharodus alceae* – nocturnal activity – Greece – Halkidiki.

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Introduction

Nocturnal activity of butterflies is rather unusual, and has been documented in a few scientific papers in the past as a curiosity. Most of the observations have been made in the tropics, e.g. in Chowdhury & Soren (2011), which is a review of relevant studies in India. In that article, 27 species of Indian butterfly were reported to have been attracted to artificial light between 1951 and 2011. Similarly, DeVries *et al.* (1987), recorded synchronous nocturnal activity and gregarious roosting in the Neotropical skipper *Celaenorrhinus fritzgaertneri* (Bailey, 1880). Sourakov & Houlihan (2017) subsequently documented nocturnal activity in another Hesperiid, namely *Pseudonascus paullinae* (Sepp, [1842]) in French Guiana. In that paper the similarity in the eye structure of HesperIIDae and Sphingidae is emphasized, and the possibility of entirely nocturnal habits of certain skipper species is discussed.

In Europe, analogous observations are rare, presumably because of the very different climatic conditions;

there is one paper describing such activity in Andorra by Roche (1990) and two reports from Bulgaria: Abadjiev (1993) and Beshkov (1998), where a total of twelve butterfly and five day-flying moth species are reported as being attracted to light traps. Most of these incidents took place at mercury vapour lamps with a power ranging from 125 W to 400 W.

The reasons of this relatively unusual phenomenon are not clearly understood. The effects of artificial lighting to the behaviour of diurnal Lepidoptera are exhaustively studied in Seymoure (2018). Thermoregulatory hypotheses for such findings are proposed in Beshkov (1998), but without proof.

The case of *Carcharodus alceae* (Esper, [1780])

On August 24, 2018, at approximately 10 p.m., a specimen of *Carcharodus alceae* was observed to be sitting on a wall close to a terrace lantern, equipped with a regular 75 W lamp (figs. 1 & 2). The exact location was Pefkochórion, in the prefecture of Halkidiki, region of Kentrikí Makedonía, Greece, alt. 0 m, in a garden 50 m from the beach. The temperature was 25 °C and the skies were clear at the time. The authors intentionally disturbed the butterfly in order to watch its subsequent behaviour. As anticipated, it spiralled around the lantern for a while, closely resembling a moth, and then landed on the lantern shade (fig. 3). In general, it was very reluctant to leave the area, and it was still sitting at the same spot when checked again in the morning. Finally, when the sun warmed the terrace sufficiently, the skipper took off and disappeared in the neighbouring lawn. It did not return to the lantern the following nights.

This is the first report in the literature of such activity of this particular species, especially for a lamp of medium illumination capacity, as opposed to a high powered light trap. Moreover, it is the first time in more than 30 years that a diurnal Lepidopteron has been found to be active at night at this particular place, where the first author annually spends his summer vacation. The small number



Fig. 1. *Carcharodus alceae* sitting on a wall near a lantern © H. Anastassiou.

Fig. 1. *Carcharodus alceae* rustend op een muur nabij een lantaarn © H. Anastassiou.

of scientific articles related to such behaviour and our inadequate understanding of several parameters affecting

it, implies that further relevant research needs to be conducted in the future.



Fig. 2. Close look of a *Carcharodus alceae* sitting on a wall near a lantern © H. Anastassiu.

Fig. 3. *Carcharodus alceae* sitting on the shade of a lantern, after being disturbed off the wall © H. Anastassiu.

Fig. 2. Een dichtbij-opname van een *Carcharodus alceae* rustend op een muur nabij een lantaarn © H. Anastassiu.

Fig. 3. *Carcharodus alceae* rustend op een lantaarnkap, na verstoring op de muur © H. Anastassiu.

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