MAMMALIAN SPECIES No. 779, pp. 1–5, 3 figs.

Vormela peregusna. By Wanda A. Gorsuch and Serge Larivière

Published 20 December 2005 by the American Society of Mammalogists

Vormela Blasius, 1884

Mustela Güldenstädt, 1770:441. Type species Mustela peregusna. Putorius Cuvier, 1817:148. Type species Mustela sarmatica Pallas.

Vormela Blasius, 1884:9. Type species Mustela sarmatica Pallas.

CONTEXT AND CONTENT. Order Carnivora, family Mustelidae, subfamily Mustelinae. *Vormela* is monotypic.

Vormela peregusna (Güldenstädt, 1770) Marbled Polecat

- Mustela peregusna Güldenstädt, 1770:441. Type locality "habitat in campis apricis desertis Tanaicensibus" (Güldenstädt, 1770: 454); as "U.S.S.R., Rostov Obl., steppes at lower Don River" (Honacki et al. 1982:264).
- Mustela sarmatica Pallas, 1771:453. Type locality "along the Volga River, southern Russia."

Vormela sarmatica: Blasius, 1884:9. Name combination.

Vormela koshewnikowi Satunin, 1910:59. Type locality "Ashabad, near Persian border, Russian Turkestan."

- Vormela tedshenika Satunin, 1910:60. Type locality "Oase Tedschen, Russian Turkestan."
- Vormela negans Miller, 1910:385. Type locality "Ordos desert, about 100 miles N. of Yulingfu, Shensi," China.

Vormela peregusna: Miller, 1910:385. First use of current name combination.

- Vormela peregusna ornata Pocock, 1936:721. Type locality "Neighbourhood of Lake Baikal, Siberia." Likely in error, as the species does not occur there (Stroganov 1969).
- Vormela peregusna obscura Stroganov, 1948:129. Type locality "Semireche, Kopalki district, Kirghizia."

CONTEXT AND CONTENT. Generic context given above. Six subspecies are recognized (Ellerman and Morrison-Scott 1951; Pocock 1936; Stroganov 1969).

- V. p. alpherakyi Birula, 1910:333. Type locality "Transcapia, near Ashabad;" koshewnikowi Satunin and tedshenika Satunin are synonyms.
- V. p. euxina Pocock, 1936:718. Type locality "Malcoci, Dobrudscha in Rumania."
- V. p. negans Miller, 1910:385, see above.
- V. p. pallidor Stroganov, 1948:129. Type locality "Semirech'e, Kopal County," = Taldy-Kurgan.
- V. p. peregusna (Güldenstaedt, 1770:441), see above; sarmatica (Pallas) is synonym.
- V. p. syriaca Pocock, 1936:720. Type locality "Tiberias."

DIAGNOSIS. The marbled polecat (Fig. 1) can be differentiated from other mustelids by its dark brown head with a white band across the forehead, black band over the eyes, large white ears, yellowish color with irregular and dark mottling, and long, fluffy tail (Harrison 1968).

GENERAL CHARACTERS. The marbled polecat is a small (length of head and body, 29–35 cm), marten-like mustelid with yellow pelage mottled with numerous irregular reddish or brown spots. Muzzle is short, and ears are large and very noticeable because of the white color. Tail is long and hairy, but overall pelage is short (guard hairs <13 mm in length, underfur ca. 5 mm) and smooth (Novikov 1962). Tail is laterally compressed with hair lying on a vertical plane (Roberts 1977). Short limbs end with long, strong claws (Roberts 1977). Rhinarium is black and naked. Eyes are well developed; vibrissae are scanty and long (<33 mm). Ears are large and rounded (Harrison 1968).

Dorsal fur is dark brown interspersed with buff yellowish irregular lines and patches. A yellowish white stripe extends laterally to the forehead. Tail is dark brown, with a dominant buff yellowish band in the midregion. Tip of tail is black with longer hairs. Limbs and venter are blackish brown (Özurt et al. 1999). Face is marked with black and white, with a wide black stripe across eyes. Fur around mouth is white. Pelage color varies among individuals (Novikov 1962).

