

have a mounted specimen, trapped by Carl Lewis at the entrance of its burrow, two miles east of Durham, Washington Co. This specimen was apparently overcome by cold during the night.

[Research Paper No. 413, Journal Series of the University of Arkansas.]

University of Arkansas Museum, Fayetteville, Arkansas.

THE NOMENCLATURE AND TYPE LOCALITIES OF CERTAIN OLD WORLD MAMMALS¹

BY FRANCIS HARPER

Recent studies on some of the larger and rarer of the Old World Mammals have disclosed a surprising amount of confusion in their nomenclature. This seems to have resulted, in the main, from lack of proper attention to the type descriptions and the type localities.

About 70 names are discussed in the following pages.

DASYURIDAE

Mustela quoll Zimmermann

Iredale and Troughton (Australian Mus. Mem. 6, p. 12, 1934) endeavor to resurrect *Mustela quoll* Zimmermann (Spec. Zool. Geog. Quadr., p. 489, 1777) as the earliest valid name of the common eastern native cat of Australia, long known as *Dasyurus viverrinus* (Shaw). Zimmermann gives as a reference "Cooks Voyag. round the World in Hawkesworth's Collection. T. 3. p. 626". This reference is apparently to the first edition, in which volumes 2 and 3 are continuously paged. His meager accompanying description adds nothing to that in Hawkesworth (Account of Voyages by Byron, Wallis, Carteret, and Cook, [ed. 2,] vol. 3, p. 222, 1773):

"Of the quadrupeds . . . I can add only one more, resembling a polecat, which the natives call Quoll; the back is brown, spotted with white, and the belly white unmixed."

This description evidently applies as well (perhaps even better) to the large spotted-tailed tiger-cat, *Dasyurus maculatus* (Kerr), as to *D. viverrinus*. Under these circumstances it appears best to discard Zimmermann's *quoll* as indeterminable.

Didelphis viverrina Shaw (Gen. Zool., vol. 1, pt. 2, p. 491, pl. 111, 1800) is actually a composite species, being based in part upon "The Tapoa Tafa" of White (Jour. Voy. New South Wales, p. 281, pl. 58, 1790), and in part upon "The Spotted Opossum" of Phillip (Voy. Botany Bay, p. 147, pl. 15, 1789). The former is *Phascogale tapoatafa* *tapoatafa* (Meyer). By long usage Shaw's name *viverrina* has become restricted to the latter component. Thus *Dasyurus viverrinus* (Shaw) may be allowed to stand as the valid name of the common eastern native cat.

MACROPODIDAE

Thylogale flindersi Jones

The original reference for the Flinders Island wallaby is: *Thylogale flindersi* Jones, Mammals South Australia, pt. 2, p. 240, fig. 171 (left), 1924. Here the species is validly

¹ This communication is a by-product of an investigation of extinct and vanishing mammals, which has been sponsored by the American Committee for International Wild Life Protection and supported in part by a grant from the Penrose Fund of the American Philosophical Society.

described, though not labeled as new. This publication is listed in the supplement to *Nature* for October 25, 1924, and in the *Journal of Mammalogy*, vol. 6, p. 64, February [9], 1925. The actual date of publication could scarcely have been later than October 1, 1924.

The same name was proposed as a new species by Jones in the *Transactions of the Royal Society of South Australia*, vol. 48, p. 12, December 24, 1924. The original reference is erroneously cited from this later publication in the *Zoological Record* for 1925 (*Mammalia*, p. 54); likewise by Iredale and Troughton (*Australian Mus. Mem.* 6, p. 46, 1934).

LEMURIDAE

Microcebus rufus Wagner

Schwarz (*Proc. Zool. Soc. London* 1931, p. 403, 1931) attempted to apply this name to the eastern subspecies of *Microcebus murinus* (J. F. Miller). He remarks: "This name is based upon the *Microcèbe roux* of E. Geoffroy and is clearly applicable to the red eastern race." He also adds in a footnote: "*Microcebus rufus* Wagner, Schreber, *Säugth.*, Suppl. i., p. 291 (footnote) (1840); see also Wagner, *l. c.* p. 278 (*Microcèbe roux* Geoffr., in synonymy)." (Incidentally, the actual date of Wagner's name is 1839; cf. Sherborn, *Proc. Zool. Soc. London* 1891, p. 591, 1892).

However, Wagner's only use or mention of the name *rufus* is comprised in the following footnote on page 291: "Der *Galago madagascariensis* von Geoffroy und Desmarest ist unser *Microcebus rufus*." Thus the only possible disposition of his name would seem to be as a still-born synonym of *Galago madagascariensis* E. Geoffroy-Saint-Hilaire (1812). The latter name is placed by Schwarz himself (p. 402) in the synonymy of *Microcebus murinus murinus* (J. F. Miller).

The next available name for the eastern subspecies of Miller's dwarf lemur is apparently *Cheirogaleus smithii* J. E. Gray (*Ann. Mag. Nat. Hist.*, vol. 10, p. 257, 1842). The current name will then stand as *Microcebus murinus smithii* (J. E. Gray). The type locality, originally given merely as "Madagascar," may be restricted to "a few miles north of Fianarantsáa," central Betsileo, where the animal was reported as abundant by Shaw (*Proc. Zool. Soc. London* 1879, p. 135, 1879).

CANIDAE

Canis hodophilax Temminck

The original description of the Japanese wolf seems to have been almost completely overlooked, even by Sherborn (*Index Animalium* 1801-1850). The name *Canis hodophilax* was first published by Temminck in the *Tijdschrift voor Natuurlijke Geschiedenis en Physiologie* (pt. 5, p. 284, 1839); the type locality is Japan (*i.e.*, Hondo). The description given here, though brief, is perfectly valid nomenclaturally. Temminck furnishes a similar description in Siebold's *Fauna Japonica, Mammifères* (p. 5, 1842), and a more complete and formal description at another place (pp. 38-39, 1844) in the same work. (For the dates of the various parts of this work, see Sherborn and Jentink, *Proc. Zool. Soc. London* 1895, p. 149, 1895.) The original reference is given correctly by Schrenck (*Reisen und Forschungen im Amur-Lande*, vol. I, p. 46, 1859), but in later works it has been generally cited from page 38 in the *Fauna Japonica*. Here the species is presented as "Chien hodophile. *Canis hodopylax*." But the spelling *hodophilax* occurs not only in the original reference, but also on page 5 and on plate 9 of the *Fauna Japonica*; furthermore, the spelling of the French common name suggests that *hodophilax* was the spelling intended by Temminck for the technical name. Thus *hodopylax* may be regarded as a typographical error, as Pocock has already pointed out (*Proc. Zool. Soc. London* 1935, p. 658, 1935). It has been commonly emended to

hodophylax (e.g., by Mivart, Lydekker, Thomas, Aoki, Hatta, and Pocock); but recently Kuroda (List Japanese Mammals, p. 36, 1938) has reverted to "hodopylax."

