

Status and identification of hares *Lepus sp.* in Western Sahara and Southern Morocco

Richard MOORES ⁽¹⁾, Daniel BROWN ⁽²⁾, Robert MARTIN ⁽³⁾ and Dr Alexander C. LEES ⁽⁴⁾

⁽¹⁾ 92 Cambridge Street, Norwich, NR2 2BE (United Kingdom)
rd_moores@yahoo.co.uk

⁽²⁾ 3/4, 3 Mingarry Street, Glasgow, G20 8NP (United Kingdom)
danbrownecology@googlemail.com

⁽³⁾ 82 Gladstone Street, Norwich, NR2 2BJ (United Kingdom)
robwilliammartin@gmail.com

⁽⁴⁾ Museu Paraense Emílio Goeldi, CP 399, Av. Perimetral, 1901, Terra Firme, 66077-530 Belém, Pará (Brazil)
alexanderlees@btopenworld.com

Disponible en ligne (Available online): 28 avril 2012

Introduction

The North African hare *Lepus sp.* fauna is currently represented by two species – Cape Hare *Lepus capensis* and African Savanna Hare *Lepus microtis* (previously included in *L. saxatilis* and has been classified under several different names: *saxatilis*, *crawshayi*, *whytei* and *victoriae*). Within the Western Palearctic zoogeographic region *L. capensis* is distributed throughout eastern and northern Egypt, northern areas of Libya, throughout northern Algeria and with an isolated population in the south, and throughout Tunisia (Flux & Angermann 1990, map available in IUCN 2012). Scattered populations are also present throughout the Middle East and on the Mediterranean islands of Cyprus and Sardinia. In Morocco, its distribution extends from the Mediterranean coast southwards throughout much of the country excluding the far southeast, and down through large areas of Western Sahara to reach its southern limit just south of the Tropic of Cancer.

Within the same zoogeographic region *L. microtis* has a small, isolated population in eastern Algeria, whilst its large sub-Saharan range extends north through western Mauritania to incorporate the southern third of Western Sahara (where this species may occur sympatrically with *L. capensis*). In a recent paper Chevalier *et al.* (2012) assigned all hares within the Oued Ad-Deheb region (incorporating Dakhla, Awserd and Bir Anzarane)

of Western Sahara to *L. capensis* and make no mention of *L. microtis*.

In many regions hares were once an important food source for humans and were subject of numerous international translocations. This is one reason why many authors (e.g. Petter 1959 and Slimen *et al.* 2005 & 2008) consider Cape Hare to be conspecific with European (Brown) Hare and why the taxonomy and distribution of hares globally is currently the subject of much research and debate.

Over the course of four expeditions to the region between 2006 and 2012: 8-18th March 2006 (Richard Moores and Alexander Lees), 20-27th January 2010 (Richard Moores, Alexander Lees and Daniel Brown), 24-31st January 2012 (Richard Moores, Daniel Brown and Robert Martin) and 12-19th February 2012 (Richard Moores and Amandine Rouyer) we have observed numerous hares and those seen sufficiently well to be identified were all assigned to *L. microtis* (and not *L. capensis*), with identification based primarily on the presence of an obvious russet area on the nape (see Figures 1 and 2), a view supported by the IUCN distribution map. In 2012 we were able to examine a freshly dead road-killed specimen approximately 44 km northwest of Awserd (22.8088 N, 14.6324 W) on 29th January which permitted a critical examination of identification features.

Identification of African Savanna Hare

Figures 2 and 4 illustrate the russet area on the nape of the neck (which is often more obvious in the field and may be bleached by flash in the photograph, see Figure 1) in addition to russet pelage on the chest sides and legs. *L. capensis* do not show such areas of russet. *L. microtis* also has more coloured and more 'rougher' fur than Cape Hare and this coarseness of the fur can be seen clearly in Figures 2 and 4. The *in situ* digital images obtained of this specimen permit an appraisal of the dentition (Figure 3). The incisors of *L. microtis* have deep grooves, shown clearly in Figure 3, a feature not shared by Cape Hares. Figure 4 shows a spot on the forehead, a feature shown by many *L. microtis* but "rarely" shown by *L. capensis* (Aulagnier *et al.* 2008).

Status and conclusions

The freshly dead individual illustrated above shows a suite of features currently regarded as diagnostic of *L. microtis* and not *L. capensis*. This identification conforms to the distribution map accepted by the IUCN and *contra* Chevalier *et al.* (2012) who considered all hares in the Western

Saharan region of Oued Ad-Deheb to be *L. capensis*. We do not subscribe to this view and moreover believe their accompanying image documents *L. microtis* rather than the Cape Hare as captioned, given the obvious russet on the neck, breast sides and legs. We believe that the distribution of *L. microtis* to be underestimated and in both 2006 and 2012 we observed hares with distinct russet napes throughout Western Sahara and even into southern Morocco. These included individuals near to the mouth of the Oued Draa 9 km northeast of Tantan in March 2006, and along the access track to Fort Bou Jerif, approximately 30 kilometres northwest of Goulimine in both January and February 2012. Whilst the presence of a russet nape mark on these individuals would suggest *L. microtis*, we were not able to inspect other diagnostic features and confirm our suspected identifications. We would urge all naturalists visiting Morocco and Western Sahara in the future to pay closer attention to any hares they encounter; particularly dead individuals that obviously allow close examination (particularly of the important incisors), and obtain extensive photo-documentation to enable the distribution of both species in the region to be better qualified.