Measurements (in mm) of 3 female marbled polecats from Arabia were: length of head and body, 450, 477, -; length of tail, 175, 178, -; length of hind foot, 34, 39, 33; length of ear, 18, 27, - (Harrison 1968). In Israel, 6 males and 7 females averaged (SE), respectively, length of head and body, 326 (6), 308 (2); length of tail, 168 (3), 155 (2); and length of hind foot, 42.3 (0.1), 35.0 (0.6-Ben-David 1988). Measurements (in mm) from 2 males and 2 female from Bulgary were, respectively length of head and body, 320, 310, 292, 288; length of tail, 175, 165, 145, 153; length of hind foot, 42, 42, 40, 35; and length of ear, 27, 28, 21, 20 (Atanassov 1966). The same measurements from 2 individuals from Lebanon were, respectively, length of head and body, 294, 299; length of tail, 178, 182; length of hind foot, 39, 42; and length of ear, 27, 30 (Lewis et al. 1968). One female from Egypt measured total length, 442; length of tail, 201; length of hind foot, 41; and length of ear, 27 (Saleh and Basuony 1998).

Body mass (in g) of 2 males and 2 females from Bulgaria was 330, 520, 317, and 295, respectively (Atanassov 1966). In Siberia, mass is 610–715 g for males and 450–600 g for females (Stronganov 1969). Males trapped in Israel had a body mass of 320–493 g; female mass was 275–310 g (Ben-David 1988). A captive adult male weighed 620 g (Roberts 1977).

Skull (Fig. 2) is short and broad. Rostrum is shorter than braincase; nasal bones are short. Postorbital process is strong, and interorbital constriction is wide. Sagittal and lamboidal crests are present and well developed in adults (Stroganov 1969). Zygomatic arches are robust. Tympanic bullae are triangular with angular surfaces (Novikov 1962). The hamular process of the pterygoid projects caudally to form an osseous connection with the tympanic bulla (Stroganov 1969). The palate does not have a caudal notch. Mandible is short and slender (Özurt et al. 1999).

Skull measurements (in mm) of 2 males and 1 female marbled



FIG. 1. Adult *Vormela peregusna*. Photograph courtesy of M. Ben-David.



FIG. 2. Dorsal, ventral, and lateral views of cranium collected in USSR-Kazakhstan (#183358) and lateral view of mandible collected in Mongolia (#60103) of *Vormela peregusna* (sex and age unknown, American Museum of Natural History). Greatest length of cranium is 58 mm. Greatest length of mandible is 40 mm.

polecats from Arabia were, respectively, greatest length of skull, 55, 51, 53; condylobasal length, 55, 49, 51; and zygomatic breadth, 32, --, 30 (Harrison 1968). The same measurements (in mm, SD) for 5 marbled polecats of unknown sex averaged 48.8 (2.9), 47.2 (3.5), and 28.3 (1.1), respectively (Harrison 1968). Condylobasal length (in mm, SD) from 3 males and 2 females from Bulgary was 53.5 (0.8) and 49.8 (0.6), respectively (Atanassov 1966). Skull measurements (in mm) of 2 specimens (1 F, 1 unknown) from Egypt are, respectively, greatest length of skull, 53, 54; condylobasal length, 52, 53; zygomatic breadth, 32, 33; breadth of braincase, 25, 26; interorbital constriction, 12, 13; and length of tympanic bullae, 15, 15 (Saleh and Basuony 1998). Skull measurements (in mm, SD) from 7 males and 10 females from various localities (Pocock 1936) are, respectively, condylobasal length, 57 (2.8), 52 (2.1); zygomatic breadth, 35 (2.4), 31 (1.5); postorbital width, 11 (0.6), 11 (1.2); interorbital width, 16 (1.6), 14 (1.3); maxillary width, 15 (1.3), 14 (0.8); and length of mandible (6 females and 9 males), 35 (1.6), 33 (1.1).

DISTRIBUTION. The marbled polecat occurs from southeast Europe to Russia, Bulgaria, Romania, Asia Minor, Lebanon, Syria, Israel and Palestine, Iran, Afghanistan, northwestern Paki-



FIG. 3. Distribution of *Vormela peregusna*, modified from Corbet and Hill (1992), MacDonald and Barrett (1993), Nader (1991), Schreiber et al. (1989), and Stroganov (1969): 1, *V. p. alpherakyi*; 2, *V. p. euxina*; 3, *V. p. negans*; 4, *V. p. pallidor*; 5, *V. p. peregusna*; 6, *V. p. syriaca*.

stan, Yugoslavia, and Mongolia and China and north to Maritime, Lower Volga, Kazakhstan, and Altai Steppes in Siberia (Fig. 3; Bodenheimer 1935; Harrison 1968; Kryštufek 2000; Lewis et al. 1968; Milenković et al. 2000; Novikov 1962; Özurt et al. 1999; Qumsiyeh et al. 1993; Rifai et al. 1999; Stroganov 1969). Precise distribution is available for the Povolzh'e and Volga–Ural River region of Russia (Iljin et al. 1996), Pakistan (Roberts 1977), Israel (Ben-David 1988), and Yugoslavia (Milenković et al. 2000). Vormela pereguana was recently recorded on the Sinai Peninsula, Egypt (Saleh and Basuony 1998).