The name *hodophilax* is evidently derived from ὁδός (trail) + φύλαξ (watcher), and the proper Latin transliteration of the Greek would have been *hodophylax*. Though Temminck's etymology is slightly at fault, his spelling of *hodophilax* in the original description and elsewhere is evidently not a typographical error, and it should therefore stand.

FELIDAE

Felis catus morea Trouessart

I. Geoffroy Saint-Hilaire (in Bory de Saint-Vincent, *Expédition Scientifique de Morée*, vol. 3, pt. 1, zool., p. 13, 1833, and atlas, ser. 3, zool., pl. 1, A, 1833) furnishes a description and a finely executed plate of "*Felis catus ferus* Lin., variété de Morée." The words "ferus Lin." on the plate are printed on a slip of paper pasted over the words "*domesticus* L." The only technical name appearing in the text is "*Felis Catus*." The specimen referred to was secured near Mt. Diaphorti, in the Peloponnesus, Greece (Morée being French for Morea or the Peloponnesus).

H. G. L. Reichenbach, in a set of colored plates, issued possibly in 1837, gives a colored figure (in reverse) of the same animal (pl. 80, fig. 639). This set of 24 plates (nos. 79-102), apparently without names or accompanying text (at least no such text is found with the set in the library of the Academy of Natural Sciences of Philadelphia), is inserted loosely (apparently in the nature of a supplement) at the back of a bound set of 78 plates, issued at Leipzig in 1836 under the title of "Praktisch-gemeinnützige Naturgeschichte der Säugethiere des In- und Auslandes, Kupfersammlung, erster Theil mit 633 Abbildungen der Raubsäugethiere." As Wood remarks (Introd. Literature Vert. Zool., p. 531, 1931), "The numerous faunal. . . . works of this important. . . . naturalist. . . . are commonly regarded with despair by the cataloguer."

According to the Catalogue of the Library of the British Museum (1913), Reichenbach had issued at Dresden and Leipzig in 1834(?) the following work: *Die vollständige Naturgeschichte des In- und Auslandes* [Sect. 1, Säugethiere, vol. 4], *Raubäugethiere*, pp. xxviii + 348, 102 col. pl. I have not seen this original edition, but the Academy of Natural Sciences of Philadelphia has a second edition of 1852, with pages xii + 398. This edition consists of text only, although the title-page states: "Mit 751 Abbildungen auf 102 Kupfertafeln." This is exactly the number of figures and plates comprised in the two combined sets mentioned above, published in 1836 and 1837(?). In this work (p. 362) Reichenbach lists "*Felis catus ferus* L. var. *e Morea*," with references to his own figure 639 of 1837(?) and to "Bory St. Vincent Exped. pl. 1. A." The words "var. *e Morea*," printed in ordinary Roman instead of in the wide-spaced type of "*Felis catus ferus*," do not form a part of the name; they are a simple Latin translation of Geoffroy Saint-Hilaire's "variété de Morée."

Nevertheless, Matschie (Sitz.-ber. Gesell. Naturf. Freunde Berlin 1895, p. 192) cites "*F. morea* Rchb." This is apparently the first appearance of the name in zoological nomenclature, but I consider it a *nomen nudum* in this place. "Rchb." can hardly be considered a sufficiently definite reference or indication to validate the name. Even if it were, Matschie would necessarily be credited with the authorship.

Trouessart (Catalogus Mammalium, p. 360, 1897) uses the name "*Felis catus* var. *morea*, Reich." Here again there is no citation of Reichenbach's work, and there is the same objection to the validation of *morea* as in the case of Matschie's citation, for there is no accompanying description. However, in the 1904 supplement (p. 273) Trouessart lists "[*Felis catus*] *morea*, Reichenb., Vollst. Naturg., Raubth., 1852; Matschie, S.-B. Ges. Naturf. Berl., 1895, p. 192." This then, may be taken as the first

valid use of the name *morea*, on the ground of a fairly adequate reference to Reichenbach's work. The original reference may accordingly be cited as: [*Felis catus*] *morea* Trouessart, Catalogus Mammalium, quinq. suppl., fasc. 1, p. 273, 1904 (ex Reichenbach, Vollständigste Naturgeschichte, Raubsäugethiere, p. 362, 1852, ex Bory de Saint-Vincent, Expédition Scientifique de Morée, atlas, ser. 3, zool., pl. 1, A, 1833). The type locality is above Dragomanou, near Mt. Diaphorti, west central Morea (Peloponnesus), Greece.

While this note may help to clear up a long-standing nomenclatural tangle, it does not presume to pass upon the taxonomic status of the Peloponnesian wildcat. This problem may be left to those who may have the requisite specimens at their disposal. It may be remarked that Miller (Cat. Mammals Western Europe, p. 463, 1912) regards a skin from Athens, Greece, as indistinguishable from *F. s. silvestris* Schreber.

Felis virgata Illiger

The earliest name for the Persian tiger is *Felis virgata* Illiger (Abhandl. K. Akad. Wiss. Berlin, 1804-11, phys. Kl., pp. 90 and 98, 1815). The brief accompanying description (p. 98) is as follows: "Der nordliche kleinere mehr graue Tiger, in Persien und am Kaspischen Meere, scheint einer besondre Art zu bilden, die ich *Felis virgata* nenne." However inadequate this description may be, it suffices to validate the name proposed by Illiger. The type locality is hereby restricted to the Province of Mazanderan, northern Persia.

