

Short Note

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First record of the bushy-tailed jird, *Sekeetamys calurus* (Thomas, 1892) (Rodentia: Muridae) in Oman

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Abstract: In order to improve the knowledge of terrestrial fauna in the Jabal Samhan Reserve – in southern Oman – several systematic surveys have been carried out in this region. Four specimens of the bushy-tailed jird, the gerbilline *Sekeetamys calurus* (Thos.) were collected from three localities. This is the first record for the species in Oman and also the first evidence that this jird is in a protected area along its known distribution range. This new record also enlarges the elevational limit known for the species, from 600 m to 1484 m. The animals obtained indicate that *S. calurus* has reproductive activity in July.

Keywords: Arabian Peninsula; Dohfar; gerbillinae.

For nearly a quarter of a century – since the publication of the seminal contribution by Harrison and Bates in 1991 – little has been done to contribute to the knowledge of the mammals of the Arabian region. Specifically, very few systematic surveys on small mammals have been carried out in Oman. Jabal Samhan in the Dhofar region is Oman's largest Protected area and embraces unique assemblages of flora and fauna when comparing it to other regions of the country (Harrison 1980). However, until now the available data on the distribution and status of mammals of the Dhofar region are limited. The most recent information found in primary sources and repeated in general treatises such as Wilson and Reader (2005) is based on Harrison and Bates (1991) and the baseline surveys in the late 1970s

focusing on the biodiversity of the Dhofar mountain chain (Harrison 1980). In addition, previous works on distribution of mammals in the Dhofar region are mainly focused on the western sector of the range excluding the eastern located Jabal Samhan Reserve.

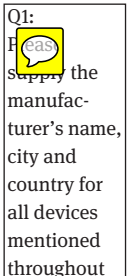
As part of the systematic surveys carried out in the Jabal Samhan Reserve four gerbilline specimens were collected in three localities. Based on their external characteristics, particularly their long and bushy tail with a white tip, these animals were easily identified as bushy-tailed jirds, *Sekeetamys calurus* (Thomas, 1892). The field identification was subsequently confirmed by a deeper external and cranial inspection of the obtained animals.

The specimens were collected using 37 (first and second sites) and 28 (third and fourth sites) Sherman™ traps (8×23 cm) baited with oatmeal and peanut butter in a single night of trapping. In one of the localities, Wadi Qayroot (17°12'48" N, 54°45'48" E, 1484 m) on the 23rd June 2015, were obtained two *Sekeetamys calurus*. A third one was collected in Wadi Kobot (17°43'50" N, 55°7'18" E, 438 m) on the 4th June 2015. Finally, a fourth specimen – a sub-adult male – was collected from Wadi Arah (17°40'51" N, 54°48'48" E, 512 m) on the 7th August 2015. The animals were manipulated following the protocols proposed by the American Society of Mammalogists (Sikes et al. 2011). In Wadi Qayroot two individuals (female and male) were captured; the female was preserved as a fluid entire specimens and the male as a cleaned skull, dried skin, and the carcass in fluid. The evidence obtained in Wadi Kobot was solely the distal half of the tail left in the trap probably due to an action of a predator; it was preserved in fluid. The studied specimens have been deposited at the Natural History Museum of Muscat, Oman, under the numbers ONHM 4170 (female), ONHM 4171 (male), ONHM 4172 (tail, undetermined sex), and ONHM 4173 (sub-adult male).

The specimens of *Sekeetamys calurus* recorded in the Dhofar region are characterised by a long and bushy tail, larger than the head and body length combined, a prominent head with a pointed rostrum, ears which appear

