

# Some remarks on the mammals of Somalia

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## SUMMARY

The authors give a brief analysis of the known mammalian fauna of Somalia, discussing the ecological and geographical distribution of the different endemisms. The evidence is interpreted as pointing to the more or less long isolation of at least three areas of speciation. The still unsatisfactory situation of our information on the Somali Mammals is emphasized.

Statements of the biogeography of Somali Mammals are beset with more than usual pitfalls. Indeed reliable biogeographical assessments are based on sound knowledge of the systematics and natural distribution of the animals considered and reasonably good knowledge of the paleogeography, paleoecology and paleontology of the area. All these are sadly deficient for everything concerning the Somali Mammals. Systematic studies must be considered in their infancy, as the scanty and scattered material available has not yet been studied even with the more classic biometric methods, not to say of the more recent taxonomical tools of cytotaxonomy and biomolecular methods. The few instances of such studies have yielded highly interesting results, suggesting a hidden wealth of significant data awaiting investigations, but they are still so fragmentary that attempts to draw from them a coherent zoogeographical pattern must be taken as quite tentative.

Such a tentative evaluation we, nevertheless, attempt rather with the hope to stimulate a concentrated effort to build up a truly hard core of facts on which future and more sound assessments may be based.

We assume here that all the taxa currently recognized as species or subspecies actually deserve this status (unless we have personal reasons to criticise it), and on this assumption we may consider the following table, where we have compared by order the number of taxa known to occur or to have occurred well in this century in Somalia, with the number of supposed endemisms.

The numbers given in the following tables must not only be considered to be indicative, definite numbers being out of the question at the present

stage of investigations, but they consider Somalia not only within its present *de facto* political boundaries, but rather in a more extensive context, that is: South to the Tana river and North-West to the foothills of the Ethiopian highlands. Within this region there are few, other than ecological, barriers to the diffusion of mammalian species. Moreover it must be noted that there is a certain number of taxa, particularly among the big game, which is debatable whether to consider as typical of the Somali peninsula or not, as they range well beyond their limits, although they may be considered to be typical of this area. Such are, just to quote a few instances, the Lesser Kudu or the Gerenuk, ranging also over most of Ethiopia, Kenya and parts of Tanzania, or the Wild Ass, extending North into Eritrea. Some amount of personal judgement has therefore been incorporated in the preparation of all the following tables. In order to allow the reader to form his own judgement, we have listed in the appendix both the taxa assumed to be valid and how they have been considered here.

Some preliminary remarks are necessary at this point.

There is a great difference from one order to another in the percentage of endemics it contains and this is not easy to explain (see Table I). The apparent low number of endemics among the Chiroptera may well be considered as natural as there are no geographic barriers to foster their geographical differentiation, just as ecological and geographical barriers may be claimed to explain the high number of endemic species or subspecies among the Artiodactyla, Hyraxes or, even, the differentiation of the isolated Elephant *Loxodonta africana orleansi*, now extinct in Somalia. But the reasons why the Carnivores, Rodents and Insectivores have a comparatively low number of true endemics requires somewhat more complicated explanations. The fact that carnivores are much more opportunistic feeders than Ungulates may be one reason for having evolved a more or less ubiquitous assemblage, which ap-

TABLE I

Order	Total species or subspecies	Total endemics	(%)
INSECTIVORA	12	4	33%
SCANDENTIA	3	2	66%
CHIROPTERA	37	8	8%
PRIMATES	7	5	71%
PHOLIDOTA	1	—	—
LAGOMORPHA	3	—	—
RODENTIA	40	14	35%
CARNIVORA	30	12	40%
TUBULIDENTATA	1	1	100%
HYRACOIDEA	2	2	100%
PROBOSCIDEA	2	1	50%
PERISSODACTYLA	5	2	50%
ARTIODACTYLA	32	26	81%
Total	175	72	41%

pears to be sufficiently differentiated at East African level but, at Somali level, they are less differentiated than their preys.

Insectivores and Rodents, again appear rather poorly differentiated and, as we shall see, almost all the endemics belong to the Northern half of Somalia, but this may be a heavily biased impression due to a still too fragmentary knowledge of the insectivore and rodent fauna.

We shall not consider the Chiroptera in our further discussion as, on one side, they are the field of other specialists, and on the other it may well be presumed that further investigations will change considerably our lists.

The number of endemics (41%) is remarkable indeed, when we consider that over one half of the total surface of the Somali lands, at least during postpleistocene times, has always been definitely arid, their natural vegetation being, at best, low bush and scrubs, with vast expanses of definitely sub-desert conditions, an ecological situation which should not be conducive to rich faunal assemblages.

If we now make the further step to break up these numbers according to habitat conditions, we get a further interesting picture (see first map for habitats considered and note that taxa ranging over different habitats have been counted for each one); it is immediately apparent that, if we do not count those Somali endemics that are common both to the «dense bush-savanna» complex and to other habitats (18), the large majority of the remaining endemic mammals (32 against 22) from Somalia belongs to three habitats: the riverine forests, the Northern steppes and the central-northern low bush, while the dense bush and savannas have comparatively fewer endemic taxa (see Table II).

Before going further with our discussion, one must stress that the narrow and now almost vanished forest belt, fringing the cliffs of the Northern mountains parallel with the coast, has never been properly explored.