Marbled polecats were present in the Hula and Poleg Nature Reserves in Israel (Ben-David 1988). The last record of a marbled polecat in the Cernomora Nature Reserve of Ukraine was in 1964. The marbled polecat has also been recorded in the Sevan National Park and Ag-Helsk Nature Reserve. In Bulgaria, *V. p. peregusna* has been recorded in the Ropotamo River National Park and the Srebarna Pelican Reserve. No records exist from other reserves in the marbled polecat's range (Schreiber et al. 1989).

FOSSIL RECORD. Vormela, which includes the fossil genus Pliovormela, is known from the Pliocene of Eurasia (McKenna and Bell 1997). The late Pliocene to early Pleistocene species Vormela petenyii is considered ancestral to V. peregusna (Spassov 2001). Remains of V. peregusna occur in Plio-Pleistocene deposits in Eurasia (Spassov and Spiridonov 1993), including late Pleistocene localities in Azerbaidjan (Binagady fauna) and Palestine (Kurtén 1968).

FORM AND FUNCTION. The marbled polecat has short but strong limbs. Forefeet are larger than hind feet, and claws on forefeet are longer than those of hind feet: forefeet claws are 7.4– 16.7 mm in length (Stroganov 1969). Forefeet are used for digging out burrows and prey (Harrison 1968).

Dental formula is i 3/3, c 1/1, p 3/3, m 1/2, total 34 (Harrison 1968). Teeth are sharp (Harrison 1968). Measurements (in mm) of the digestive tract of 2 male and 2 females from Bulgaria are, respectively, greatest length of stomach, 71, 69, 67, 69; greatest width of stomach, 18, 18, 19, 18; and length of colon, 100, 94, 84, 86 (Atanassov 1966).

Males possess a well-developed os penis that is slightly curved in the distal 3rd. Base of bone is rough and compressed laterally. A well-marked groove is present along distal part of ventral side. No groove is present on basal part of ventral region (Ognev 1935). Baculum length is 36.9–39.2 mm (Novikov 1962). Females have 12 mammae: 8 abdominal and 4 inguinal (Harrison 1968).

ONTOGENY AND REPRODUCTION. Mating occurs from March to early June (Atanassov 1966; Ben-David 1998; Harrison 1968). Pregnant females were observed January, February, and May (Heptner and Naumov 1974). In captivity at Tel-Aviv University, marbled polecats gave birth during late January to mid-March; in Israel in the field, estimated date of birth ranges from early February to early March (Ben-David 1998). In Kazakhstan and central Asia, marbled polecats give birth in February or March (Stroganov 1969).

Allometric relationships estimate gestation length of ca. 45 days (Ben-David 1998), but recorded gestation length is long and variable from 243 days to 327 days (Ben-David 1998). In Russia, gestation lasts for ca. 2 months (Novikov 1962). Delayed implantation times parturition to occur during favorable environmental conditions. In Israel, warm nights, which are correlated with early rains, cause early green-up (and early availability of small rodents), which shortens the period of delayed implantation, whereas cool nights (i.e., later green-up and delay in food availability) lengthens the period of delayed implantation (Ben-David 1998).

Litter size is 4–8 (Harrsion 1968; Novikov 1962; Stroganov 1969). In captivity, the size of 13 litters ranged from 1 to 8 cubs, and the sex ratio (male:female) was 1:1.1 (Ben-David 1998).

The low weight, altricial condition, and slow postnatal development of neonatal marbled polecats indicate that postimplantation development is short (Ben-David 1998). In captivity, cubs eat solid food before their eyes open, and deciduous canines are shed after full eruption of permanent canines (Ben-David 1998). Predatory behavior develops quickly and occurred at a comparatively early age. Only the female is involved in care of the young (Ben-David 1988); however, an adult male has been captured in a burrow containing young (Novikov 1962).