Matschie (Sitz.-ber. Gesell. Naturf. Freunde Berlin 1897, p. 17, 1897) accepts *Felis virgata* Illiger as the valid name of the tiger of the Aral-Caspian region. Lydekker (Game of Europe, Western & Northern Asia, and America, p. 287, 1901) likewise accepts it. Nevertheless, a number of more recent authors, treating Illiger's name as a *nomen nudum*, or at least as indeterminable, have credited *virgata* to Matschie (cf. Satunin, Mitteil. Kaukas. Mus., vol. 4, p. 250, 1909; Pocock, Jour. Bombay Nat. Hist. Soc., vol. 33, p. 519, 1929; Ognev, Mammals of USSR and Adjacent Countries, vol. 3, p. 273, 1935).

Felis (Tigris) tigris septentrionalis Satunin (Priroda i Ochota, vol. 7, p. 5, 1904; type locality, mineral springs 12 versts west of Lenkoran, Talish, Transcaucasia) is considered valid by Satunin (Mitteil. Kaukas. Mus., vol. 4, p. 250, 1909) and by Pocock (Jour. Bombay Nat. Hist. Soc., vol. 33, p. 519, 1929), on the ground that *Felis virgata* "Matschie" (1897) is preoccupied by *Felis virgata* Nilsson (1829), the latter name having been proposed for a Norwegian lynx. Satunin (Mitteil. Kaukas. Mus., vol. 2, pp. 309-313, 1906) also maintains that Illiger's description is not applicable to the Caspian tiger, although he grants that the summer pelage of this animal is distinctly paler than that of the Bengal tiger, and that the winter pelage is dirty yellowish brown. Both Satunin and Pocock show that the stripes in some Caspian tigers are not black, as in the Bengal tiger. Pocock adds (p. 522): "It may be inferred that this [Caspian] race of tigers is not larger, possibly it is on the average somewhat smaller than the typical Indian race." Thus it is quite conceivable that Illiger may have had before him one or more Caspian or Persian tigers to which his brief description did apply.

Under these circumstances I believe that *Felis virgata* Illiger should be accepted as the original reference for the Persian tiger, while Satunin's *septentrionalis* becomes a synonym. In current usage the name will then stand as *Panthera tigris virgata* (Illiger).

Tigris longipilis Fitzinger

In describing this animal, Fitzinger (Sitz.-ber. K. Akad. Wiss. Wien, Math.-naturw. Cl., vol. 58, pt. 1, pp. 455-457, 1868) does not specify any type locality, but gives the range as follows: "Korea and Japan through northern China, Manchuria, Mongolia,

and Dzungaria north to southern Siberia, and west through northern Tatary, Bokhara, and northern Persia to Mount Ararat in western Armenia." His description was evidently based upon a specimen "im kaiserl. zoologischen Museum zu Wien," which may be regarded as the type.

The provenance of this specimen is therefore a matter of primary importance in fixing the type locality and determining the application of the name *longipilis*. If its exact provenance is not ascertainable at this late date, at least an examination of the specimen itself (if still extant) should give some clue to the approximate area of its origin. So far I have been unable to obtain any information concerning the specimen from the Naturhistorisches Museum in Wien.

Until the possibility of obtaining such information is exhausted, any attempt to arbitrarily restrict the type locality may be regarded as premature. Lydekker (Game of Europe, Western & Northern Asia, and America, p. 288, 1901) virtually makes such an attempt in referring to "the tiger of Amurland" as "the typical representative of this race [*longipilis*]." Apparently overlooking Lydekker's action, and for no very plausible reason, Pocock (Jour. Bombay Nat. Hist. Soc., vol. 33, p. 529, 1929) regards "the name *longipilis* as applicable to the tigers of the intermediate area" between Amurland and Transcaspia. Pocock also proposes (p. 527) to recognize *Felis tigris* var. *amurensis* Dode (Proc. Zool. Soc. London 1871, p. 480, 1871) as the original designation of the Manchurian tiger. In this he is followed by G. M. Allen (Mammals China and Mongolia, pt. 1, p. 487, 1938). However, I find nothing whatever in Dode's brief description (barely more than one line in length) to differentiate his animal from Fitzinger's *longipilis*.

Pending the possible receipt of additional information concerning the type of *longipilis*, I would apply the name *Panthera tigris longipilis* (Fitzinger) to the Manchurian tiger and reduce Dode's *amurensis* to synonymy.

EQUIDAE

Equus przewalskii Poliakov

The Mongolian wild horse was named *Equus przewalskii* by Poliakov (Izvestia Imper. Russk. Geogr. Obschestva, vol. 17, p. 1, 1881). It is important that the type locality should be fixed, if possible, more exactly than it is in the original description, which merely states that the type specimen was obtained by a "hunting expedition sent by M. Tihonof from the post Zaisan to the sand deserts of Central Asia, in quest of wild camels" (Poliakov, Ann. Mag. Nat. Hist., ser. 5, vol. 8, p. 19, 1881).

According to Salensky (Wiss. Resultate der von N. M. Przewalski nach Central-Asien Unternommenen Reisen, Zool., vol. I, Mammalia, sect. 2, Ungulata, no. 1, p. 2, 1902), who monographed the species, the type specimen was killed "in the steppes of eastern Dzungaria." Unless some valid objection is found, this restriction of type locality should prevail, as far as it goes, against any later and contrary restriction.

Matschie (Naturwiss. Wochenschr., vol. 18, no. 49, p. 583, 1903) describes *Equus hagenbecki* from Ebi Spring (in the Gobi Desert near the route from Kobdo to Barkul), from Njursu (near Gashun, northeast of Guchen), and from the Urungu River region (northern Dzungaria). At the same time he attempts to restrict the range of *E. przewalskii* to more easterly and southerly areas, from Zagan Nor (in the "southern" [=northeastern] spurs of the Altai, about 450 km. southeast of Kobdo) and the Baitik-Bogdo Mountains (about lat. 45° 30' N., long. 91° E.) possibly south to the Lob Nor region. Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 5, p. 7, 1916) and Schwarz (Jahrb. K. Preuss. Geol. Landesanstalt Berlin 1927, vol. 48, p. 461, 1928) reduce *hagenbecki* to the synonymy of *przewalskii*.