If we now try to consider the Somali peninsula as being liable to be split into subregions, we suggest that the following are sufficiently distinct:

- A) Northern coastal
- B) Northern *Boswellia-Dracaena-Juniperus* forests
- C) Central arid zone (including both steppes and low bushland)
- D) Riverine and swamp formations
- E) Central dense scrub and bush

TABLE II

HABITAT	TOTAL SPECIES/SUBSPECIES	ENDEMICS
Riverine forests	52	21 (40%)
Northern mountain range forests	21	9 (43%)
Northern and coastal subdeserts and steppes	42	21 (50%)
Low bush and scrub	48	26 (54%)
Dense bush and savannas	74	34 (46%)

F) the «Laks» area

Table III summarizes the differences between these areas.

Brief consideration of our table and of the appendix shows that the «dense bush and savanna» area has basically a Kenyote impoverished fauna, the taxa which we have included among the endemics and which are found in this area belonging, almost all, to those which are widespread in the Somali peninsula and that the majority of the other taxa range through most of E. Africa.

The «Northern mountain range forests» area is very poorly known, while the other three have all a high individuality and are markedly different from one another.

Can we suggest an interpretation of the apparent facts? Hypotheses are permissible and we thus submit the following ones: the Tana river-Laks area been comparatively isolated for enough time to give it an East African fauna which, however shows a limited individuality (*Damaliscus hunteri*, considered the most primitive of the Alcelaphine, *Ourebia ourebi haggardi*, *Thallomys paedulus somaliensis*, *Cercopithecus albogularis albotoquatus*, etc.).

The riverine forests of the Jubba and Shebelle must have been surrounded by very dry lands sufficiently long as to allow for the evolution of a reasonably distinct fauna (*Cercopithecus albogularis zammaranoi*, *Kobus ellipsiprymnus pallidus*, *Tragelaphus scriptus fasciatus*, *Funisciurus palliatus tanae*, etc.).

For the other two arid districts the most highly individualized is the central one (*Ammodorcas clarkei*, *Dorcatragus megalotis*, *Litocranius walleri sclateri*, *Madoqua saltiana lawrancei*, *Madoqua piacentinii*, *Gazella spekei*, various Gerbils, Ctenodactyls and *Acomys*), while the N. coastal strip has evolved as a unit with the Eritrean lowlands, as shown by taxa such as *Gazella dorcas pelzelni* which in Eritrea merges with *Gazella dorcas isabella*, Ruppell's fox, or the almost unknown desert hedgehog.

We also submit that the original core of the Somali arid fauna was limited to the North of the Shebelle up to the last pluvial times. With the inception of the present dry period some areas in between the two main rivers evolved into a low bush-savanna, an ecosystem which must have been conspicuously lacking during the rainy periods. As a consequence, and due to the

