

considerably shorter than posterior tibiæ; membrane longly passing abdominal apex with an elongate posteriorly truncate cell; legs somewhat long and slender, the posterior femora distinctly thickened, the posterior tibiæ as long as corium and cuneus together, posterior tarsi with the basal joint longest.

In the enumeration of the Indian Capsidæ I place this genus near *Zanchius*, Dist., to which it is closely allied, but separated by the structure of the head.

*Zonodorus gubernator*, sp. n.

Head, antennæ, pro- and mesonota, scutellum, body beneath, rostrum, and legs stramineous or very pale ochraceous; base of first joint of antennæ and the basal areas of the femora greyish white; clavus, corium, and cuneus greyish white, subhyaline, macularly mottled with pale virescent, the costal area of corium (excluding base) and extreme apex pale ochraceous, the margins of clavus adjoining scutellum also pale ochraceous; membrane very pale brownish ochraceous, the basal area mottled with pale virescent and the membranal cells posteriorly margined with the same colour; the upper surface is distinctly, finely, palely pilose; structural characters as in generic diagnosis.

Length 4 mm.

*Hab.* Ceylon; Peradeniya (*Green*).

[To be continued.]

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LXV.—*On the Agriotype of Domestic Asses.* By R. I. POCKOCK, F.L.S., F.Z.S., Superintendent of the Zoological Society's Gardens.

DOMESTIC asses are usually considered to be descended from the wild ass now found in the Eastern Soudan, to which Fitzinger's name *Equus asinus africanus* has been restricted. Several examples of this local race have been fully described, namely: one from Yalalub and one from Kassala by Mr. de Winton ('Mammals of Egypt,' pp. 329 & 330, 1902), and one from Nakheila, on the south bank of the Atbara River, by Mr. Lydekker (Nov. Zool. xi. pp. 593-595, 1904). These agree closely in coloration, being greyish fawn in colour, with the muzzle, the area round the eyes, and the legs whitish. The specimen, alleged to have come from Nubia, which Dr. Sclater depicted on Pl. L. fig. 2 of the P. Z. S. for



1884, appears to belong to the same type, although the general tint is considerably richer fawn, as if a Persian Onager had formed the model for the coloration.

These Eastern Soudan asses differ from ordinary domestic asses in the sharp contrast between the white of the legs and the greyish fawn of the head, neck, and body. In this characteristic, apart from the practical absence of markings from the legs, they resemble the Somaliland race (*E. asinus somaliensis*). They also resemble the latter and differ at all events from the majority of English domestic asses, unless canescence or partial albinism has supervened, in having scarcely any black or brown on the ear, except at the tip and on the margin. As a matter of actual fact, there is a certain amount of clouding on the lower half of the ear above the occiput, at least in some specimens. It is present, for instance, in the examples of *E. a. africanus* from Nakheila and of *E. a. somaliensis* from Somaliland, described by Mr. Lydekker, but was either unnoticed by this author or not considered worth mentioning. Mr. de Winton also says nothing about it in his description of the specimen of *E. a. africanus* from Yalalub; and Heuglin is similarly silent on this matter in the diagnosis of *E. a. tæniopus*. From reading the descriptions of these specimens, indeed, one would infer the entire back of the ear, apart from the tip, to be the same tint as the head.

In ordinary domestic asses, in such, at least, as adhere to the greyish coloration of the wild forms hitherto mentioned, the legs are, as a rule at all events, of the same colour as the body, or nearly so, and are very commonly indeed indistinctly barred with black. Moreover the base of the ear is almost always marked with a large black or dark brown patch. So constant a feature in domestic asses is this patch on the ear that it is impossible to avoid the conclusion that it has been inherited from their ancestral form. If this be so, that ancestral form was not *E. asinus africanus*, nor *E. asinus tæniopus*\*, nor *E. asinus somaliensis*, in which the ears are decidedly black or brown behind only at the tip, the basal patch being evanescent.

\* In the P. Z. S. 1862, p. 164, Dr. Sclater records "*Asinus tæniopus*" from Abyssinia, his information being based upon a specimen then living in the Jardin des Plantes which had been acquired by the French Consul at Massouah. Through the kindness of Dr. Sclater I have been able to examine a coloured drawing of this animal, dated Paris, 1860. It has a long shoulder-stripe and a continuous spinal stripe and as many stripes on the legs as are present in the example of *E. asinus somaliensis* now living in the Zoological Gardens. It thus closely resembles the form Heuglin described as "*Asinus tæniopus*"; but the legs are darker, being hardly lighter externally than the body.