Lydekker's statement (1916, p. 7) regarding *przewalskii*: "typical locality Eastern Gobi, Zungaria," is, at first glance, rather incomprehensible, since the eastern Gobi

is a thousand miles from Dzungaria; but Lydekker had a remarkable propensity for confusing east and west.

Apparently the first additional specimens, after the type was obtained from an indefinite locality, were collected in 1889 at the oasis of Gashun (approximately lat. 44° 30' N., long. 90° E.), northeast of Guchen, in the desert or steppe country between the Bogdo-Ola and the Baitik-Bogdo (Wrangel, *Die Rassen des Pferdes*, vol. I, p. 2, 1908). Matschie reports (1903, p. 583) that the skull of the type of *przewalskii* is very similar to a skull from Gashun. Thus Gashun would appear to be a suitable choice for a restricted type locality, and I propose it as such. This corroborates Salensky's original restriction to the steppes of eastern Dzungaria, but makes it more explicit.

Hilzheimer (*Naturwiss. Wochenschr.*, vol. 24, no. 51, p. 812, 1909) proposes "Altai s. Kobdo" as the range of *przewalskii*, and "Urungu" as that of *hagenbecki*. In the same paper (p. 810) he also proposes to resurrect "*Equus equiferus* Pallas" as the original designation of the Mongolian wild horse, in the belief that this name had remained in complete oblivion since Pallas's time. However, he overlooks J. E. Gray's citation (*Gleanings from Knowsley Menagerie*, p. 70, 1850) of "[*Equus Caballus*] var. *Equiferus* Pallas" and Poliakov's citation (*Izvestiia Imper. Russk. Geogr. Obshchestvo*, vol. 17, p. 6, 1881) of "*Equus Equiferus*" as from Pallas. Hilzheimer also considers that the range of "*Equus equiferus typicus*" is at "Zagannor," on account of a certain agreement between Pallas's description and the characters of the wild horses occurring at Zagan Nor. He offers no evidence, however, that Pallas had been to that locality.

At this point it will be well to look into Pallas's own use of "*Equiferus*." In the *Zoographia Rosso-Asiatica* (vol. I, p. 255, 1831), under the heading of *Equus caballus*, he writes farther down on the same page: "B. *Equiferus*, Plin. Gmelin. (jun.) itin. I. p. 44, tab. 9. Pallas itin. I. p. 211, III. p. 510. tab." On page 256 "*Equiferus*" is mentioned again, and on page 260 we have "*Equiferi*." In each case the word stands quite by itself. Elsewhere (*Spic. Zool.*, p. 5, 1779) Pallas writes of "*Equi feri*." A careful study of these and analogous cases in Pallas convinces me that they are not valid examples of binomial nomenclature, but merely Latin descriptive terms or loosely quoted references. Consequently I do not believe that "*Equus caballus equiferus*" can be cited from Pallas. It is worth noting that Sherborn (*Index Animalium* 1801-1850) does not cite *equiferus* from any author. Apparently Gray (1850) was the first author to employ the name *equiferus* in a nomenclaturally valid sense, and in that case he must be regarded as the authority for the name. He introduced it as a synonym of *Equus caballus*, and it is perhaps best that it should remain in that status. Schwarz (*Jahrb. K. Preuss. Geol. Landesanstalt Berlin* 1927, vol. 48, p. 450, 1928) likewise disposes of the "*Equiferus*" of Pallas as a synonym of *caballus*. Thus Hilzheimer's attempt to apply this name to the wild horse of Zagan Nor, Mongolia, can not be considered valid. Pallas's description evidently applies to the Russian Tarpan, which is generally regarded as having received a certain admixture of blood from feral domesticated horses.

Antonius (*Verh. Zool.-Bot. Gesell. Wien*, vol. 62, pp. (64), (71), and (73), 1912, and *Naturwiss. Wochenschr.*, vol. 27, no. 33, p. 516, 1912) cites "*Equus ferus* Pallas" and makes *E. przewalskii* Poliakov a synonym. But no "*Equus ferus*" can be found in Pallas, and the suggestion of Antonius (p. (73), footnote) that "*Equiferi*" is a typographical error for "*Equi feri*" is untenable when one considers that Pallas's expression "*Equiferus*" occurs in a number of places. If this word were separated into two words, the first would be plural, and the second singular. Thus Antonius must stand as author of the present "*Equus ferus*," which, however, is preoccupied by Boddaert (*Elenchus Animalium*, p. 159, 1785). Lydekker (*Cat. Ungulate Mammals Brit. Mus.*, vol. 5, p. 6, 1916) also attempts to cite "*Equus ferus* Pallas" from the *Zoographia Rosso-Asiatica*, with total lack of justification.

Schwarz (Jahrb. K. Preuss. Geol. Landesanstalt Berlin 1927, vol. 48, p. 462, 1928), in the belief that the type of *E. przewalskii* is not an entirely pure-blooded wild animal, endeavors to restrict the name to "the wild component of the Mongolian Tarpan." In the case of a description of a composite species, it is permissible to restrict the name to a cotype representing a single species included within the composite species. It may be seriously questioned, however, whether names based upon hybrids or animals of mixed ancestry can be properly applied to any pure-bred species or subspecies. While Schwarz's action is thus of very doubtful validity, I would suggest, in the absence of any clear proof that the type specimen of *E. przewalskii* is mixed with domesticated blood, that the name be retained for the pure-bred wild animal.

Equus hemionus Pallas

The original reference for the Mongolian wild ass is: *Equus hemionus* Pallas, Nov. Comm. Acad. Sci. Imper. Petropolitanae, vol. 19, p. 394, pl. 7, 1775. The type locality is "ad Lacum Tarei Davuriae"; i.e., Tarei Nor, on the Siberian-Mongolian boundary, about lat. 50° N., long. 115° E. Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 5, p. 11, 1916) is entirely in error in giving "Altai" as the type locality. It was perhaps this error that led Andrews (Natural History, vol. 24, p. 153, 1924) to believe that his encounter with the species in the central Gobi "extended the known range . . . several hundred miles to the east." Schwarz also (Jahrb. Preuss. Geol. Landesanstalt Berlin 1927, vol. 48, p. 459, 1928) is in error in giving "Dalai Nor" as the type locality.