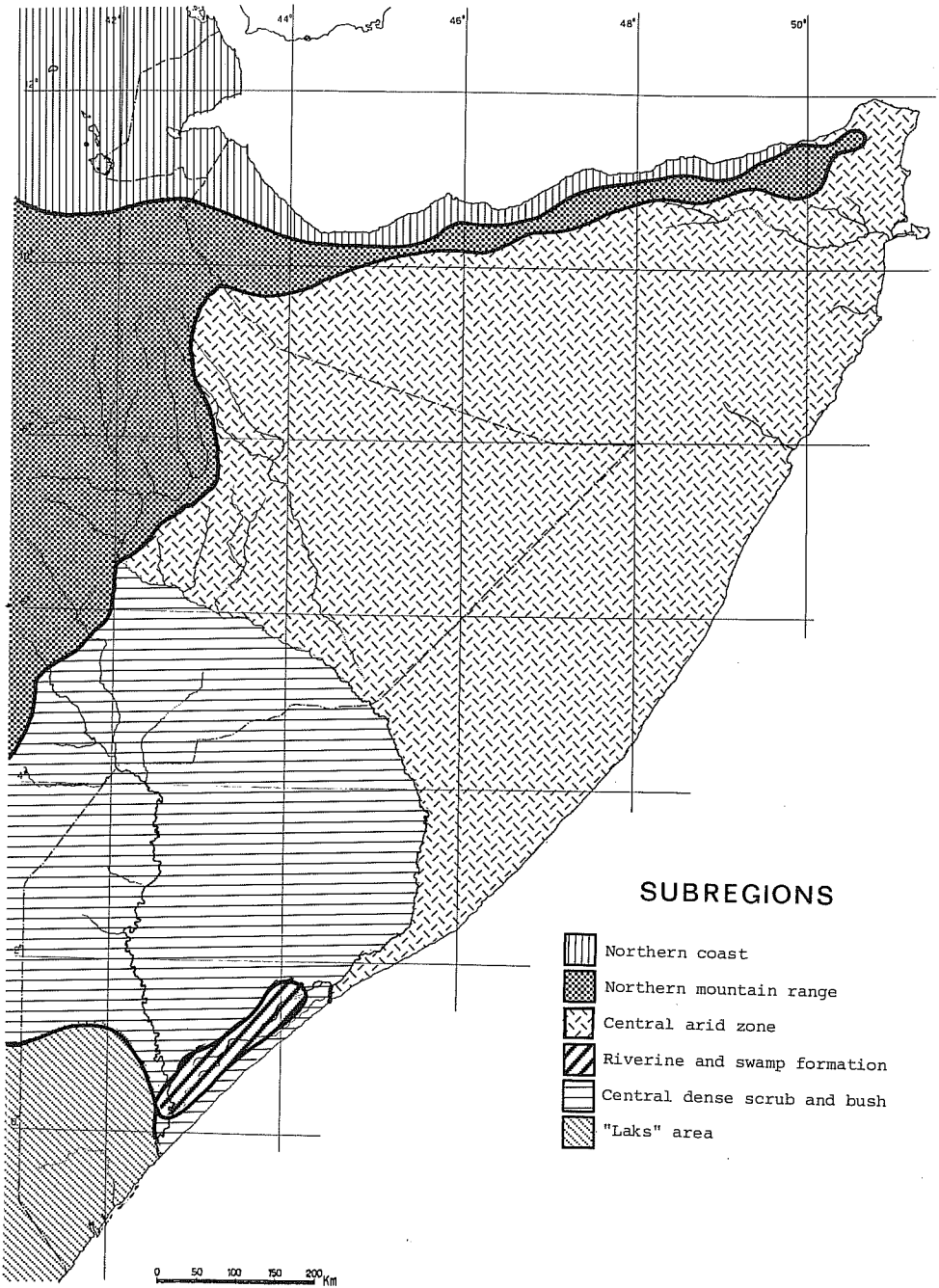
TABLE III

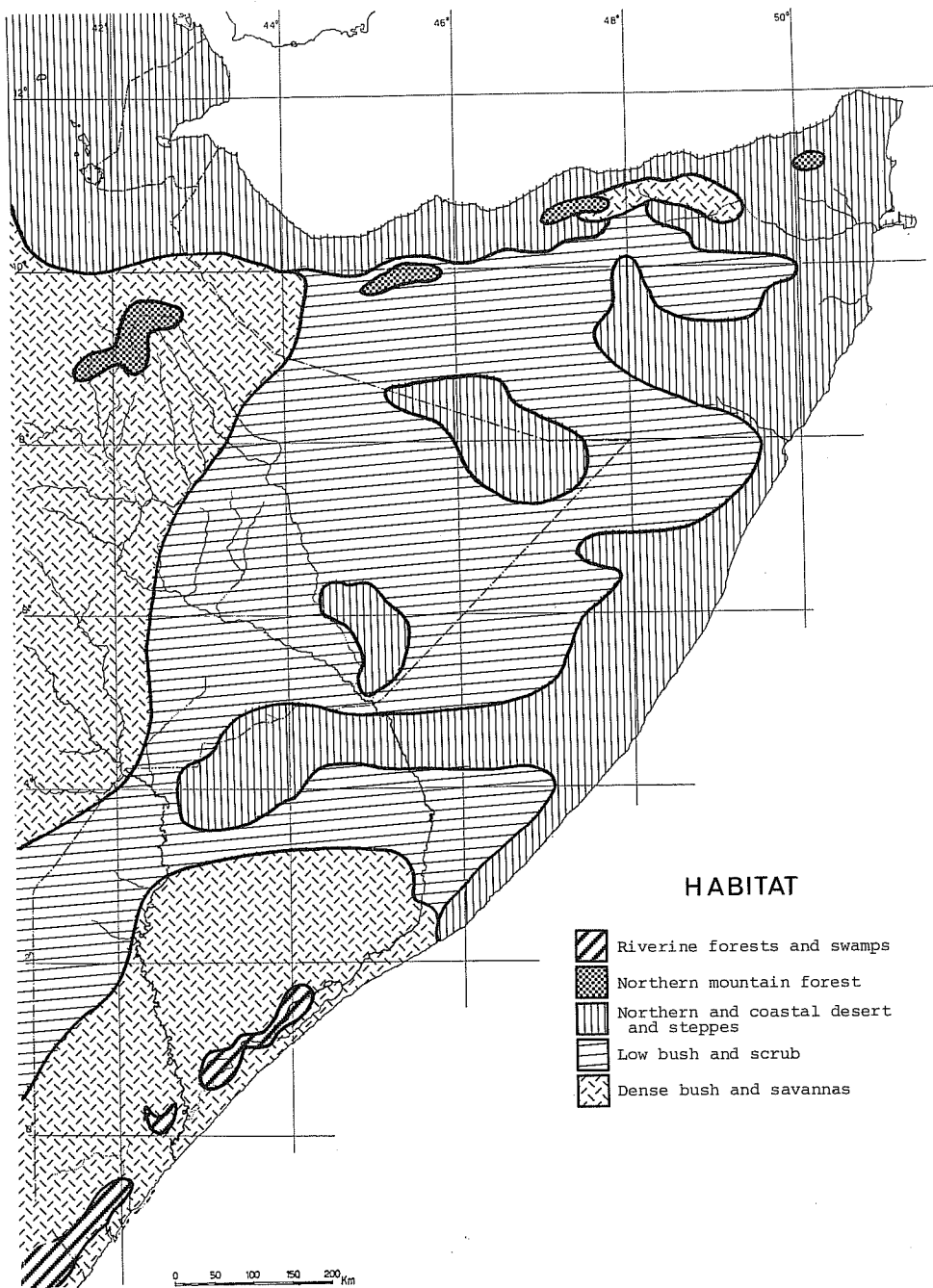
SUBREGIONS	NUMBER OF TAXA	ENDEMICS
Northern coastal	32	13 (41%)
Northern mountain range	29	12 (41%)
Central arid zone (deserts, steppes and low bush)	60	35 (58%)
Riverine and swamp formations	58	20 (34%)
Central dense scrub and bush	68	28 (41%)
«Laks» area	49	20 (41%)

fact that the Shebelle must have always been a lesser barrier than the Jubba, some species, such as *Gazella soemmeringi berberana*, from the North crept into the available niches in central Somalia, although these animals were somewhat more adapted to arid conditions than their kenyan counterpart (*Gazella granti petersi*), which occupies the corresponding niches South of the Jubba.