Cubs born in captivity opened their eyes at 38–40 days and showed a rapid increase in body and tail length between 12 and 82 days (Ben-David 1998). The length of head and body and length of tail (in mm, SE) at 12 (n = 7), 26 (n = 7), 40 (n = 6), 54 (n = 3), 68 (n = 3), and 82 (n = 3) days for captive cubs are, respectively, length of head and body, 69.1 (1.0), 100.0 (0.8), 142.5 (3.8), 200.1 (6.7), 248.5 (8.0), and 313.3 (10.9), and length of tail, 25.2 (0.1), 39.8 (0.4), 58.9 (2.0), 70.0 (4.1), 101.0 (9.2), and 150.2 (6.0). Growth curves of wild-caught and captive cubs did not differ significantly (Ben-David 1998).

Weaning occurs at 50–54 days and dispersal at 61–68 days (Ben-David 1998). Cubs have been seen with the mother up to at least June (Novikov 1962) and observed fending for themselves in May–June in Russia (Stroganov 1969).

Two female cubs reached adult body size by 82 days, and 1 male reached adult body size by 100 days (Ben-David 1998). Two captive female cubs (92 days old) and 1 wild-caught cub (estimated 91 days old) mated in their first spring. The 2 females gave birth the following winter. One male cub born in captivity and 3 wild-caught male cubs mated when >1 year of age (Ben-David 1998).

ECOLOGY. The marbled polecat occupies open desert, semidesert, semiarid rocky areas in upland valleys and low hill ranges. It is generally not found on higher mountain ranges (Novikov 1962; Roberts 1977; Stroganov 1969). It occurs in steppe country and arid subtropical scrub forest (Roberts 1977). Although the marbled polecat avoids mountainous regions, it can be found up to 2,100 m (Novikov 1962).

In Europe, the marbled polecat inhabits steppes with sparse hawthorn bush and sloe trees and old fallow (Novikov 1962). In western Yugoslavia, marbled polecats occur in montane-steppic and woodland-steppic areas (Milenković et al. 2000). In western areas of Yugoslavia, the marbled polecat has been recorded at higher elevations then in the east (Milenković et al. 2000). In eastern Yugoslavia, where agricultural, waste, and fallow land predominates, marbled polecats are found from river terraces and low hills to mountainous meadows. In western Serbia, marbled polecats inhabit the outskirts of settlements (Milenković et al. 2000). On the Sinai Peninsula in Egypt, 1 adult male was captured in a sparsely vegetated sandy area (Saleh and Basuony 1998). In Lebanon, marbled polecats are restricted to cultivated areas in close association with humans (Lewis et al. 1968). In Israel, marbled polecats live in the steppes and hills (Bodenheimer 1958). In central Asia, the marbled polecat is found in oases, tugai (river-valley bottomland complexes of forest, scrub, and meadow), dunes with sparse bush vegetations, clay steppes, and salt marshes, where the suslik (Citellus citellus) and other unidentified ground-dwelling sciurids live (Novikov 1962; Stroganov 1969). It is also found in irrigated country, melon patches, and vegetable fields and has entered buildings to forage (Novikov 1962). In Kazakhstan, marbled polecats are found in shifting dune country containing saxaul (Haloxylon), winter fat (Eurotia ceratoides), and pea tree with salt marshes overgrown in saxaul where abundant ground squirrels occur (Novikov 1962). It also occurs in wormwood deserts, semideserts, and occasionally fescue and needle-grass steppes of the foothills (Novikov 1962). In northwestern China and the Ordos Desert, the marbled polecat is not common and frequents areas with trees (Miller 1910).

In Siberia, it inhabits the western foothills of the Altai and the Cuya steppe (Stroganov 1969).

Ground squirrels (Spermophilus) compose part of the diet of the marbled polecat when it lives among these animals; however, it still hunts other rodents the size of small hares as well as lizards and birds (Novikov 1962). Marbled polecats prey on Libyan jirds (Meriones libycus) and other rodents that frequent the same habitat such as migratory hamsters (Cricetulus migratorius) and house mice (Mus musculus-Roberts 1977). Marbled polecats eat rodents, birds, reptiles, frogs, insects, fruit, and grass (MacDonald and Barrett 1993). The diet of the marbled polecat in Quetta and Kandahar includes rodents, small birds, lizards, snails, and beetles (Harrison 1968). In Israel, marbled polecats showed high seasonal variability in diet. During summer, mole-crickets (Gryllotalpa gryllotalpa) made up 66% of the diet, whereas in winter, 62% of the diet was rodents such as voles (Microtus guentheri), house mice, mole rats (Spalax leococon ehrenbergi), and Meriones (Ben-David 1988). A captive male readily killed and consumed spiny mice (Acomys) and also consumed ground beef (Lewis et al. 1968).

