

SHORT COMMUNICATIONS

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NEST OCCUPANCY AND REPRODUCTIVE SUCCESS OF A SUBSPECIES OF THE PEREGRINE FALCON, THE BLACK SHAHEEN (*FALCO PEREGRINUS PEREGRINATOR*), IN WESTERN INDIA

SATISH PANDE

Ela Foundation, C-9, Bhosale Park, Sahakarnagar No. 2, Pune 411009 India

PIOTR ZDUNIAK¹

Department of Avian Biology and Ecology, Faculty of Biology, Adam Mickiewicz University in Poznań, Umultowska 89, 61-614 Poznań, Poland

REUVEN YOSEF

Ben Gurion University of the Negev–Eilat Campus, P.O. Box 272, Eilat, Israel

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Naoroji (2006) found that the Peregrine Falcon (*Falco peregrinus*) in India is represented by three subspecies – *F. p. calidus* (peregrine), *F. p. babylonicus* (red-naped shaheen), and *F. p. peregrinator* (black shaheen; Sundevall 1837). To date, there is only one in-depth study of the black shaheen subspecies, at the southern extremes of its geographic distribution in Sri Lanka (Döttlinger and Hoffmann 1999, Döttlinger 2002, Döttlinger and Nicholls 2005). Döttlinger's intensive morphological studies of Indian peregrines indicated that the shaheens of the Western Ghats and the entire western coastal regions south of Bombay were more similar to the shaheens of southeastern India and Sri Lanka than to those nesting in the northern and northeastern regions, based mainly on the richer reddish color of the ventral plumage, and should probably be considered a separate subspecies. He suggested they could be called *F. p. shaheen*, but he did not provide a technical diagnosis to go with the name.

The black shaheen subspecies of the Peregrine Falcon is a resident breeder in most of India, including western Maharashtra; from the Nicobar Islands in the Indian Ocean up to about 2400 m in the Himalayas. However, it does not breed in the xeric habitats of Rajasthan and Gujarat (Ali and Ripley 1968, Daniels 1990, Pande et al. 2003, Prasad 2004, 2006). It is found mostly in hilly terrain and rugged mountain country in the Western Ghats and Eastern Ghats, the Himalayas and their foothills, hill forests, agricultural areas, and cities with tall buildings. It breeds in the

Himalayas from March to May–June, and in peninsular India from January to April (Baker 1935, Ali and Ripley 1968, Bell 1990, Daniels 1990, Prasad 2004, 2006, Naoroji 2006, Pande et al. 2009). However, the population size of the Indian subcontinent is unknown.

The aim of our study was to improve knowledge of the reproductive output of the black shaheen falcon in the subtropical conditions of the western districts of Maharashtra state of India, relative to the length of territory occupation. Further, we present information about the subspecies' diet and its hunting behavior during the breeding season.

METHODS

The study was carried out in the western Maharashtra State districts of Pune, Raigad, Ratnagiri, Satara, Kolhapur, Ahmednagar, Nashik, and Sholapur in the eight breeding seasons between 2006 and 2014 (see map in Pande et al. 2009). The breeding season is partly winter (November–February) and partly spring/summer (March–April), and air temperature ranges from 5–25°C in winter and 22–40°C in summer. Humidity in coastal districts of Raigad and Ratnagiri during the breeding season is 45–50% and in the post-breeding monsoon season, it is 100%. The average humidity in the other districts is about 35%. The average annual rainfall in coastal districts is 2000–2500 mm, reaching up to 5500 mm in the Western Ghats, and in the other districts, it ranges between 500–1200 mm.

In all years, we collected data pertaining to reproductive success by visiting each nest site once a week for observation. None of the falcons were trapped for marking

¹ Email address: kudlaty@amu.edu.pl