It is high time that a systematic survey of the mammalian fauna of Somalia is undertaken, before the present dramatic crash of its major wildlife and the spread of degraded habitats will completely blur the picture.

This is not only for pure scientific curiosity. The preservation of the wild mammals has been proved many times to be an essential management tool for African ecosystems and it is urgent to implement a comprehensive and well planned policy of effective measures to preserve viable samples of the various mammalian taxa and then for their reestablishment as balancing factors where they have been or will be eradicated. Such a policy, however, may succeed only if we have a really adequate knowledge of the animals themselves, including their genetics and ecology down to subspecies level.





### HABITAT

-  Riverine forests and swamps
-  Northern mountain forest
-  Northern and coastal desert and steppes
-  Low bush and scrub
-  Dense bush and savannas

APPENDIX 1: LIST OF TAXA REPORTED FROM SOMALIA

LEGENDA

- ENDEMISM: A = Endemic of part only of the somali peninsula  
 B = Somali peninsula as defined in the text  
 C = East Africa from Port Sudan to Tanzania  
 D = All Africa  
 E = Africa and extra Africa
- HABITAT: rf = riverine forests  
 mf = northern mountain forests  
 ds = northern and coastal deserts and steppes  
 lb = low bush and scrub  
 db = dense bush and savannas  
 a = many or all
- SUBREGION: NC = Northern Coastal  
 NF = Northern mountain Forests  
 CA = Central Arid zone  
 RS = Riverine and Swamp formations  
 CB = Central dense scrub and Bush  
 L = «Laks» area  
 A = many or All

LIST

SPECIES OR SUBSPECIES	ENDE- MISM	HABI- TAT	SUB- REGION
** INSECTIVORA			
* Soricidae			
<i>Crocidura butleri</i> Thomas, 1911	D	rl	RS
<i>Crocidura cyanea</i> (Duvernoy, 1838)	D	rf	RS
<i>Crocidura gracilipes gracilipes</i> Peters, 1870	D	rd	RS
<i>Crocidura nana</i> Dobson, 1890	D	rf	RS
<i>Crocidura somalica</i> Thomas, 1895	C	rf	RS
<i>Crocidura hirta velutina</i> Thomas, 1904	C	rf	RS
<i>Crocidura smithi</i> Thomas, 1895	B	rf	RS
<i>Crocidura greenwoodi</i> Heim de Balsac 1966	A	rf	RS,L
* Chrysochloridae			
<i>Amblysomus tytonis</i> Simonetta, 1968	A	db	CA,CB <sup>(1)</sup>
* Erinaceidae			
<i>Paraechinus aethiopicus</i> (Ehrenberg, 1833) subsp. indet.?	D	ds	NC
<i>Erinaceus frontalis albiventris</i> Wagner, 1841	D	lb,db	CB
<i>Erinaceus frontalis sclateri</i> Anderson, 1895	A	lb,db	CA

<sup>(1)</sup> The species is known only from a single locality owl pallets on the border between CA and CB.



SPECIES OR SUBSPECIES	ENDE- MISM	HABI- TAT	SUB- REGION
** SCANDENTIA			
* Macroscelididae			
<i>Elephantulus revoili</i> (Huet, 1881)	A	ds,lb	NC,CA
<i>Elephantulus rufescens dundasi</i> Dollman, 1910	D	db	CB,L
<i>Elephantulus rufescens somalicus</i> (Thomas, 1901)	A	lb	CA
** CHIROPTERA			
* Pteropodidae			
<i>Epomophorus wahlbergi</i> (Sundevall, 1846)	D		
<i>Epomophorus labiatus minor</i> Dobson, 1880	D		
* Rhinopomatidae			
<i>Rhinopoma hardwickei</i> Gray, 1831	E		
* Emballonuridae			
<i>Taphozous (Taphozous) mauritanus</i> E. Geoffroy, 1818	D		
<i>Taphozous (Taphozous) perforatus</i> E. Geoffroy, 1818	E		
<i>Taphozous (Liponycteris) nudiventris</i> Cretzschmar, 1826	E		
<i>Coleura afra</i> (Peters, 1852)	E		
* Nycteridae			
<i>Nycteris hispida hispida</i> (Schreber, 1775)	D		
<i>Nycteris parisii parisii</i> (de Beaux, 1924)	A		
<i>Nycteris aethiopica aethiopica</i> Dobson, 1878	D		
<i>Nycteris thebaica</i> E. Geoffroy, 1818	E		
<i>Nycteris arge</i> Thomas, 1903	D		
* Megadermatidae			
<i>Cardioderma cor</i> (Peters, 1872)	C		
<i>Lavia frons</i> (E. Geoffroy, 1810)	D		
* Rhinolophidae			
<i>Rhinolophus hildebrandti</i> Peters, 1878	D		
<i>Rhinolophus fumigatus</i> Ruppell, 1842	D		
<i>Rhinolophus clivosus acrotis</i> Heuglin, 1842	E		
<i>Rhinolophus landeri brockmani</i> Thomas, 1910	B		
* Hipposideridae			
<i>Hipposideros commersoni marungensis</i> (Noak, 1887)	D		
<i>Hipposideros caffer caffer</i> (Sundevall, 1846)	D		
<i>Asellia tridens tridens</i> (E. Geoffroy, 1818)	E		
<i>Asellia tridens italosomalica</i> De Beaux, 1931	B		
<i>Triaenops persicus afer</i> Peters, 1877	D		
* Vespertilionidae			
<i>Nycticeius (Scoteinus) schlieffeni</i> (Peters, 1859)	E		
<i>Nycticeius (Scotoecus) hirundo artinii</i> De Beaux, 1923	D		
<i>Pipistrellus nanus</i> (Peters, 1852)	D		
<i>Pipistrellus eisentrauti</i> (Hill), 1968	D		
<i>Eptesicus somalicus somalicus</i> (Thomas, 1901)	D		
<i>Eptesicus capensis</i> (A. Smith, 1829)	D		