Marbled polecats may take chickens and pigeons (Harrison 1968; Rifai et al. 1999). Marbled polecats will take small poultry and rabbits and steal cheese and smoked meat (Milenković et al. 2000). However, *V. peregusna* may be considered beneficial because of its extermination of rodents (Novikov 1962; Roberts 1977; Stroganov 1969). In Kabul, marbled polecats are kept by shop-keepers to exterminate rodents (Akhtar 1945).

The majority of mortality is due to road traffic and secondary poisoning by rodenticides (MacDonald and Barrett 1993). One captive individual lived 8 years and 11 months (Jones 1982). *V. peregusna* may be infested with ticks and fleas (Novikov 1962).

Marbled polecats were housed at Tel Aviv University (Israel), Ankara Zoo (Turkey), Tallinn Zoo (Russia), and Wielkoplski Zoo Park, Poznan (Poland—Schreiber et al. 1989; Smielowski 1995). At the Poznan Zoo, they were part of a small predator breeding group (Smielowski 1995). Marbled polecats were captive in Frankfurt (West Germany) during the 1960s and 1970s and in Antwerp (Belgium) from 1952 to 1953. Berlin (West Germany) also had captive specimens. V. p. syriaca bred twice in captivity at Tel-Aviv University (M. Ben-David, in litt.; Schreiber et al. 1989). In 1982, 7 marbled polecats were raised at Novosibirsk Zoo in Russia (Schreiber et al. 1989).

The marbled polecat is trapped for fur in small quantities in Pakistan and Lebanon (Lewis et al. 1968; Roberts 1977). The pelt is not valuable, is taken in small numbers, and is not categorized (Novikov 1962). The fur has no market value in China, though V. p. negans is occasionally caught in traps set for fox (Miller 1910). Pelts are used in children's clothing in Soviet Central Asia (Stroganov 1969).

BEHAVIOR. Activity levels of the marbled polecat are highest during the morning and evening (Harrison 1968; MacDonald and Barrett 1993; Novikov 1962; Stroganov 1969). In cold weather, marbled polecats came to the surface during the day to bask in the sun (Roberts 1977). Captive specimens exhibited a strong desire to seek dark places (Roberts 1977).

V. peregusna travels widely within a home range of 0.5 to 0.6 km² and generally only occupies a shelter once. Encounter between individuals are usually aggressive (Ben-David 1988). Marbled polecats are fearless in human presence (Roberts 1977). In China, marbled polecats are savage when caught (Miller 1910).

Captive specimens showed little desire to jump or climb (Roberts 1977). However, in China, *V. p. negans* climbs freely (Miller 1910). They may sit up on their hind legs, sometimes even standing on them (Akhtar 1945).

When alarmed, the marbled polecat exhibits a characteristic aggressive posture: raising up on its legs, arching its back, curling its tail over its back with tail hairs erect, raising its head, baring its teeth, and giving shrill and hoarse hisses (Roberts 1977; Stroganov 1969). The marbled polecat can emit a foul-smelling secretion from enlarged anal sacs when threatened (MacDonald and Barrett 1993; Roberts 1977). Marbled polecats have limited vocalization with shrill alarm cries, grunts, and a submissive long shrike (MacDonald and Barrett 1993).

Marbled polecats inhabit burrows of large ground squirrels or other rodents or dig their own dens (Novikov 1962; Roberts 1977). In Quetta and Kandahar the marbled polecat rests and breeds in burrows (Harrison 1968). Marbled polecats in central Asia live in tunnel systems dug by the great gerbil (*Rhombomys opinus*—Heptner and Naumov 1974). In Baluchistan, they are associated with colonies of Libyan jirds, even living in burrows dug by the rodents, or they may inhabit underground irrigation tunnels (Roberts 1977). Sleeping chambers are 60–100 cm from den entrance. In winter, the marbled polecat lines the den with grass (MacDonald and Barrett 1993). When the marbled polecat digs, they press their chin and hind paws firmly to the ground and remove earth with their forelegs. Obstacles such as roots are pulled out with their teeth (Akhtar 1945).

