

## Short Communication

### Breeding Study of the Dead Sea Sparrow *Passer moabiticus* in the Mond Protected Area, Bushehr, Persian Gulf

MAHDI JAMADI & KHOSRO DARVISHI

*Bushehr Provincial Office of the Department of the Environment, Bushehr, Iran*  
*Email: me.jemadi@yahoo.com & darvishik1261@gmail.com.*

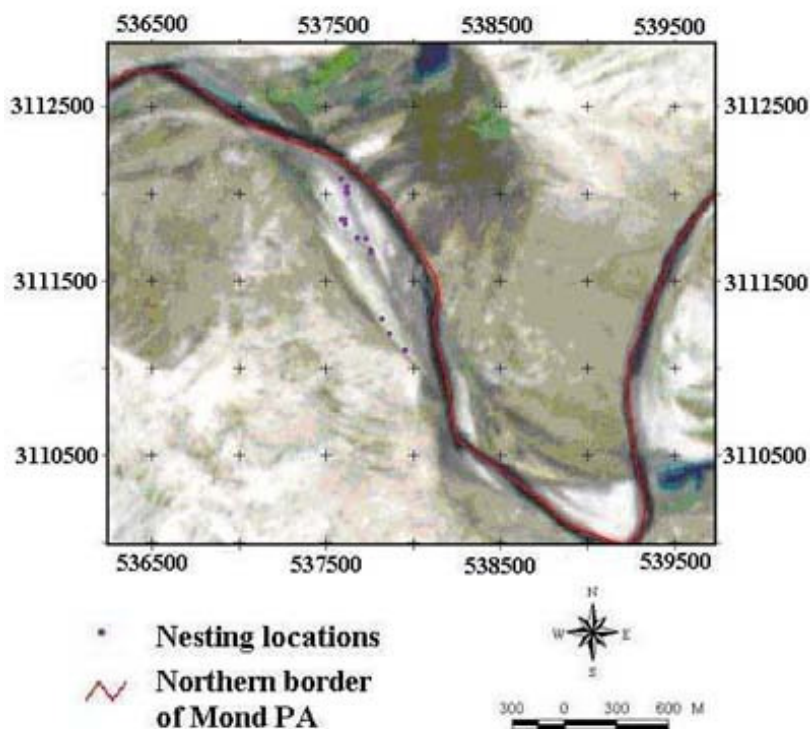
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The Dead Sea Sparrow *Passer moabiticus* has a restricted distribution in western Asia and southeastern Europe in Iran, Iraq, Turkey, Cyprus (now extinct, C. Richardson unpubl. data), Syria, Israel, Jordan, and western Afghanistan (Porter *et al.* 1996, Kirwan 2004). It nests colonially near water in thick scrub of tamarisk or near poplars (Porter *et al.* 1996) and is a migratory species; flocks of the nominate western race have been found in winter further south in the Middle East (Anonymous 2008).

Until recently, the only known breeding areas of the Dead Sea Sparrow in Iran were in the Sistan basin on the Iran/Afghanistan border and the Khuzestan lowlands in southwestern Iran (Porter *et al.* 1996). In April 1969, Cramp (1971) found two colonies, each containing 20 nests, along the Marun River near Bid Boland in southeastern Khuzestan, and this was thought to be the eastern limit of the western population in Iran. However, on 2–3 February 2000, Keijl *et al.* (2001) found several flocks containing hundreds of Dead Sea Sparrows in the Hilleh Protected Area about 35 km north-northwest of Bushehr. The Hilleh River Delta and probably other areas on the north side of the Persian Gulf appear to be important wintering areas for this species (Evans 1994), but the wintering areas are not well-known. The existence of this species has not previously been confirmed in the Mond Protected Area, but M.J. first saw this species breeding in spring 2005 when he

moved to this area as warden. Observations, in winter 2007 showed that a considerable population of this bird (about 15 groups, each of about 15–20 birds) came to the area to breed, remaining in this zone for about three and a half months (from the first half of February to the second half of May). Thus, because of its restricted range in Iran and its new-found occurrence in the Mond Protected Area, the research presented here was carried out, aiming at scrutinizing the Dead Sea Sparrow's reproduction status.