SPECIES OR SUBSPECIES	ENDE- MISM	HABI- TAT	SUB- REGION
<i>Eptesicus rendalli phasma</i> G.M. Allen, 1911	C		
<i>Glauconycteris variegata variegata</i> (Tomes, 1915)	D		
<i>Scotophilus nigrata colias</i> (?) Thomas, 1904	C		
<i>Miniopterus inflatus africanus</i> Sanborn, 1936	C		
<i>Miniopterus schreibersi arenarius</i> (?) Heller, 1912	D		
<i>Scotoecus albigula</i> Thomas, 1909	D		
* Molossidae			
<i>Tadarida (Mops) condylura</i> (A. Smith, 1833)	D		
<i>Tadarida (Chaerephon) pumila</i> (Cretzschmar, 1830 or 31)	E		
** PRIMATES			
* Cercopithecidae			
<i>Papio hamadryas</i> Linnaeus, 1758	C	ds,mf	NC,NF
<i>Papio cynocephalus ibleanus</i> Thomas, 1893	B	lb,db,rf	CA,RS,CB,L
<i>Cercopithecus (Cercopithecus) albogularis albatorquatus</i> Pousargues, 1896	A	rf	L
<i>Cercopithecus (Cercopithecus) albogularis zammaranoi</i> De Beux, 1924	A	rf	RS
<i>Cercopithecus (Cercopithecus) pygerythrus arenarius</i> (Hell- er, 1913)	B	rf,db	RS,CB,L
* Galagidae			
<i>Galago crassicaudatus lasiotis</i> Peters, 1876	C	rf	CB,L
<i>Galago senegalensis gallarum</i> Thomas, 1901	B	rf,db	CB,RS,L
** PHOLIDOTA			
* Manidae			
<i>Manis (Smutsia) temminckii</i> Smuts, 1832	D	rf	RS
** LAGOMORPHA			
* Leporidae			
<i>Lepus capensis</i> Linn., 1758	E	lb,ds	CA,CB
<i>Lepus habessinicus</i> Hempric & Ehrenberg, 1832	C	lb,ds	CA
<i>Lepus crawshayi</i> de Winton, 1899	D	lb,ds	CB
** RODENTIA			
* Ctenodactylidae			
<i>Pectinator spekei</i> Blyth, 1855	C	ds	CA,CB
* Dipodidae			
<i>Jaculus jaculus</i> Linnaeus, 1758	D	ds	NC,CA
* Rhizomyidae			
<i>Tachyoryctes splendens somalicus</i> Osgood, 1910	A	mf	NF
* Scuriidae			
<i>Funisciurus (Paraxerus) palliatus tanae</i> (Neumann, 1902)	C	rf	RS
<i>Funisciurus (Paraxerus) ochraceus ganana</i> (Rhoads, 1896)	C	rf,db	RS,CB
<i>Xerus rutilus</i> (Cretzschmar, 1826)	C	a	A

SPECIES OR SUBSPECIES	ENDE- MISM	HABI- TAT	SUB- REGION
* Hystricidae			
<i>Hystrix cristata</i> Linnaeus, 1758	D	lb,db	CA,RS,CB,L
* Cricetidae			
<i>Saccostomus mearnsi</i> Heller, 1910	D	rf	RS
<i>Steatomys parvus parvus</i> (?) Rhoads, 1896	C	rf	RS
* Lophiomidae			
<i>Lophiomys imbausi</i> Milne-Edwards, 1867	C	mf,db	NF,CA
* Gerbillidae			
<i>Tatera nigricauda nyama</i> (Dollman, 1911)	C	db	CB
<i>Tatera robusta robusta</i> Cretschmar, 1826	D	db	CB
<i>Tatera phillipsi</i> (de Winton, 1898)	B	db	CB
<i>Taterillus emini zammarani</i> (sic!) de Beaux, 1922	C	db,lb,ds	CA,CB
<i>Anmodillus imbellis</i> (De Winton, 1898)	A	ds	CA
<i>Gerbillus pusillus</i> (Peters, 1878)	C	db,lb	CB,NA
<i>Gerbillus watersi</i> De Winton, 1901	D	ds	NC
<i>Gerbillus nanus brockmani</i> Thomas, 1910	A	ds,lb	CA,NC
<i>Gerbillus campestris somalicus</i> (Thomas, 1910)	A	ds	CA
<i>Gerbillus pyramidum acticola</i> Thomas, 1918	A	ds	CA
<i>Gerbillus dunni</i> Thomas, 1904	B	lb,ds	CA
<i>Gerbillus rosalinga</i> St. Leger, 1929	D	lb	CA
<i>Microdillus peeli</i> (de Winton, 1910)	B	lb	CA,L
<i>Parameriones</i> ? sp.		db	CB
* Muridae			
<i>Rattus rattus alexandrinus</i> Geoffroy & Audouin, 1829	(E)	—	—
<i>Praomys (Myomiscus) fumatus</i> (Peters, 1878)	D	db,mf,rf	NF,RS,L
<i>Mastomys huberti</i> subsp. (Wroughton, 1908)	D	rf	RS
<i>Mus musculus</i> subsp. Linnaeus, 1758	(E)	—	—
<i>Mus (Leggada) minutoides bellus</i> (Thomas, 1910)	D	db	RS,CB
<i>Mus (Leggada) tenellus mahomet</i> (Rhoads, 1896)	C	db	RS,CB
<i>Lemniscomys barbarus convictus</i> Osgood, 1910	C	db	RS
<i>Arvicanthis niloticus abyssinicus</i> Ruppel, 1942	C	rf	RS,L <sup>(2)</sup>
<i>Arvicanthis somalicus</i> Thomas, 1903	B	rf	RS,L <sup>(2)</sup>
<i>Tballomys paeudulcus somalensis</i> Roche, 1964	A	db	L
<i>Acomys wilsoni</i> Thomas, 1892	C	rf,db,mf	NF,CB,L,RS
<i>Acomys louisae</i> Thomas, 1896	A	ds,lb	NC,CA
<i>Acomys ignitus</i> Dollman, 1910	C	rf,db	CB,RS,L
<i>Acomys brockmani</i> Dollman, 1911	A	ds,lb	CA
<i>Thamnomys (Grammomys) dolichurus</i> (Smuts, 1832)	A?	db	CB
<i>Aethomys kaiseri</i> (Noack, 1887)	D	db	L

