



First record of *Crocidura dhofarensis* Hutterer et Harrison, 1988 (Mammalia: Soricidae) in Yemen

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ABSTRACT. Four male individuals of the Dhofar shrew, *Crocidura dhofarensis*, were collected near to Hawf, Al Mahra Province, Yemen. These individuals represent first records of this species in Yemen and also its second to fifth known specimens.

■ *Crocidura somalica*, *Crocidura dhofarensis*, distribution, Yemen

The Dhofar shrew, *Crocidura dhofarensis* Hutterer et Harrison, 1988, was described on the basis of one specimen, collected in 1977 at Khadrafi, Dhofar, Oman. It was primarily identified as *C. somalica* Thomas, 1895 (Harrison 1980), an African species, which occurs in the Sahel belt from Mali to Somalia (Hutterer 2005). Hutterer & Jenkins (1983) in their review of *C. somalica* group suggested a possible different taxonomic position for the Omani population of *C. somalica* (sensu Harrison 1980), being distinct from the African representatives in several skull characters.

Based on the respective Omani specimen, Hutterer & Harrison (1988) finally described a new subspecies, *C. somalica dhofarensis*. They found it to be differing in colour of the ventral pelage (dark brown instead of clearly grey in *C. s. somalica*), brownish dorsal surface of hands and feet (instead of white), unicoloured tail (instead of bicoloured), and distinctly narrower facial part of the skull. Later, Hutterer et al. (1991) considered these differences rather sufficient for raising the Dhofar shrew to species rank, as *C. dhofarensis*. This conclusion Hutterer (2005) confirmed again.

During a field trip to eastern Yemen in 2005, we collected four individuals of *Crocidura dhofarensis*, which represent the first record of this species in Yemen and also its second to fifth known specimens. The species number of soricid fauna of Yemen increased to five (Al-Jumaily 1998).

All individuals were caught near the small town of Hawf (Al Mahra Prov.), which lies in the easternmost corner Yemeni continuing the Dhofar region of Oman, close to Yemeni-Omani state border.

Dhofar is a region of high humidity typified by relatively steep slopes rising from the sea level to an altitude of ca. 1200 m, covered by a mosaic of primary monsoon forest scattered with pastures, small villages and terraces with fields and orchards. This restricted woodland area acts as a green island bordered by the sea in the south-east and by rocky desert of the above situated plateau affected by the rain shadow in the north-west. Most of this unique region lays in Oman; only a minor part covering several kilometres along the

sea coast reaches into Yemen. This biogeographical region, which was studied from floral and faunal points of view mainly in its Omani portion, shows a high degree of endemism as well as affinity to the Afrotropical biogeographical region (e.g. Gallagher & Rogers 1980, Schätti & Gasperetti 1994).

The shrews were collected on two sites situated on the slope, roughly 40 km to the south-west from Khadrafi, the type locality of *C. dhofarensis* (and also of *C. arabica* Hutterer et Harrison, 1988). Two adult males (NMP 90701, 90702) were collected on 12 and 13 October 2005 in the upper part of the slope above Hawf, at 735 m a. s. l. (16° 40' N, 53° 05' E), close to the border check-point, while another two males (adult and subadult, NMP 90703, 90704) were collected on 15 October 2005 at a rather lower altitude of ca. 410 m (16° 39' N, 53° 03' E), ca. 2 km NE of the town. Both collection sites are intensive pastures covered by short grass and sparse shrubs and trees. The shrews are deposited in the collection of the National Museum, Prague (NMP), as alcohol specimens with skulls extracted.

The external and skull dimensions of the specimens are shown in the Table 1. Colouration of all specimens is almost identical. Dorsal pelage is dark greyish-brown, ventral pelage is distinctly paler and more greyish, but generally of a similar tinge as the dorsal pelage. Dorsal surfaces of hands are pale brown to beige, dorsal surfaces of feet are only slightly darker. The tail is unicoloured, although the proximal part of its ventral side is slightly paler.

The identification of the shrews as *C. dhofarensis* is undoubted, based on their coloration and dimensions (Table 1). According to the external and skull measurements, the possible confusion is only with *C. suaveolens*, which differ again in molariform tooth-characters (the shapes of P⁴ and M³, comp. Fig. 1). Moreover, the latter species was never recorded in southern Arabia except for high elevations of the Hijaz range (Harrison & Bates 1991), a biogeographical region distant and differend from Dhofar (see Delany 1989).

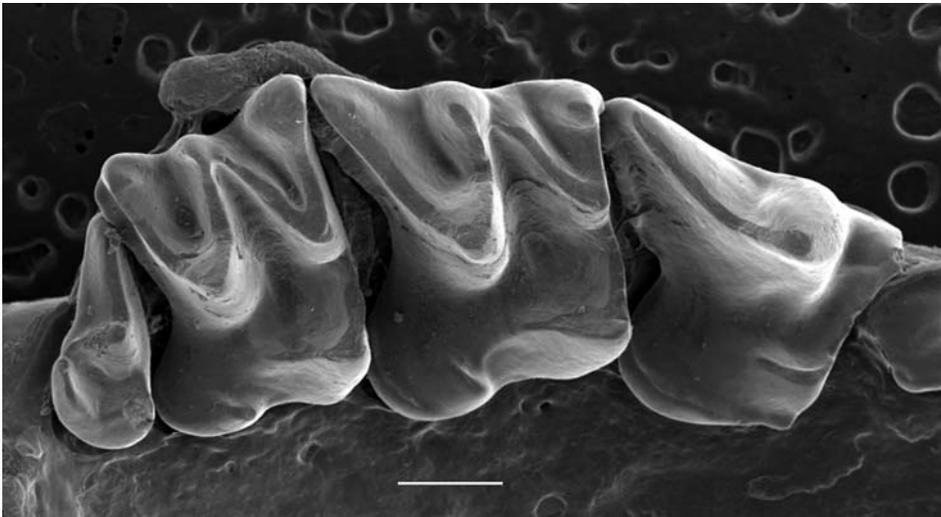


Fig. 1. Right upper molariform teeth of *Crocidura dhofarensis* from Yemen (NMP 90704). Scale bar = 0.5 mm.