The further question now arises : Is there still in existence a wild form of ass presenting the coloration of the legs and of the ears seen in our domestic animal ? The evidence on this head that I have been able to collect is meagre enough, but it amounts to something. We have at the present time living in the Zoological Gardens a female ass belonging to Sir Claud Alexander, which was sold to him as a Nubian wild ass. The body and legs are grey and there are faint stripes on the limbs, with conspicuous patches on the fore fetlocks, like those of the example of *E. a. africanus* described and figured by Mr. Lydekker. The base of the ears has a very large dark patch, which extends more to the front than to the back and runs up in a point so far towards the black area at the tip that the space between them appears as a narrow greyish-yellow band when the ear is seen from the front. Again, photographs of two alleged Nubian wild asses appear in Prof. Ridgeway's book on the 'Thoroughbred Horse' (pp. 50, 51). One of these animals was living in the London Zoological Gardens between 1886 and 1890 \*, as I learn from Mr. Medland, the photographer ; the other died some years ago in the Gardens in Dublin, as Dr. Scharff tells me. Mr. Medland's photograph clearly shows the black patch at the base of the left ear and the photograph of the animal in Dublin shows it on the right ear, but in both cases reflected light prevents an accurate judgment being formed of the extent of the patch. Finally, in the 'Royal Natural History,' ii. p. 511, there is a woodcut, by Mützen, entitled the African Wild Ass, representing two animals practically identical with the one now in the London Gardens, except for the exaggerated length of the ears. There can be very little doubt, I think, that this engraving was taken from one or more animals living somewhere in Germany, probably in Berlin. If this drawing, which bears a general stamp of accuracy, be compared with the description of *E. a. africanus* above cited and with the plate of the specimen from Nakheila in Mr. Lydekker's paper, the differences between the two forms become apparent at once.

For want of completer records, the question of the existence at the present time in Nubia or the adjoining parts of Africa of a race of wild asses resembling those figured in the 'Royal Natural History' and the one now in the Zoological Gardens must be left open ; but I feel tolerably sure that such an animal formerly, at all events, existed, and probably extended much further to the north than the fifth cataract of the Nile,

\* This is probably the same animal as that figured on p. 82 of Flower's book 'The Horse,' 1891.



to the north of which wild asses do not appear any longer to occur, although Burton, be it remembered, recorded the presence of wild asses in his day in the so-called Arabian desert of Middle Egypt to the east of the Nile.

I also feel convinced that this ass was, at all events, the main ancestral stock, with perhaps an infusion of *africanus* or *tæniopus* blood, whence our domestic breeds are descended; but since I am unable to point out any characters by which the alleged wild asses referred to this race differ from what may be regarded as typically coloured domestic asses of England, I propose to extend the meaning of the name *asinus* to include them.

The conclusion that the basal patch on the ear is not a recently acquired feature in domestic breeds, but is a deep-seated ancestral trait of long standing, and that its slight development in *E. a. africanus*, *tæniopus*, and *somaliensis* is due to suppression, is confirmed by a number of facts. To begin with, the backs of the ears in all well-striped Zebras and Quaggas, with the exception of some nearly white-eared varieties of Böhm's Quagga, have a considerable quantity of black, often forming a patch, on the lower half. Secondly, a dark brown patch similar to, but less emphasized than, that of domestic asses is present on the ears of Kiangs (*E. kiang*), though at most the merest shadow of it is visible in the Chigetai (*E. hemionus*) and in Onagers (*E. indicus*, *onager*, *hemippus*). Again, it was well developed in four foals bred in the Zoological Gardens between a stallion *E. asinus somaliensis*, in which, like the spinal and shoulder-stripes, it is absent, and donkey-mares of Spanish and English breeds, in which it was present. Moreover, although two out of the four mares were nearly black, and only one a true "ass-grey," the foals in every case were grey, with moderately strongly barred legs and shoulder and spinal stripes. Thus the essential characters of the sire were eliminated and the subhybrids\* reverted to what I believe to have been the original coloration of African asses, from which the three races *E. a. africanus*, *tæniopus*, and *somaliensis* have departed in varying degrees. Reversion of this kind is not uncommon when distinct varieties are crossed. Finally, the patches are

\* Although the word "subhybrid" is open to criticism on the score of its mongrel extraction, I cannot at the moment think of a better to express the result of a cross between two subspecies, the word "hybrid" denoting the progeny of two species, like the horse and ass, and "mongrel" being reserved in zoology for that of two domestic breeds, like spaniels and terriers. The name is, at all events, as defensible as "cotype," which has passed into general use.



present on the ears of two feral Socotran asses in the British Museum, though considerably darker in one than the other. The interest of this circumstance lies in the fact that the forerunners of these asses were introduced into Socotra, according to Messrs. Ogilvie-Grant and Forbes, at a very remote epoch, showing that in early times domestic asses possessed these ear-patches.