(<sup>2</sup>) Second subregion listed with reserve, because only sight records.

SPECIES OR SUBSPECIES	ENDE- MISM	HABI- TAT	SUB- REGION
* Bathyergidae			
<i>Heterocephalus glaber</i> Ruppell, 1842	C	a	A
* Gliridae			
<i>Graphiurus murinus brockmani</i> (Dollman, 1910)	B	rf,db	CB,RS
** CARNIVORA			
* Mustelidae			
<i>Ictonyx striatus</i> (Perry, 1810)	D	db	CB,CA <sup>(3)</sup>
<i>Mellivora capensis brockmani</i> Wroughton & Cheesman, 1920	B	db	CA,NF <sup>(2)</sup>
<i>Mellivora capensis maxwelli</i> Thomas, 1923	B	db	CB,L,RS
* Canidae			
<i>Lycaon pictus lupinus</i> Thomas, 1902	D	db,lb	CA,CB,L
<i>Otocyon megalotis canescens</i> Cabrera, 1910	C	a	A <sup>(3)</sup>
<i>Canis aureus riparius</i> Hemprich & Ehrenberg, 1832	C	a	A
<i>Canis mesomelas schmidti</i> Noak, 1897	C	db	CB,L
<i>Vulpes rueppelli somaliae</i> Thomas, 1918	B	ds	NC
* Viverridae			
<i>Viverra civetta schwarzi</i> (Cabrera, 1929)	C	db	L
<i>Genetta genetta neumanni</i> Matschie, 1902	C	db	CB,RS <sup>(4)</sup>
<i>Genetta tigrina erlangeri</i> Matschie, 1902	C	db	CB,RS <sup>(4)</sup>
<i>Genetta rubiginosa deorum</i> Funaioli & Simonetta, 1960	A	db	CB,RS <sup>(4)</sup>
<i>Genetta (Pseudogenetta) abyssinica</i> (Ruppell, 1836)	C	ds,lb	NC,CA <sup>(3)</sup>
<i>Helogale hirtula hirtula</i> Thomas, 1904	B	db	CB
<i>Helogale hirtula powelli</i> Drake-Brockman, 1912	A	db,lb	CA
<i>Helogale parvula atkinsoni</i> Thomas, 1897	B	mf,db	CB,NF <sup>(6)</sup>
<i>Herpestes (Galerella) sanguineus ibeae</i> Wroughton, 1907	B	db	CB,CA <sup>(7)</sup>
<i>Herpestes (Galerella) ratlamuchi obraceus</i> Gray, 1849	B	db,lb	CB,CA
<i>Herpestes ichneumon funestus</i> (Osgood, 1910)	D	rf	RS,CB,L
<i>Ichneumia albicauda dialeucos</i> (Hollister, 1916)	C	db	CB,CA,NF,RS,L
<i>Mungos mungo somalicus</i> (Thomas, 1895)	B	db,rf,mf	A
* Protelidae			
<i>Proteles cristatus septentrionalis</i> W. Rothschild, 1902	D	lb	A
* Hyenidae			
<i>Hyaena hyaena dubbab</i> Meyer, 1791	D	lb,ds	NC,CA
<i>Crocuta crocuta</i> (Erxleben, 1777)	D	a	A

<sup>(3)</sup> This species, apparently ubiquitous, has not been recorded from definitely riverine areas.

<sup>(4)</sup> Only sight records from riverine formation; as the species is difficult to recognise in the field, it is quoted with reserve.

<sup>(5)</sup> We are not entirely certain that the species occurs in Somalia.

<sup>(6)</sup> Only sight record from NF.

<sup>(7)</sup> Only sight record from CA.

