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VERSITA

Hunting in the dark by a peregrine falcon (*Falco peregrinus*)

Lov sokola sťahovavého (*Falco peregrinus*) v tme

Kazuhiko HIRATA, Shota NAKAHAMA & Toshiro YOSHIOKA

Abstract: A peregrine falcon (*Falco peregrinus*) was observed preying on a mallard (*Anas platyrhynchos*) in Hokkaido, northern Japan, before dawn. The observation was made on 13 January 2013 about 40 minutes before sunrise, in the dark. Although there were sparse street lamps and car traffic nearby the observation point, it is not as evenly and continuously well-lit as urban areas. This suggests the potential of peregrine falcon to forage successfully in non-urban habitat under low light conditions.

Abstract: Na ostrove Hokkaido (severné Japonsko) bol pozorovaný sokol sťahovavý(Falco peregrinus) pred svitaním na ulovenej kačici divej (Anas platyrhynchos). Pozorovanie sa uskutočnilo dňa 13. januára 2013 za tmy približne 40 minút pred východom slnka. Napriek prítomnosti rozptýlených pouličných lámp a svetiel áut cestnej premávky, miesto pozorovania nebolo osvetlené tak ako v zastavaných oblastiach. Z tohto prípadu vyplýva potenciálna schopnosť sokola sťahovavého úspešne loviť v neurbanizovanej krajine aj za znížených svetelných podmienok.

Key words: visual predator, low-light condition, dawn, nocturnal, non-urban habitat

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Introduction

Although peregrine falcon (*Falco peregrinus*) is generally considered as a diurnal visual predator, some reports suggested its ability to hunt at night (e.g. Clunie 1976, Wendt et al. 1991, DeCandido & Allen 2006, Drewitt & Dixon 2008). Among these nocturnal observations, nearly all were carried out in urban areas (e.g. Olsen et al. 1998, Serra et al. 2001, DeCandido & Allen 2006) where visual predators may benefit from the presence of artificial lights. Not only such additional lighting may allow these predators to chase at any time of the day or night but may also attract their prey (Wendt et al. 1991, Rejt 2001, DeCandido & Allen 2006). Here we report a rare case of peregrine falcon successfully hunting under dark conditions in non-urban habitat.

Observation

We observed a juvenile female peregrine falcon preying on an adult female mallard (*Anas platyrhynchos*) in Otoshibe (42° 11’ 27.7’’ N, 140° 25’ 12.1’’ E), Yakumo town, Hokkaido, northern Japan on January 13, 2013 (Figure 1a; Fig. 2). The observation was made about 40 minutes before sunrise (6:22-6:40 a.m.). The sky was covered with clouds and the moon was not visible at that time. Observation point was a non-urban area surrounded by riparian forest and open field adjacent to an inhabited area (Fig. 1b). Estimated light intensity was < 1.0 lux. The nearest artificial light (lamp post) was located ~12 m from observation point, and there are few street lamps within a 200 m radius. These lights were sparse and produced very limited luminosity within the area. Age and sex of the falcon were determined by coloration pattern of breast to belly together with body size respectively (Fig. 2).

When predation was observed the falcon had already bore down the mallard which was then fluttering and fighting back intermittently. Considering the mallard’s vitality, our observation likely took place shortly after the attack. It is possible that the falcon hunted the mallard around Otoshibe River, near the observation

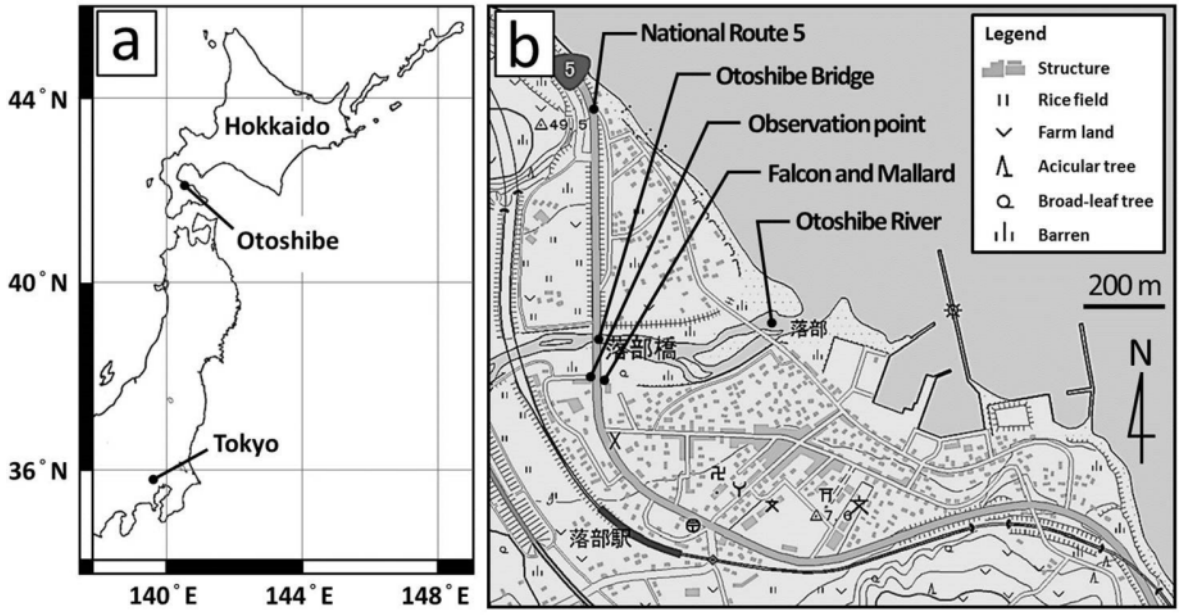


Fig. 1. Location (a) and environment (b) of the observation point.
Obr. 1. Lokalizácia (a) a okolie (b) miesta pozorovania.



K. Hirata

Fig. 2. Peregrine falcon preying on mallard in the dark.
Obr. 2. Sokol sťahovavý s kačicou divou, ulovenou v tme.

point (Fig. 1b). Finally the mallard was considered dead at 6:31 a. m. after it did not move anymore.

The falcon and the mallard were located near National Route 5, where many cars were running through during the observation (> 3 cars per minute on average). Road condition was icy and 5-cm-snowpacked. Observation was facilitated by illuminating the birds with the car lights from a distance of approximately 10 m. Car headlights and camera flashing seemed not to affect their behavior. The falcon actually did not relinquish its prey because of light or road traffic. Only in the case of a truck running through, the falcon wafted and stood aside temporarily.

Although we cannot exclude the fact that the falcon might to some extent have relied on the glimmering provided by some surrounding artificial lights such as street lamps and cars lighting to achieve capturing the mallard (either in the air or on the ground), the present predation case occurred at night in a non-urban habitat, which is typically not as evenly and continuously well-lit as urban areas. This observation thus shows the potential of peregrine falcon to foraging successfully under low light level conditions, maybe taking advantage of local (yet reduced) gleam opportunities. Several physiological studies showed that the raptors are equipped with high visual capabilities indeed (Hirsch 1982, Reymond & Wolfe 1981, Reymond 1985, 1987). Hence, we suggest that the paucity of records of diurnal raptors hunting in darkness in non-urban areas might be due to challenging field conditions for detecting such events (e.g. Beebe 1960, Ratcliffe 1993, Drewitt & Dixon 2008) rather than on the birds' visual capacities to do so.

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