The four races of African asses, then, may be distinguished as follows:—

- |  |  |
|--|--|
| <p><i>a.</i> A distinct and large black or brown patch at the base of the ear as well as at the tip; legs the same tint as the body or approximately so (domestic and possibly wild forms) .....</p> | <p>Subsp. <i>asinus</i>, Linn.</p>       |
| <p><i>a'.</i> No large and distinct dark patch at the base of the ear; legs usually, at all events, markedly lighter than the body and striped or unstriped.</p>                                     |  |
| <p><i>b.</i> Legs unmarked except for patches on the fetlock .....</p>   | <p>Subsp. <i>africanus</i>, Fitz.</p>    |
| <p><i>b.</i> Legs boldly striped.</p>  |  |
| <p><i>c.</i> Spinal and shoulder-stripes well developed .....</p>  | <p>Subsp. <i>tæniopus</i>, Heug.</p>     |
| <p><i>c'.</i> Spinal and shoulder-stripes obsolete or nearly so .....</p>  | <p>Subsp. <i>somaliensis</i>, Noack.</p> |

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I take this opportunity of correcting one or two mistakes that have appeared in literature with regard to the Ass of Somaliland (*E. a. somaliensis*). In his description of this animal, under the name "*somalicus*," Dr. Sclater mentions as distinctive features of this race the more flowing mane and the shorter ears as compared with *E. asinus africanus*. Whatever may have been the case with the original specimen, these remarks do not apply to the example, a very fine stallion, now living in the Zoological Gardens. The mane is in no sense long or flowing, and does not differ appreciably from that of ordinary donkeys. Moreover, the ears measure from the top of the skull just about 10 inches, whereas in the alleged Nubian wild ass they are 9½ inches. He further says, quoting Mr. Lort Phillips, who was confessedly speaking from memory, that one specimen stood 14 hands at the withers. This guess has been repeated as an established fact at least twice in literature; yet the fine male specimen in our Gardens does not exceed 12 hands at the withers.

Finally, it has been alleged that there is no marked seasonal



change in colour or length of coat \*. The coat is distinctly longer in the winter than in the summer, though the difference does not approach that which obtains in Persian Onagers and Kiangs, and there is a decided difference in colour. The summer coat is a clear grey, which gradually turns to a sandy fawn as the season advances, the difference in tint between the two being very marked when the old sandy-fawn coat comes away and shows the new stone-grey coat beneath it in patches at moulting-time.

LXVI.—*On the Fruit-Bats of the Genus Dobsonia.*

By KNUD ANDERSEN, F.Z.S.

THE subjoined notes and descriptions are based on ninety-one specimens in the collections of the Leyden, Berlin, Paris, and British Museums. The three former Museums were visited by me in August and September this year, and I have much pleasure in taking this opportunity of acknowledging my indebtedness to Dr. Jentink, Professor Matschie, and Professor Trouessart for the liberal way in which they placed the collections under their charge at my disposal. The large series of *Dobsonia* from the Dutch East Indies preserved in the Leyden Museum has been of special importance for my revision of the genus.

The latest reviser (Matschie, 1899) recognized only one species of *Dobsonia*. The total number of species briefly diagnosed below is twelve, six of which are new.

The notes are preliminary to a completer account of the genus in the British Museum Catalogue of Megachiroptera now under preparation.

I. *Revised List of hitherto-described Species.*

1810, *Pteropus pal[l]iatus*, E. Geoffroy, Ann. Mus. d'Hist. Nat. xv. p. 99. In 1825 by Temminck put down as the young of *Cephalotes peroni* [*Dobsonia peroni*] (Mon. Mamm. i. pp. 169, 170), a view accepted also by the original describer in 1828 (Cours d'Hist. Nat. Mamm., 13 leçon, pp. 29, 30), as well as by all later revisers of the genus.—It is evident from Geoffroy's description that the type of *Pt. palliatus* was a quite young *Dobsonia* with the milk-incisors ( $\frac{2-2}{2-2}$ ) *in situ*. As the type locality is unknown, the description confined to

\* Lydekker, Novitates Zool. xi. p. 393 (1904).



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