SPECIES OR SUBSPECIES	ENDE- MISM	HABI- TAT	SUB- REGION
* Felidae			
<i>Acinonyx jubatus raineyi</i> Heller, 1913	C	a	A
<i>Felis (Felis) silvestris ocreata</i> Gmelin, 1791	B	a	A
<i>Felis (Leptailurus) serval liposticta</i> Pocock, 1907	D	db,rf	A
<i>Felis (Lynx) caracal nubicus</i> J.B. Fischer, 1829	D	a	A
<i>Pantbera leo somaliensis</i> (Hollister, 1918)	B	a	A
<i>Pantbera pardus nanopardus</i> (Thomas, 1904)	C	a	A
** TUBULIDENTATA			
* Orycteropodidae			
<i>Orycteropus afer somalicus</i> Lydekker, 1908	A/B	a	A
** PROBOSCIDEA			
* Elephantidae			
<i>Loxodonta africana orleansi</i> Lydekker, 1907	A	rf,db	CA
<i>Loxodonta africana knochenbaueri</i> (Matschie, 1900)	D	rf,db	L,RS,CB
** HYRACOIDEA			
* Procaviidae			
<i>Procapra syriaca pallida</i> Thomas, 1891	A	lb,db	NF
<i>Heterohyrax brucei somalicus</i> (Thomas, 1892)	B	lb	CA,CB,NF
** PERISSODACTYLA			
* Rhinocerotidae			
<i>Diceros bicornis minor</i> (Drummond, 1876)	D	a(esc. mf)	A (escl. NF)
<i>Diceros bicornis brucei</i> (Lesson, 1842)	D	db	NC,CA
* Equidae			
<i>Equus africanus somaliensis</i> Noak, 1884	B	ds	CA,NC
<i>Equus grevyi</i> Oustalet, 1882	B	db	CB
<i>Equus burchelli boehmi</i> Matschie, 1892	B	db	CB,L
** ARTIODACTYLA			
* Suidae			
<i>Potamochoerus porcus somaliensis</i> de Beaux, 1924	A	rf	RS
<i>Phacochoerus aethiopicus delamerei</i> Lonnberg, 1909	B	a	A
* Hippopotamidae			
<i>Hippopotamus amphibius kiboko</i> Heller, 1914	C	rf	RS
* Giraffidae			
<i>Giraffa camelopardalis reticulata</i> de Winton, 1899	B	db	L,CB,CA <sup>(8)</sup>
* Bovidae			
<i>Syncerus caffer caffer</i> (Sparrman, 1779)	D	rf	RS
<i>Tragelaphus scriptus fasciatus</i> Pocock, 1900	A	rf	RS
<i>Tragelaphus strepsiceros chora</i> (Cretzschmar, 1826)	D	db	CB,NF
<i>Tragelaphus imberbis imberbis</i> (Blyth, 1869)	C	db	CB,CA,RS,NF

<sup>(8)</sup> Records from CA rather vague.

SPECIES OR SUBSPECIES	ENDE- MISM	HABI- TAT	SUB- REGION
<i>Cephalophus natalensis bottegoi</i> de Beaux, 1924	A	rf	RS
<i>Sylvicapra grimmia deserti</i> Heller, 1913	B	db	CB,L
<i>Kobus ellipsiprymnus pallidus</i> Matschie, 1910	B	rf	L,RS
<i>Oryx gazella beisa</i> (Ruppell, 1835)	C	lb,ds	CA,NC,CB,L
<i>Alcelaphus buselaphus swaynei</i> Schlater, 1892	B	db	CA
<i>Damaliscus hunteri</i> (P.L. Sclater, 1889)	A	db	L
<i>Damaliscus lunatus topi</i> Blaine, 1914	B	rf	RS
<i>Litocranius walleri walleri</i> (Brooke, 1878)	B	db,lb	L,CB <sup>(?)</sup>
<i>Litocranius walleri sclateri</i> Neumann, 1899	B	db,lb	CA,CB <sup>(?)</sup>
<i>Ammodorcas clarkei</i> (Thomas, 1891)	B	lb	CA
<i>Oreotragus oreotragus somalicus</i> Neumann, 1902	A	mf	NF
<i>Madoqua (Madoqua) saltiana phillipsi</i> Thomas, 1894	A	ds,lb	CA
<i>Madoqua (Madoqua) saltiana hararensis</i> Neumann, 1905	A/B	ds,lb	CA
<i>Madoqua (Madoqua) saltiana lawrancei</i> Drake Brockman, 1926	A	ds,lb	CA
<i>Madoqua (Madoqua) saltiana swaynei</i> Thomas, 1894	B	lb	CB
<i>Madoqua (Madoqua) piacentinii</i> Drake Brockman, 1911	A	ds	CA
<i>Madoqua (Rhyinchotragus) guentheri guentheri</i> Thomas, 1894	A/B	db	CA
<i>Madoqua (Rhyinchotragus) kirki kirki</i> (Gunther, 1880)	B	db	CB,L
<i>Dorcatragus megalotis</i> (Menges, 1894)	A	mf	NF
<i>Ourebia ourebi baggardi</i> (Thomas, 1895)	B	rf	CB,L
<i>Gazella soemmerringi berberana</i> Matschie, 1893	A/B	ds,lb,db	CA,CB,NC
<i>Gazella granti petersi</i> Gunther, 1884	C	lb,db	L
<i>Gazella dorcas pelzelni</i> Kohl, 1886	A	ds	NC
<i>Gazella spekei</i> Blyth, 1863	B	ds,lb	CA

## REFERENCES

- ALLEN G.M., 1954 - *A checklist of African Mammals*. - Bull. Mus. Comparative Zool. at Harvard College: 1-763.
- AZZAROLI-PUCCEZZI M.L., 1987 - *The systematic relationship of hares (genus Lepus) of the Horn of Africa*. - Cimbebasia A 9 N. 1:1-22.
- AZZAROLI L., SIMONETTA A., 1986 - *Carnivori della Somalia ex italiana*. - Monitore zool. ital. Suppl., LXXIV: 102-195.
- CORBET C.B., HILL J.E., 1980 - *A world list of Mammalian species*. - Brit. Mus. Nat. Hist., London: 1-226.
- DORST J., DANDELLOT P., 1970 - *A Field guide to the Larger Mammals of Africa*. - Collins, London: 1-287.