Equus onager castaneus Lydekker (Novit. Zool., vol. 11, no. 2, p. 590, pl. 18, 1904) was based upon a captive specimen living at Woburn Park, England, in 1904; its provenance was "said to be Kirghis-Nor, Kobdo, Western Mongolia," but Lydekker admitted later (Horse and its Relatives, p. 183, 1912) that "the locality is doubtful." The practice of basing names upon living captives, and especially upon those of uncertain origin, has been appropriately criticized by Hollister (U. S. Nat. Mus. Bull. 99, pt. 1, p. 150, 1918). Schwarz (Zool. Garten, n. F., vol. 2, nos. 4-6, p. 92, 1929) relates *castaneus* to the synonymy of *Asinus hemionus hemionus* (Pallas), and this is probably the most satisfactory disposition of the name.

Lydekker (Proc. Zool. Soc. London 1904, vol. 1, pp. 431-432, pl. 27, 1904) describes and figures, under the name of *Equus hemionus* Pallas, a captive specimen living at Woburn Abbey, England, and "stated to have been obtained as a colt in Kobdo, north-west of the Gobi Desert." Lydekker refers to it later (Novit. Zool., vol. 11, no. 2, p. 587, 1904) as a "specimen from north-eastern [=northwestern] Mongolia." He then adds: "The exact locality where this particular specimen was obtained (by the members of an expedition sent out by Mr. Carl Hagenbeck, of Hamburg), is the neighbourhood of Lake Balkash in Central Kobdo, north-western Mongolia, a spot lying east-north-east of Tarbogatai, the well-known hunting locality." It is difficult to comprehend how such a chaotic statement of locality could have been made, for Lake Balkash is in Russian Turkestan at a distance of approximately 600 miles from Kobdo, Mongolia. Kobdo, which was visited by the Hagenbeck expedition, is doubtless the locality that was meant.

Without any examination of the above-mentioned specimen, but merely on the basis of Lydekker's description and plate, Matschie (in Futterer, Durch Asien, vol. 3, pt. 5, Zoologie (Nachtrag), p. 23, 1911) proposes for it the name of *Equus (Asinus) hemionus bedfordi*. This solitary and apparently not fully adult specimen, in comparison with typical *hemionus* from northeastern Mongolia, has a general color of "pale sandy fawn" rather than of reddish yellow, and isabelline rather than whitish light areas. In general, however, it appears to be very similar to the wild asses of the central Gobi, of which Andrews (Natural History, vol. 24, pp. 152-156, 1924) presents such effective photographs.

Schwarz (Zool. Garten, n. F., vol. 2, nos. 4-6, p. 91, 1929) recognizes *bedfordi* as the name of the Transcaspian wild ass, but apparently under a misconception as to the type locality. For he extends the range of *bedfordi* eastward "to the western slope of the Altai. There begins the range of the Mongolian chigetai (*A. h. hemionus*)."
Thus he assigns to *bedfordi* a range that does not include the type locality, which is Kobdo, northwestern Mongolia. Furthermore, if the animal of northwestern Mongolia should prove to be distinct from typical *hemionus*, the name *castaneus*, with seven years' priority over *bedfordi*, would necessarily be applied to it, provided the type locality actually is Kirghis-Nor.

For the present, I see no choice but to place *bedfordi* Matschie in the synonymy of *hemionus* Pallas. For the further elucidation of this question, there is great need of wild-killed material from the Kobdo region.

I readily agree with Schwarz (Zool. Garten, n. F., vol. 2, nos. 4-6, p. 92, 1929) in disposing of *Equus (Asinus) hemionus luteus* Matschie (in Futterer, Durch Asien, vol. 3, pt. 5, Zoologie (Nachtrag), p. 24, 1911) as another synonym of *hemionus* Pallas. The type locality is "in der Nähe des Surin-gol, zwischen Chami und Sut-schou"; more exactly, it appears to lie 75-80 miles northwest of Surin-gol or Bulundsr River, along the route through the Gobi Desert between Hami and Suchow—at about lat. 41° 12' N., long. 96° 8' E.

The disposition suggested for the above-mentioned names leaves *Asinus hemionus hemionus* (Pallas) applicable to the wild asses of all Mongolia and perhaps of northern Chinese Turkestan as well.

Equus (Asinus) hemionus finschi Matschie

The proper name of the Transcaspian wild ass has long been a matter of uncertainty. This animal has generally been regarded as identical with the Mongolian *Asinus hemionus hemionus* (Pallas), but has been distinguished by Matschie and by Schwarz.

Matschie (in Futterer, Durch Asien, vol. 3, pt. 5, Zoologie (Nachtrag), p. 24, 1911) proposes *Equus (Asinus) hemionus finschi* on the basis of two specimens from the Zaisan Nor region in the former Province of Semipalatinsk. The type locality is "nordöstlich vom Saisan-nor." This subspecies is briefly characterized as reddish salmon, with a slight tinge of gray; the lips are white; the whitish of the under parts extends well up on the flanks; the dark vertebral stripe continues on to the base of the tail.

Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 5, p. 11, 1916) overlooks Matschie's paper.

Schwarz (Zool. Garten, n. F., vol. 2, nos. 4-6, p. 91, 1929) considers *Equus (Asinus) hemionus bedfordi* Matschie synonymous with *finschi*, and chooses *bedfordi*, on the basis of page priority, as the valid name of the Transcaspian wild ass. However, this action was evidently taken under misapprehension as to the type locality of *bedfordi*, which I prefer to regard for the present as a synonym of *A. h. hemionus* (Pallas).

If the Transcaspian animal is to be distinguished from the Mongolian subspecies on the one hand, and from the Persian subspecies on the other hand—and this seems quite reasonable from zoogeographical considerations—it should evidently be known as *Asinus hemionus finschi* (Matschie).