Marbled polecats rely principally on a well-developed sense of smell, and their eyesight is weak (Roberts 1977). They have a repertoire of alternative methods to kill prey. They have 2 kinds of killing bites: the 1st is the penetration of the prey's body by the canines, and the 2nd is crushing the prey without canine penetration (Ben-David et al. 1991). To kill small vertebrate prey, marbled polecats crush the thorax. If the prey struggles, they may pin the prey down with the forepaws and deliver head shakes or follow up by a bite to head or neck (Ben-David et al. 1991). On larger, more nondefensive prey (guinea pigs, Cavia porcellus), the polecat bites the nape of the neck and eventually severs the spinal column from the base of the skull. To kill large defensive prey such as rats, the marbled polecat bites the throat. Fleeing prey were bitten dorsally, but defending prey were bitten on the head or neck. Additional details on the killing methods of the marbled polecat are available (Ben-David et al. 1991).

Communal hunting may occur between red fox (*Vulpes vulpes*) and marbled polecat (Goszczynski 1997). Marbled polecats may enter mole rat tunnels when hunting (Heth and Todrank 1995). Marbled polecats may store surplus prey (Akhtar 1945; MacDonald and Barrett 1993; Roberts 1977).

CONSERVATION STATUS. The marbled polecat is considered vulnerable by the International Union for the Conservation of Nature. Yugoslavia also ranks the marbled polecat as a vulnerable species and is listed in the Preliminary Red List of Vertebrates of Yugoslavia (Milenković et al. 2000). The marbled polecat also is listed in the Red Data Books of the U.S.S.R., Ukraine S.S.R., Kazakhstan, and Bulgaria (Schreiber et al. 1989). The marbled polecat is protected in the Ukrainski Stepni and Lugansky Nature Reserves of Russia (Schreiber et al. 1989). The decline in marbled polecat populations may be due to habitat destruction through extensive cultivation, hunting, and reduction of available prey (Kryštufek 2000; Milenković et al. 2000; Schreiber et al. 1989).

GENETICS. Vormela peregusna has 2n = 38 chromosomes, with fundamental number 68-72 (Özkurt et al. 1999, 2000; Peshev and Al-Hossein 1989). Chromosomes occur in 3 groups: the 1st group consists of 5 pairs of metacentric chromosomes, of which the last 3 are the smallest autosomes of the karyotype. The 2nd group consists of 12 pairs of submetacentric, of which the 7th pair is polymorphic. The 3rd group consist of 1 acrocentric pair. The Xchromosome is small and meta- or submetacentric, whereas the Ychromosome is acrocentric (Peshev and Hossein 1989). Karyotype is illustrated in Graphodatsky et al. (1982). Satellite DNA of V. peregusna has been used for interspecific comparisons and phylogenetic relationships (Lushnikova et al. 1988, 1989a, 1989b; Taranin et al. 1991; Yermolaev et al. 1988). Marbled polecats are related to the striped polecats of Africa (Ictonyx) and to the European polecat, Mustela putorius (Bryant et al. 1993; Harrison 1968; Spassov 2001; Stroganov 1969).

REMARKS. Urine from marbled polecats has been used for tests of chemosensory reception in subterranean mole rats (*Spalax ehrenbergi*—Heth and Todrank 1995).

The marbled polecat is also called aladzhauzen (Turkmen-Ognev 1935); berguznya (Kuban-Ognev 1935); chokha (Kalmuck-Ognev 1935); fessyah (stinky in Arabic-Rifai et al. 1999); Ma-nai-ho (Chinese-Miller 1910); mottled polecat (Stroganov 1969); myshovka (Terek cossak dialect-Ognev 1935); Pallung mush (Akhtar 1945); pereguznya, pereguzka, perevishchik (Ukranian-Ognev 1935); perevozchik (southern Russia-Ognev 1935); perewiaske, (Polish-Ognev 1935; Smielowski 1995); sarmatier (Novikov 1962); slan (Kabardinian-Ognev 1935); suur-tyshkan (Kirgiz-Ognev 1935); Syrian marbled polecat (Bodenheimer 1958); and tiger polecat (Hatt 1959). Other names are abulfiss (Arab); putois marbré, putois de Pologne (French); and Tigeriltis (German). The Latin name *peregusna* was derived from *pereguz*- *nya*, which is Ukrainian for polecat (Qumsiyeh 1996). *Vormela* is from the German Wormlein. The extreme variation among individuals probably led to the naming of many subspecies and most are probably invalid (Harrison 1968; Novikov 1962).

Thanks are expressed to M. Ben-David for providing references and photograph and to the Museum of Natural History for providing the skull. The Delta Waterfowl Foundation provided logistic support.

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Associate editors of this account were LUI MARINELLI and KAREN MCBEE. Editor was VIRGINIA HAYSSEN.

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