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naked, and slender limbs and long hind feet (Supplemental Figure 1). The dorsal coloration is yellowish and speckled with black. Each back hair (about 18 mm) is composed by a basal half grey plumb, a distal pheomelanin band and an eumelanin tip. The ventral coloration as well as the arms and legs are white washed with cream. The back and belly coloration are sharply defined. The mystacial vibrissae are abundant, white and black and exceed the pinnae when they are bent backwards. The rostrum and lips are covered by short, white dense fur. The eyes are large and rimmed with black. The hair around the eyes and ears are paler including white tufts at the bases of the latter. The ears are covered both internally and externally with very short and delicate whitish hair being pink in colouration due to the subjacent skin, giving the ears the appearance of being naked. Manus and pes are covered by whitish hair and have short but acute claws. The white ungueal tufts do not surpass the end of the claws. The plantar surface is covered with well defined scales; the plantar pads are rounded and pointed and the digits II, III, and IV are the largest and show conspicuous callous. The digit V is moderately long reaching half of the digit IV four. The tail is thick at the base –reaching about 5 mm in diameter– densely haired throughout its length. The hairs of the tail become progressively longer towards the end. The apical portion of the tail is entirely white. The skull is robust with a pointed and narrowed rostrum and a broad braincase (Figure 1). The lacrimal are well developed and the interorbital region has sharp and divergent backward supraorbital borders. The auditory bullae are well inflated and their mastoid portions are visible from the dorsal view. The zygomatic plates have a well-developed upper free border and a rounded anteriormost corner. The zygomatic arches have an enlarged anterior portion. The incisive foramina are expressed as narrow slits and the palate is characterised by paired filiform medial foramina. The upper incisors are strongly ophistodont and medially marked by a single groove. The dentary is delicate and has pointed and well developed angular processes and minute coronoid processes; the capsular projections are almost non-existent. The molars are planate. The external measurements of the collected specimens (male/female/sub-adult male) are as follows, in millimetres: Head and body length=–/110/100; length of tail=140/125/128; length of hind foot with claw=31/30/28; length of ear=19/18/18; weight in grams=48/41/33. Cranial measurements of the male (ONHM 4171) following the descriptors given by Harrison and Bates (1991: table 140) in order to facilitate future comparisons are: greatest length of skull=35.5; condylobasal length=31.0; zygomatic breadth=18.5; breadth of braincase=17.0; interorbital constriction=5.5; maxillary

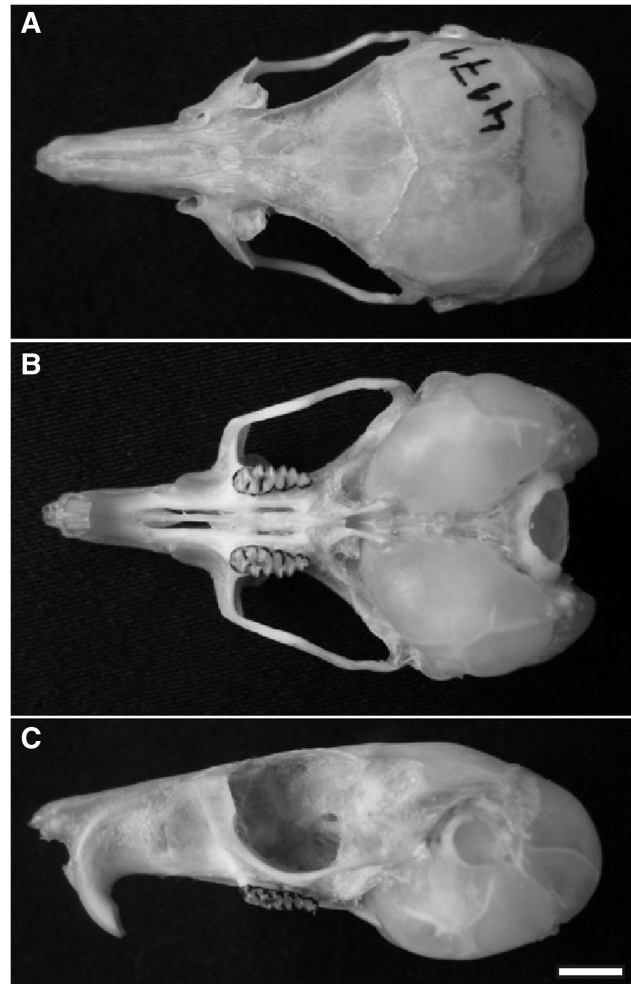


Figure 1: Adult male of *Sekeetamys calurus* (ONHM 4171) from Wadi Qayroot, Oman: Skull in dorsal (A), ventral (B), and lateral (C) view. Scale=5 mm.

cheek teeth (alveolar)=6.0; mandibular cheek teeth (alveolar)=6.0; mandible length=21.0; and tympanic bulla=14.0.