Equus onager Boddaert

Equus onager, as the name of the North Persian wild ass, has been commonly cited as from Pallas (Acta Acad. Sci. Imper. Petropolitanae 1777, pt. 2, pp. 258-277, pls. 11-12, 1780). Unfortunately, no such binomial name occurs in this or other works of Pallas, who used "Onager" only as a common name. Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 5, p. 12, 1916) ascribes the use of *E. onager* also to "Schreber,

Säugthiere, pl. ccciii, 1778." This use, if valid, would antedate Pallas. But Schreber's plate (CCCXII, not CCCIII) is labeled "*Equus Asinus* Linn.," followed on the line below by "Onager," which may be regarded as a common name. Sherborn (Index Animalium 1758-1800, p. 694, 1902), Matschle (in Futterer, Durch Asien, vol. 3, pt. 5, Zoologie (Nachtrag), p. 19, 1911), and Antonius (Proc. Zool. Soc. London 1937, vol. 107, ser. B, pt. 4, p. 559, 1938) ascribe *E. onager* to Zimmermann (Geogr. Gesch. Menschen, vol. 2, p. 80, 1780), but Zimmermann merely cites a polynomial from Brisson.

Apparently the next name to be considered is "*Asinus ferus* sive Onager auctorum," employed by Hablitzl (Neue Nord. Beyträge, vol. 4, p. 88, 1783). Schwarz (Zool. Garten, n. F., vol. 2, nos. 4-6, p. 90, 1929) evidently does not consider this a technical name; and perhaps we may best dispose of it as merely a Latin descriptive term from the ancient authors. (Other names in Hablitzl's paper, that are genuinely new, are labeled "m." (= mihi).) Hablitzl's description is of two living captives, male and female, from Kasbin, northwestern Persia—the same specimens that had been described by Pallas (as Onager) in 1780.

Boodaert's description of his [*Equus*] *Onager* (Elenchus Animalium, p. 160, (1784) 1785) is apparently not completely diagnostic, but his references are: "Pall[as]. *neue Nord. Beitr.* II. p. 22. tab. 2. *Ane Sauvage*. Wild Ass or Koulan. Penn[ant]. quadr. p. 8. n. 3." Pallas's description and plate represent the animal from Kasbin, northwestern Persia. Pennant took his description from Pallas; he also mentioned Kasbin as one of the localities in the wide range of the wild ass, but he did not include Mongolia or Siberia. The range assigned by Bodaert ("Habitat in desertis Argunis") is therefore erroneous; the Argun steppes near Tarei Nor, on the Siberian-Mongolian boundary, constitute the type locality of *Equus hemionus* Pallas (1775). Hablitzl wrote (1783, p. 93) that the particular habitat of the wild ass or onager is the mountains about Kasbin; this may be regarded as the corrected type locality of *Equus onager* Bodaert. The current name of the North Persian wild ass will stand as *Asinus hemionus onager* (Bodaert), as Schwarz (1929, p. 90) has already pointed out.

Asinus onager Hamilton Smith (Jardine's Naturalist's Library, vol. 20, Mammalia, Horses, p. 307, pl. 18, 1841) is doubtless a synonym as well as a homonym.

Asinus hamar Hamilton Smith

More than a hundred years ago Sir Robert Ker Porter made an unsuccessful chase after a wild ass in the northern part of the Province of Fars, Persia, between Yezdikhast and Shulgastan. He described the animal thus (Travels in Georgia, Persia, Armenia, Ancient Babylonia, etc., vol. 1, pp. 459-460, 1821):

"He appeared to me to be about ten or twelve hands high; the skin smooth, like a deer's, and of a reddish colour; the belly and hinder parts partaking of a silvery grey; his neck was finer than that of a common ass, being longer, and bending like a stag's, and his long legs beautifully slender; the head and ears seemed large in proportion to the gracefulness of these forms. . . . The mane was short and black, as was also a tuft which terminated his tail. No line whatever ran along his back, or crossed his shoulders, as are seen in the tame species with us."

A few days later, along his route to Shiraz, Porter (1821, p. 461) killed a specimen, and from it completed his sketch, which he reproduced as plate 11. He applied no technical name to the animal.

In 1841 Hamilton Smith (Jardine's Naturalist's Library, vol. 20, Mammalia, Horses, p. 351, pl. 19) based the name *Asinus hamar* on Porter's description and plate. This name appears on Hamilton Smith's plate 19 (which is obviously a copy of Porter's plate 11), but not in the near-by text (pp. 311-314), which is rather vague as to both characters and range. He states that the Hamar "was first figured by Sir R. Kerr Porter," but also mentions Northern Africa, Arabia, and Mesopotamia as apparently

parts of its range. The plate bears the notation "native of Africa," but so does the next plate (20) of *Asinus hemionus*, which is referred to in the text only as an Asiatic form. In a "Synopsis of the Equidae" at the end of the volume (p. 351), *A. hamar* is listed as "The Wild Ass of Persia."

From the foregoing it is safe to conclude that the type locality is where Porter first met with the animal, in the northern part of Fars, between Yezdikhast and Shulgastan. If George (Ann. Sci. Nat., ser. 5, zool., vol. 12, p. 34, 1869) purports to quote from Porter, he is mistaken as to the locality when he states that the animal lives in troops in the deserts of the Province of Fars, between Shiraz and the Persian Gulf.

Apparently no later specimen of an Asiatic wild ass has turned up, corresponding satisfactorily with Porter's description and plate, especially in the absence of a dorsal stripe. In this connection it is significant that St. John, who was familiar with the wild ass in the very part of Persia where Porter met with it, says (in Blanford, Eastern Persia, p. 85, 1876): "All of twenty or more specimens that I have seen from Western Persia were undoubtedly *E[quus] onager*." Perhaps Porter's description was erroneous in the matter of the dorsal stripe, or perhaps it was based upon an individual variation.

Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 5, p. 14, 1916) places *hamar* in the synonymy of *Equus hemippus* L. Geoffroy-Saint-Hilaire (1856), of the Syrian Desert. According to the available descriptions and figures, *hamar* probably resembles *hemippus* more closely than it does any other known form of this group. In this connection it may be recalled that Porter (1821, p. 460) refers to his animal as differing "in nothing" from that of the lower Tigris-Euphrates Basin. If, however, the two names should prove to be synonymous, *hamar*, with fifteen years' priority over *hemippus*, would be the valid one.