Table 1. External and skull dimensions of *Crocidura dhofarensis* from Yemen, compared with those data on other Arabian *Crocidura* species [in mm]. Body mass in grams. The dimensions were taken according to Harrison & Bates (1991) and Hutterer & Kock (2002). 1 – after Harrison & Bates (1991), n = 3–8; 2 – after Hutterer & Kock (2002), paratype of *C. ramona*; 3 – after Hutterer & Kock (2002); 4 – after Hutterer & Bates (1991), n = 5–10; 5 – after Harrison & Bates (1988), type of *C. dhofarensis*; 6 – after Hutterer & Harrison (1988); 7 – after Hutterer & Kock (2002), mean from nine specimens; 8 – type of *C. katinka*; 9 – NMP – National Museum (Natural History), Praha, Czech Republic; HZM – Harrison Zoological Museum, Sevenoaks, United Kingdom; SMF – Senckenberg Institute and Museum, Frankfurt am Main, Germany.

Species	<i>dhofarensis</i>					<i>arabica</i> ¹	<i>suaveolens</i>		<i>ramona</i> ²	<i>katinka</i> ³		<i>leucodon</i> ⁴	
	Yemen	Yemen	Yemen	Yemen	Yemen		Oman ⁵	Arabia		S. Arabia ⁶	Syria ⁷		Palestine
Country	Yemen	Yemen	Yemen	Yemen	Yemen	Oman ⁵	Arabia	S. Arabia ⁶	Syria ⁷	Palestine	Israel ⁸	Syria	Levant
Collection ⁹	NMP	NMP	NMP	NMP	NMP	HZM	Arabia	HZM				SMF	
No.	90701	90702	90703	90704	90704	1,9149		83.11004			M15274	80.622	
Body mass	5.50	5.60	6.90	5.20	–	–	–	–	–	–	–	–	–
Head and body length	69.00	70.00	72.00	69.00	68.00	68.00	51–54	62.00	–	–	–	–	–
Tail length	49.00	51.00	50.00	51.00	47.00	47.00	36–41	43.00	–	–	–	–	31–42
Hindfoot length	10.60	10.60	11.40	10.90	11.60	11.60	9.7–10.1	11.70	–	–	–	–	11.8–13.4
Ear length	10.40	9.20	9.30	10.80	9.30	9.30	7.3–7.8	6.00	–	–	–	–	4.0–12.0
Condylo-incisive length	18.96	18.60	19.47	19.12	20.20	20.20	17.7–17.8	18.10	19.20	18.30	–	–	20.0–22.7
Basal length	17.13	17.97	18.60	18.21	18.50	18.50	15.8–16.1	16.40	–	–	–	–	–
Palatal length	7.85	7.45	8.31	7.75	8.50	8.50	7.2–7.4	7.30	7.85	7.70	6.58	6.88	–
Greatest width	8.18	8.12	8.56	8.17	8.50	8.50	7.4–7.7	8.10	8.80	8.40	–	–	8.9–10.2
Bimaxillary width	5.71	5.57	5.98	5.83	5.70	5.70	4.8–5.8	5.40	5.80	5.50	–	4.92	5.8–7.1
Interorbital width	3.58	3.67	3.85	3.79	3.80	3.80	3.4–3.8	4.20	4.11	4.00	3.74	3.61	3.3–5.4
Posterior median height	4.02	4.28	4.24	4.29	4.50	4.50	3.9–4.0	4.40	–	4.20	–	–	–
Upper tooth-row length	8.37	7.88	8.57	8.32	8.60	8.60	6.8–7.7	7.80	8.41	7.60	7.27	6.99	8.5–10.0
Lower tooth-row length	7.63	7.23	7.76	7.64	7.70	7.70	6.9–7.2	7.00	7.70	7.10	–	6.67	7.9–9.4
Mandible length	11.56	11.22	12.02	11.63	12.20	12.20	9.9–10.9	–	–	–	–	–	12.3–15.0
Coronoid height	4.48	4.52	4.93	4.62	5.00	5.00	4.2–4.2	4.40	4.57	4.60	–	4.07	–

Three of the Yemeni specimens are slightly smaller in their skull dimensions than the type specimen (Hutterer & Harrison 1988), but these differences probably only depict an intraspecific variation (Table 1). However, a dimensional overlap with other Arabian *Crocidura* species is present and the teeth characters remain the most important ones for real species identification (contra Harrison & Bates 1991).

Our data rather support the separate species status of *C. dhofarensis* suggested by Hutterer et al. (1991) and Hutterer (2005), as the Yemeni specimens are very similar in coloration and skull shape to the type specimen (see above and Table 1) and significantly differ from *C. somalica* (see Hutterer & Harrison 1988). However, as the ranges of these forms are allopatric (see e.g. Hutterer & Jenkins 1983), a value of their real distinctness can be shown by genetic comparison only.

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