The Mond Protected Area (27°15'–28°45'N, 51°15'–51°35'E; 53,000 ha) is located 135 km southeast of Bushehr (Mostafavy *et al.* 2007). The breeding status of the Dead Sea Sparrow



**Figure 1.** Distribution of nesting areas in Mond Protected Area.

was monitored from 7 April to 8 May 2007 in the northern parts of the Mond Protected Area. Nest sites were mapped using GPS (Fig. 1). Nests and eggs were measured using calipers (accurate to 0.1 mm), scales (accurate to 0.01 g) and rulers (accurate to 1 mm). Descriptive statistics were used for analysis of the data.

In total, about 35,874 m<sup>2</sup> of suitable habitat were searched, and 315 nests were found. The nests were located in Tamarisk *Tamarix* trees (Fig. 2) on the banks of Mond River along a stretch of about 11 km. The most probable reason that the species selected these trees as nesting places was that there were many of these trees at the riverside of a suitable height, which enabled Dead Sea Sparrows to construct sheltered nests. For every 20 Tamarisk trees, one nest was found. There were also signs of about 30–35 old nests in boxthorn *Lycium edgeworthii* trees, but in the present survey we did not find any active nests in them. The highest density of nests was found on a small island (28°06'–28°07'N, 51°23'–51°24'E) covered with *Tamarix* trees and surrounded by water after heavy winter rains.

The density of nests was one per 50 m<sup>2</sup> on the river bank and one per 200 m<sup>2</sup> in other areas. Mapping the location of 30 nests indicated that there is a negative correlation between the distance from the river and the density of nests; the greater the distance the lower the density of nests. Some 53% of the nests were within 40 m of the river, indicating the bird's dependency on the density of Tamarisk trees that best provided a good source of food, ample breeding locations and good protection, features less prominent in trees further from water. Of the other 47% of nests, 26.7% were at a distance of 40–80 m from the riverside, 13.3% at 80–120 m and the remainder at 120–140 m. The mean distance of the nests from the river was 48.7 m (ranging from 0 to 138 m).

The nests had a long serpentine structure with their lower part, where the eggs are kept, covered with a cotton-like structure. About 65% of the materials used in the structure were the leaves and branches of Tamarisk and the rest came from *Lycium edgeworthii*. The lower part of the nest containing the eggs was built with soft and silky materials.

Table 1 summarises measurements of 30 nests in the Mond P.A.; mean external and internal nest lengths were 44.6 and 29.6 cm respectively and the external diameters of the egg compartment and the neck of the nest were 29.9 and 4.4 cm respectively (Table 1). The mean length of eggs was 19.2 mm ( $n=50$ ) and weight 1.78 g ( $n=50$ ). The average clutch size was 5 ( $n=30$ ); 66.6% of the nests held 5 eggs (Fig. 3), 20% held 6, 6.6% held 4 and 6.6% held 3. Nestlings are altricial and nidicolous (Fig. 4). Our field observations showed that after we handled the nests, even slightly, the adult birds never returned. This caused the eggs and the chicks to perish and was the reason that we investigated such a small number of nests.



**Figure 2.** Dead Sea Sparrow *Passer moabiticus* nest in a Tamarisk tree, April 2007, © M. Jamadi.

**Table 1.** Characteristics of 30 nests & 50 eggs at the Dead Sea Sparrow *Passer moabiticus* colony in the Mond Protected Area.

Characteristics	N	Min	Max	Mean
Distance of nests from river-bank (m)	30	0.5	138	48.7
External height of nest (cm)	30	34	63	44.6
Internal height of nest (cm)	30	24.5	36	29.6
External diameter of egg compartment (cm)	30	24	39	29.9
Diameter of nest neck section (cm)	30	3.5	5.5	4.4
Clutch size	30	3	6	5
Egg length (mm)	50	18	20	19.2
Egg weight (g)	50	1.4	2.1	1.78



**Figure 3.** A clutch of five eggs in a Dead Sea Sparrow *Passer moabiticus* nest April 2007, © M. Jamadi.



**Figure 4.** Dead Sea Sparrow *Passer moabiticus* chicks in a nest, April 2007, © M. Jamadi.

However it seems that weather conditions had also a considerable effect on the local populations of the Dead Sea Sparrows in the Mond P.A. In spring 2006, numbers were lower than in 2007 because precipitation was less in 2006 than in 2007, but in spring 2008 they fell drastically to half the 2007 level due to drought.

We conclude that the habitat and feeding conditions around the Mond River are appropriate for this species. However, it is necessary for the diligent wardens of the Iran Department of the Environment to persist in their protection measures and to prevent the trees being cut down and river-bed material being extracted.

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