On the other hand, Schwarz (Zool. Garten, n. F., vol. 2, pp. 88, 94, 1929) places *hamar* in the synonymy of *Equus khur* Lesson (1827), of India.

Until topotypes of *Asinus hamar* can be secured and examined, it seems impossible to make any satisfactory disposition of the name. It is somewhat doubtful, however, if any wild asses remain at the type locality.

Asinus taeniopus Heuglin

This name was proposed by Heuglin (Petermann's Mittheilungen 1861, no. 1, pp. 15, 19, 1861) on the basis of a living animal, of no more exact provenance than the Red Sea. Thus there is an inevitable suspicion as to possible semidomestication or hybridization. There is apparently no evidence that the type was preserved. Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 5, p. 38, 1916), in recognizing it under the subspecific name of *Equus asinus taeniopus*, attempts, for some unexplained reason, to designate the "Hawash district of Abyssinia" as the type locality. On the other hand, Neumann (Zeitschr. f. Säugetierkunde, vol. 10, pp. 152-153, 1935) suggests the region south of Zeyla, British Somaliland, whence he records a specimen agreeing in some particulars with Heuglin's description. At the same time Neumann grants that there is frequent crossbreeding between wild stallions and female domestic asses. More than half a century ago Menges (Petermanns Mitteilungen, vol. 31, no. 12, p. 455, 1885) expressed the opinion that the animals exhibited in Europe as "*Equus taeniopus*" were crosses between wild asses and domestic asses.

"Heuglin... gives as type of his '*Asinus taeniopus*' a plate of a totally different ass [from *A. asinus somaliensis* Noack], showing an extraordinarily broad and long black shoulder-stripe, very strongly marked limbs, and a yellow ground-colour such as I have never seen in an ass of African origin. For me there can be no doubt that that plate was the work of an incompetent painter from the description of an inexact recol-

lection, and therefore by no means of scientific value. Owing to that the 'Heuglin's wild asses,' shown in many Zoos . . . are very doubtful beasts, at the utmost of feral, but certainly not of true, wild origin." (Antonius, Proc. Zool. Soc. London 1937, vol. 107, ser. B, pt. 4, p. 561, 1938.)

Under all these circumstances it seems best to regard the name *taeniopus* as indeterminate. Matschie proposed to discard it as long ago as 1894 (Zool. Garten, vol. 35, no. 3, p. 73, footnote).

For the present, therefore, the wild asses of eastern Ethiopia and southern Eritrea may be included at least provisionally with those of British Somaliland under the name of *Asinus asinus somaliensis* Noack.

Incidentally, the original reference for the latter subspecies is *A[sinus] taeniopus* var. *Somaliensis* Noack, Zool. Garten, vol. 25, no. 4, p. 101, 1884. Allen (Bull. Mus. Comp. Zool., vol. 83, p. 563, 1939) is in error in citing *somaliensis* from a later source and in considering it a *nomen nudum*.

RHINOCEROTIDAE

Rhinoceros lasiotis Buckland

The name *Rhinoceros lasiotis* is currently credited to P. L. Sclater (Proc. Zool. Soc. London 1872, p. 493, pl. 23, November, 1872). There appear, however, to be at least two earlier and valid uses of this name by Sclater (Nature, vol. 6, p. 519, October 24, 1872; Ann. Mag. Nat. Hist., ser. 4, vol. 10, p. 299, October, 1872). At the meeting of the Zoological Society on March 19, 1872, he had announced the arrival of the living animal, but had not bestowed the name *lasiotis* upon it at that time; this name was inserted in the published account of the meeting, which did not appear till November, 1872. In the meantime, "in a communication made to Section D of the British Association at Brighton on the 16th of August . . . I . . . proposed to call it *Rhinoceros lasiotis*" (Sclater, Proc. Zool. Soc. London 1872, p. 790, 1873). To this Sclater adds in a footnote: "See 'Times' of August 19, p. 5; and 'Athenaeum,' August 24, p. 243; also 'Nature,' October 24, p. 518."

Prior to the appearance in print of Sclater's own use of *lasiotis*, Frank Buckland described in "Land and Water" for August 10, 1872, under the name of *R. sumatrensis*, a hairy rhinoceros from "Malacca"—evidently the one that became the type of *Ceratotherinus niger* J. E. Gray (1873). He then adds the following paragraph:

"It will be remembered that I described another hairy rhinoceros sometime since, but it appears that this arrival is the true hairy rhinoceros. The other beast, which comes from Chittagong, therefore, is a new species, hitherto unknown and undescribed. It has been named by Dr. Sclater *Rhinoceros lasiotis*, or the hairy-eared rhinoceros. It has a tuft of hair like a curtain fringe round the edge of each ear. The hair on the body of this animal is like the hair on a baby's head, whereas the hair on the last arrival is stiff like a hedge hog's bristles."

The above appears to be unquestionably the original reference for *Rhinoceros lasiotis*. Since Sclater is evidently not responsible for the accompanying reference and description, Buckland must, it seems (under Article 21 of the International Rules), be credited with the authorship. The original reference may then be cited as: *Rhinoceros lasiotis* Buckland, Land and Water, August 10, 1872. In current usage the name will stand as *Dicerorhinus sumatrensis lasiotis* (Buckland).

The type locality is not exactly the town of Chittagong, Bengal, as might be inferred from Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 5, p. 51, 1916). The type specimen was captured south of Chittagong, at a distance from that point marched by elephants in about 16 hours (Sclater, Proc. Zool. Soc. London 1872, p. 493, 1872).

CAMELIDAE

Camelus bactrianus ferus Przewalski

This name for the wild Bactrian camel was employed first in the original Russian edition of Przewalski's "Third Journey into Central Asia" (p. 43, pl. facing p. 42, 1883). The author specifies no type locality, but gives the range (p. 44) as "from Tarim, Lob-nor, and Hami to southern Dzungaria; from Guchen and Manas to northwestern Zaidam, Tibet." He refers here to his previous description of several specimens (From Kulja, across the Tian Shan to Lob-nor, pp. 93-94 of the English edition, 1879). Three of these specimens were from "the border of the Kum-tag"; the fourth was from "the lower Tarim." Accordingly I suggest, as the restricted type locality, the border of the Kum-tag, east of Lob-nor and north of the Altyn-tag, Chinese Turkestan.