<sup>(?)</sup> Pending revision, it is not known which ssp. occurs in CB.

- ELLERMAN J.R., MORRISON-SCOTT T.C.S., 1951 - *Cbecklist of Palearctic and Indian mammals*. The British Museum, London: 1-810.
- FUNAIOLI U., 1957 - *Fauna e Caccia in Somalia*. Scuola Tipografica Missione Cattolica. Mogadiscio: 1-98.
- FUNAIOLI U., 1971 - *Guida breve dei Mammiferi della Somalia*. Istituto Agronomico per l'Oltremare. Firenze: 1-232.
- FUNAIOLI U., SIMONETTA A.M., 1966 - *The Mammalian Fauna of the Somali Republic: status and conservation problems*. *Monitore zool. ital.* Anno LXXIV Suppl.: 285-347.
- FUNAIOLI U., LANZA B., 1968 - *On some bats from Somalia*. - *Monitore zool. ital. (N.S.) Suppl. II*: 199-202.
- HONACKI J.H., KINMAN K.E., KOEPL J.W., 1982 - *Mammal species of the world; a taxonomic and geographic reference*. - Allen Press and the Association of Systematic Collections, Lawrence, Kansas, USA: I-IX, 1-694.
- KINGDON J., 1971 - *East African Mammals*. - Volume I. Academic Press, London, New York. 1-446.
- KINGDON J., 1974 - *East African Mammals*. - Volume II Part A (Insectivores and Bats). Academic Press, London, New York. 1-341.
- KINGDON J., 1974 - *East African Mammals*. - Volume II Part B (Hares and Rodents). Academic Press, London, New York. 342-704.
- KINGDON J., 1977 - *East African Mammals*. - Volume III Part A (Carnivores). Academic Press, London, New York. 1-476.
- KINGDON J., 1979 - *East African Mammals*. - Volume III Part B (Large Mammals). Academic Press, London, New York, San Francisco. 1-436.
- KINGDON J., 1982 - *East African Mammals*. - Volume III Part C (Bovids). Academic Press, London, New York, San Francisco. 1-393.
- KINGDON J., 1982 - *East African Mammals*. Volume III Part D (Bovids). Academic Press, London, New York, San Francisco. 394-746.
- LARGEN M.J., KOCK D., YALDEN D.W., 1968 - *Catalogue of the mammals of Ethiopia*. - 1. Chiroptera. *Monitore zool. ital. (N.S.) Suppl. 5*: 221-298.
- MEESTER J., SETZER H.W., 19?? - *The Mammals of Africa*. Smithsonian Inst. Press, Washington D.C.
- NOWAK R.M., PARADISO J.L., 1983 - *Walker's Mammals of the World*. 4th Edition. The John Hopkins Univ. Press: 2 vols.
- ROCHE J., 1978 - *Présence de Gerbillus rosalia Saint Leger, 1929 (Rongeurs, Gerbillidae) et de Mus tenellus (Thomas, 1903) (Rongeurs, Muridae) en République de Somalie*. - *Monitore zool. ital. (N.S.) Suppl. 10*: 151-156.
- ROCHE J., PETTER F., 1968 - *Faits nouveaux concernant trois Gerbillides mal connus de Somalie; etc.* - *Monitore zool. ital. (N.S.) Suppl. II*: 181-198.
- SIMONETTA A.M., 1968 - *A new golden mole from Somalia etc.* - *Monitore zool. ital. (N.S.) Suppl. II*: 27-55.
- SIMONETTA A.M., SIMONETTA J., 1983 - *An outline of the status of the Somali fauna and of its conservation and management problems*. - *Rivista Agricolt. Subtropic. e Tropic*. Firenze. Anno LXXVII, N. 4: 457-483.
- YALDEN D.W., 1978 - *A revision of the Dik-diks of the subgenus Madoqua (Madoqua)*. - *Monitore zool. ital. (N.S.) Suppl. 11*: 245-264.
- YALDEN D.W., LARGEN M.J., KOCK D., 1976 - *Catalogue of the Mammals of Ethiopia*. - 2. Insectivora and Rodentia. *Monitore zool. ital. (N.S.) Suppl. 8*: 1-118.
- YALDEN D.W., LARGEN M.J., KOCK D., 1977 - *Catalogue of the Mammals of Ethiopia*. - 3. Primates. *Monitore zool. ital. (N.S.)*. 9: 1-52.
- YALDEN D.W., LARGEN M.J., KOCK D., 1980 - *Catalogue of the Mammals of Ethiopia*. - 4. Carnivora. *Monitore zool. ital. (N.S.) Suppl. 13*: 169-272.
- YALDEN D.W., LARGEN M.J., KOCK D., 1984 - *Catalogue of the Mammals of Ethiopia*. - 5. Artiodactyla. *Monitore zool. ital. (N.S.) Suppl. 19*: 67-221.
- YALDEN D.W., LARGEN M.J., KOCK D., 1986 - *Catalogue of the Mammals of Ethiopia*. - 6. Perissodactyla, Proboscidea, Hyracoidea, Lagomorpha, Tubulidentata, Sirenia and Cetacea. *Monitore zool. ital. (N.S.) Suppl. 21*: 31-103.