Figure 1. Hare species (presumed African Savanna Hare *L. microtis*) showing obvious russet nape patch - approximately 7 kilometres northwest of Awserd, 24th January 2010 (Photo Alexander C. Lees)



Figure 2. African Savanna Hare *L. microtis* showing russet toned fur on nape and chest sides – 44 km northwest of Awserd, 29th January 2012 (Photo Daniel Brown)

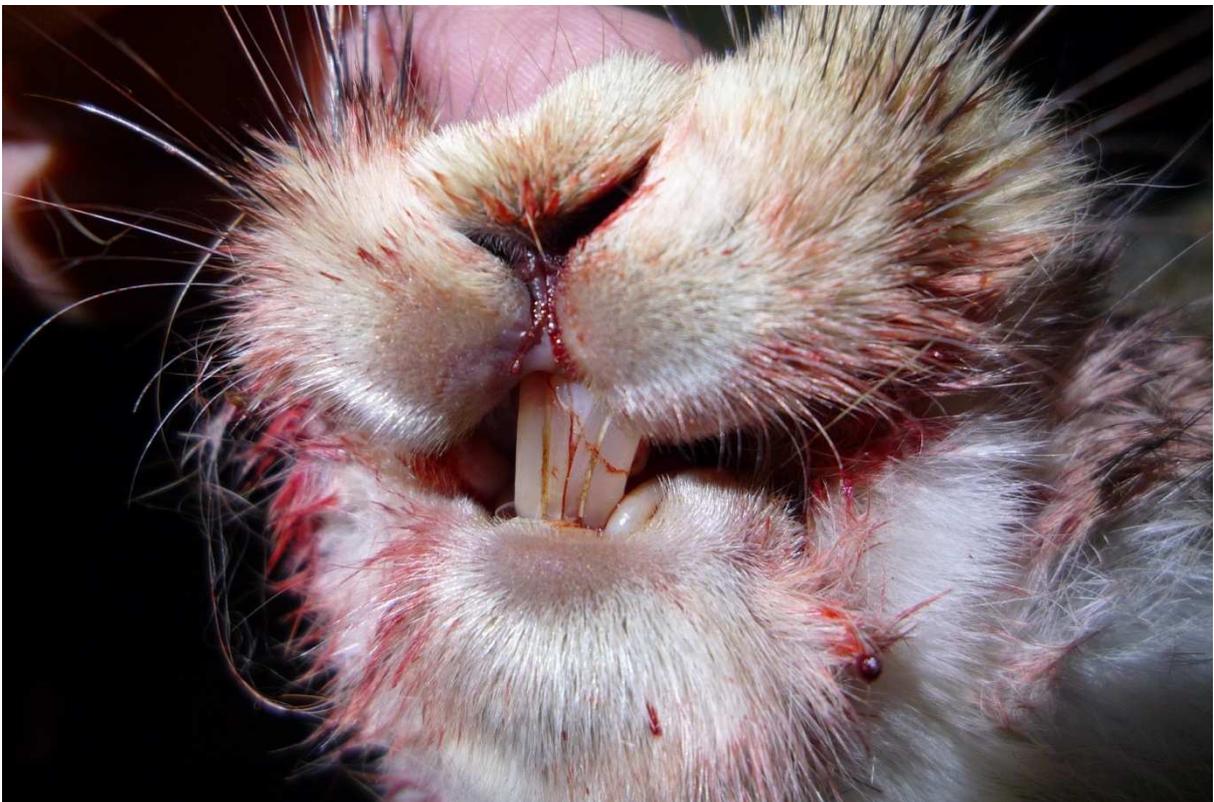


Figure 3. African Savanna Hare *L. microtis* showing deep grooves on incisors – 44 km northwest of Awserd, 29th January 2012 (Photo Daniel Brown)



Figure 4. African Savanna Hare *L. microtis* showing white spot on forehead – 44 km northwest of Awserd, 29th January 2012 (Photo Daniel Brown)

References

- Aulagnier, S. ; Haffner, P. ; Mitchell-Jones, A.J. ; Moutou, F. & Zima, J.** 2008. *Mammals of Europe, North Africa and the Middle East*. A&C Black publishing, London.
- Chevalier, F. ; Thevenot, M. & Bergier, P.** 2012. Notes sur quelques mammifères terrestres observés près de Dakhla, Oued Ad-Deheb. *Go-South Bulletin* 9 : 1-6.
- Flux, J.E.C. & Angermann, R.** 1990. Chapter 4: The Hares and Jackrabbits. In: J.A. Chapman and J.E.C. Flux (eds), *Rabbits, Hares and Pikas: Status Survey and Conservation Action Plan*, pp. 61-94. The World Conservation Union, Gland, Switzerland.
- IUCN** 2011. IUCN Red List of Threatened Species. Version 3.1. <www.iucnredlist.org>. Downloaded on 22 February 2012.
- Petter, F.** 1959. Eléments d'une révision des lièvres africains du sous-genre *Lepus*. *Mammalia* 23: 41-67.
- Slimen, H.B. ; Suchentrunk, F. ; Stamatis, C. ; Mamuris, Z. ; Sert, H. ; Alves, P. ; Kryger, U. ; Shahin, A. & Benammarelgaaied, A.** 2008. Population genetics of Cape and Brown Hares (*Lepus capensis* and *L. europaeus*): a test of Petter's theory of conspecificity. *Biochemical Systematics and Ecology*, Volume 36, Issue 1 pages 22-39.
- Slimen, H.B. ; Suchentrunk, F. ; Memmi, A. & Ben Ammar Elgaaied, A.** 2005. Biochemical genetic relationships among Tunisian Hares (*Lepus* sp.), South African Cape Hares (*L. capensis*), and European Hares (*L. europaeus*). *Biochemical Genetics*, Volume 43, Nos. 11/12.