MOSCHIDAE

Moschus moschiferus Linnaeus

The type locality of *Moschus moschiferus* Linnaeus (Syst. Nat., ed. 10, vol. 1, p. 66, 1758) is "Tataria versus Chinam." According to G. M. Allen (Amer. Mus. Novit., no. 430, p. 8, 1930), "Linnaeus refers only to Ray, whose account is a transcription of that by Grew of a specimen then in the museum of the Royal Society of London." As a matter of fact, Linnaeus gives several other references, but none of them seem to furnish any clear information tending to fix the type locality.

The range of the typical subspecies is given by Flerov (C. R. Acad. Sci. URSS, 1928 A, no. 24, p. 515, 1929) as "mountains of Western and Central Siberia." Allen remarks (1930, p. 7) that the locality mentioned by Linnaeus is a most indefinite one, "but perhaps to be interpreted somewhat as Flerov has done." He adds (pp. 7-8): "The first musk deer to reach Europe was perhaps the one mentioned by Marco Polo. . . . He mentions it as abundant in the Altai and northern Chinese country, especially about Si-fan." On this clue, I venture to propose the Russian Altai as the restricted type locality of *moschiferus*.

In a general account of musk deer preceding his "Descriptio Moschi sibirici," Pallas (Spicil. Zool., fasc. 13, pp. 14-16, 1779) gives the general Asiatic range of these animals. However, in the particular account of *Moschus sibiricus* (which is introduced on p. 29 of the work just cited), the only locality that Pallas seems to mention (1779, p. 32) is "above Abakan," one of the upper tributaries of the Yenisei. Accordingly it seems quite necessary to consider this the type locality; and thus *sibiricus* doubtless becomes a synonym of *moschiferus*.

In view of the foregoing, Flerov's proposal (1929, p. 516) to restrict the type locality of *sibiricus* to "Eastern Siberia" must be considered invalid. Since Allen (1930, p. 7) regards the differences between eastern and western Siberian specimens as "unimportant," the name *moschiferus* may be applied, for the present at least, to the animals of both regions.

The last statement is not intended to affect the status of *Moschus moschiferus arcticus* Flerov (1929, p. 516; type locality, Mount Toulaja, 460 km. north of Verkhoyansk, Siberia).

CERVIDAE

Cervus maral var. *songarica* Severtzov

The Tian Shan wapiti was originally described as [*Cervus maral*] var. *songarica* by Severtzov (Izvestiia Imper. Obshchestvo Liub. Estestv., Antrop. Etnogr. Moscow, vol. 8, pt. 2, p. 109, 1873; English translation in Ann. Mag. Nat. Hist., ser. 4, vol. 8, p. 386, 1876). It is currently known as *Cervus canadensis songaricus*. The three male specimens, on which Severtzov's description was chiefly based, were obtained in the

Za-ilisky (Transilian) Alatau, east of Vyernyi, on the summits of Turgeni, near the eastern portion of Issik-kul, Semiretchie, Russian Turkestan (Severtzov, 1873, p. 103; 1876, p. 377). A fourth specimen (a female) was obtained in the fir-woods of Shamsi in the Alexandrovsk Mountains. Obviously the type locality, if restricted, must be one of the two localities just mentioned, and the first one is here selected. Lydekker (Cat. Ungulate Mammals Brit. Mus., vol. 4, p. 136, 1915) is clearly in error in attempting to designate as type locality "the Zungarian Tien-Shan, probably in the neighbourhood of Kulja."

[To be continued.]

American Committee for International Wild Life Protection, Philadelphia, Pa.

A NEW MOLE FROM ANNAM

BY GERRIT S. MILLER, JR.

A mole collected in Annam by Mr. E. Poilane of the "Institut des Recherches Agronomiques de l'Indochine" represents a species related to the Siamese *Talpa klossi* Thomas, the Chinese *T. longirostris* A. Milne-Edwards and the Indian *T. micrura* Hodgson, but obviously distinct from all of these animals. I propose to describe it as:

Talpa parvidens sp. nov.

Type specimen.—Adult female in alcohol (skull removed) no. 258342, United States National Museum. Collected in forest at the agricultural station of Blao, "Délégation de Djyurinh", near the upper Donai River, Annam, French Indo China, June 13, 1933, by E. Poilane.

Specific characters.—A member of the group of southeastern Asiatic species of *Talpa* characterized, as compared with *T. europaea*, by slenderness of rostrum, and somewhat laterally opening nostrils. Differs from *Talpa micrura* Hodgson and *T. klossi* Thomas in its more slender skull and noticeably smaller cheekteeth, from *T. longirostris* in its much shorter tail.

External features.—Apparently the external form differs little from that of the related species. Tail about as well developed as in *Talpa klossi* (therefore considerably larger than in *T. micrura* but much smaller than in *T. longirostris*, the tail of which resembles the tail of *T. europaea*); longest tail hairs (10 mm) slightly exceeding length of tail itself (8 mm). Muzzle (as in *T. klossi*, *T. micrura* and *T. longirostris*) more elongated than in *Talpa europaea*, the nostrils opening somewhat laterally instead of directly forward.

Skull.—The skull is distinguishable from skulls of *Talpa klossi* and *T. micrura* by its general slenderness, in particular by the slenderness of the portion that lies in front of the coronal suture, when viewed from above, and by the narrowness of the palate when viewed from below. Ratio of palatal breadth to palatal length 52.9 as compared with 65.8 in *Talpa klossi* (no. 256898 U. S. N. M.) and 65.2 in *T. micrura* (no. 260741) respectively.

Teeth.—Relatively to the size of the skull the cheekteeth of the Annam mole are distinctly smaller than those of *Talpa klossi* and *T. micrura*; pm^2 and pm^3 single rooted; pm^4 with a well-developed anterior cingulum cusp (absent in *Talpa klossi* no. 256898 U. S. N. M., and *T. micrura* no. 260741; usually absent or poorly developed in *Talpa europaea* and its allies). As compared with the teeth of *Talpa longirostris* from Szech-