Sekeetamys calurus, the single species of the genus (Musser and Carleton 2005), is a moderately common and distinctive jird typical from rocky desert and mountain ranges. The species is distributed from the eastern portion of Egypt and north Sudan to southern Israel and Jordan; a few additional localities have been reported from Tuwaiq Mountains in central Saudi Arabia (Harrison and Bates 1991:303 and the references therein). The records reported here are the first for Oman and enlarge the known range of this rodent for about 1200 km to the southeast of the nearest recording localities in Saudi Arabia (Supplemental Figure 2). Also, the elevational range reported for this jird is expanded thanks to the animals captured in Oman. In effect, the upper limit previously reported for *S. calurus*

was 600 m (Schlitter et al. 2008), while the specimens from Wadi Qayroot are from 1484 m.

A few additional details can be surmised from the specimens obtained in Oman. The main difference between the male and the female trapped in Wadi Qayroot, beyond the larger size of the former, is the more conspicuous white terminal portion in the male tail. In fact, the white region embraces the final inch of the vertebrae tail and includes 20 mm of tuft; by the contrary, the female has the terminal white portion reduced to a single tuft (Supplemental Figure 1). Variation in this trait appears to be normal individual variation as reported by Harrison and Bates (1991:302) and Hoath (2003:189). Reproductive data from the animals of Dohfar indicate sexual activity in July, since the male had scrotal testis 13 mm in length and the female had an opened vagina.

The general habitat where the Omani animals were captured is in accordance to the habitat description reported for the species by Harrison and Bates (1991). The specimens were collected in arid rocky mountain habitat (Supplemental Figure 3). There were very few crevices, loose surface with a few large rocks. There was no obvious evidence of burrows. The vegetation was scattered, mainly comprised of dispersed shrubs. In Wadi Kobot we also collected *Acomys dimidiatus* (Cretzschmar, 1826) and *Gerbillus cheesmani* Thomas, 1919, together with *Sekeetamys calurus*.

Oman has demonstrated a commitment to the protection of its natural resources and has developed policy and institutional frameworks to implement this. Clearly, the new record of *Sekeetamys calurus* for the country shows that basic systematic surveys still need to be further developed. Other specialist desert small mammals with a broad range in the Arabian Peninsula, such as *Psammomys obesus* Cretzschmar, 1828, are still expected to be found in Oman. Indeed, the Dohfar region, bordered to the south by the Arabian Sea, to the north by the “Empty Quarter”, separated from the rest of Oman in the north-east by the desert steppe (Sale 1980), should be seriously considered as possibly harbouring further new species. In this context, a group of small mammals that require attention is the rodent murid genus *Acomys*. To date, two species, *Acomys dimidiatus* and *Acomys russatus* (Wagner, 1840) are commonly found in the eastern wadis of Jabal Samhan. However, work in progress indicates an important morphological variation within the so called *A. dimidiatus* (E. Cuéllar, unpublished data). A recent revision on the systematics of the *Acomys cahirinus*-*A. dimidiatus* group – where samples from Oman are absent – revealed a complex structure for the Arabian populations (Volobouev et al. 2007; see also Bray et al. 2013), suggesting the necessity to a refined classificatory scheme. Furthermore, a nominal form erected

from the Dohfar region, *Acomys whitei* Harrison, 1980, to date subsumed under *A. dimidiatus* (Harrison and Bates 1991:255), deserves further scrutiny.

Up to date there are no conservation measures in place to protect the populations of *Sekeetamys calurus* (Schlitter et al. 2008). Therefore, the record of the bushy-tailed jird from Oman represents the first evidence that this species is in a protected area along its known distribution range. In this context, the Jabal Samhan Reserve, administered by the Ministry of Environment and Climate Affairs constitutes an important place in order to preserve the rich biodiversity in the southern Arabian Peninsula.

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