11. ASSES AND MULES

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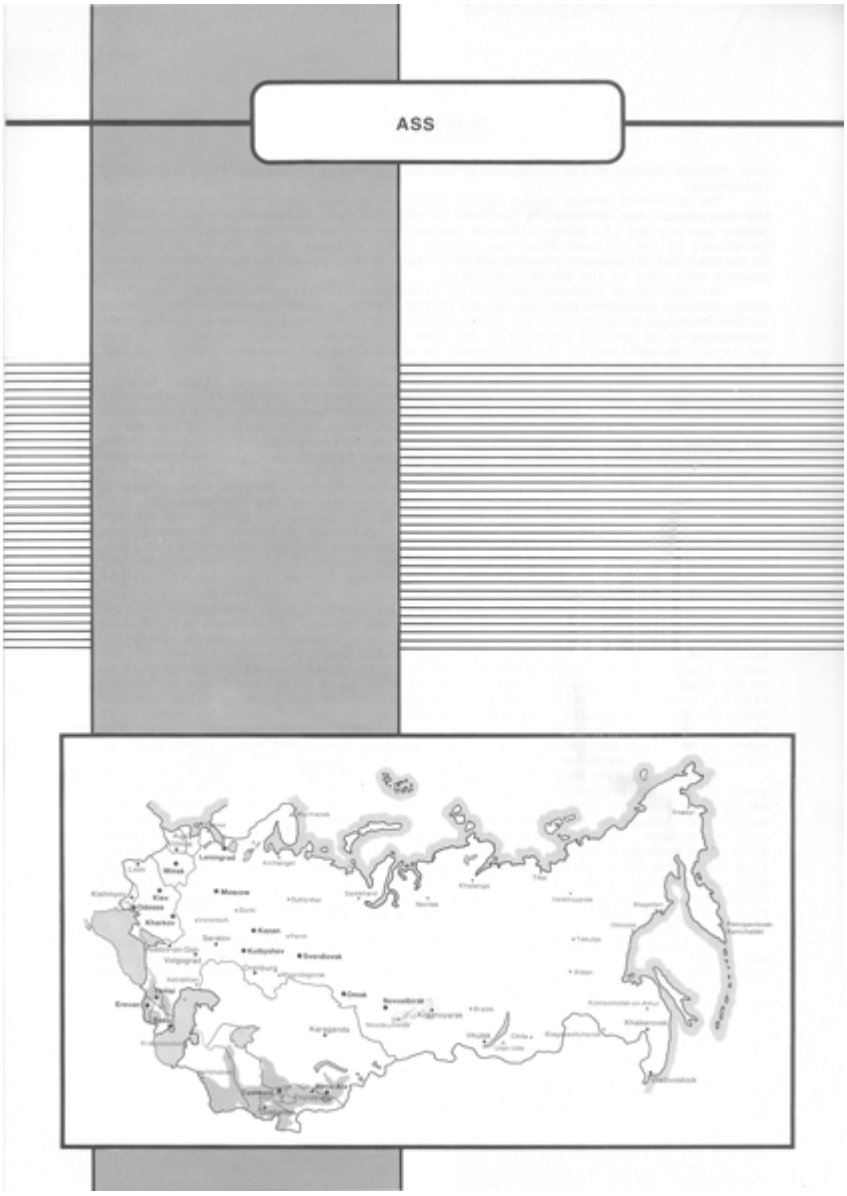

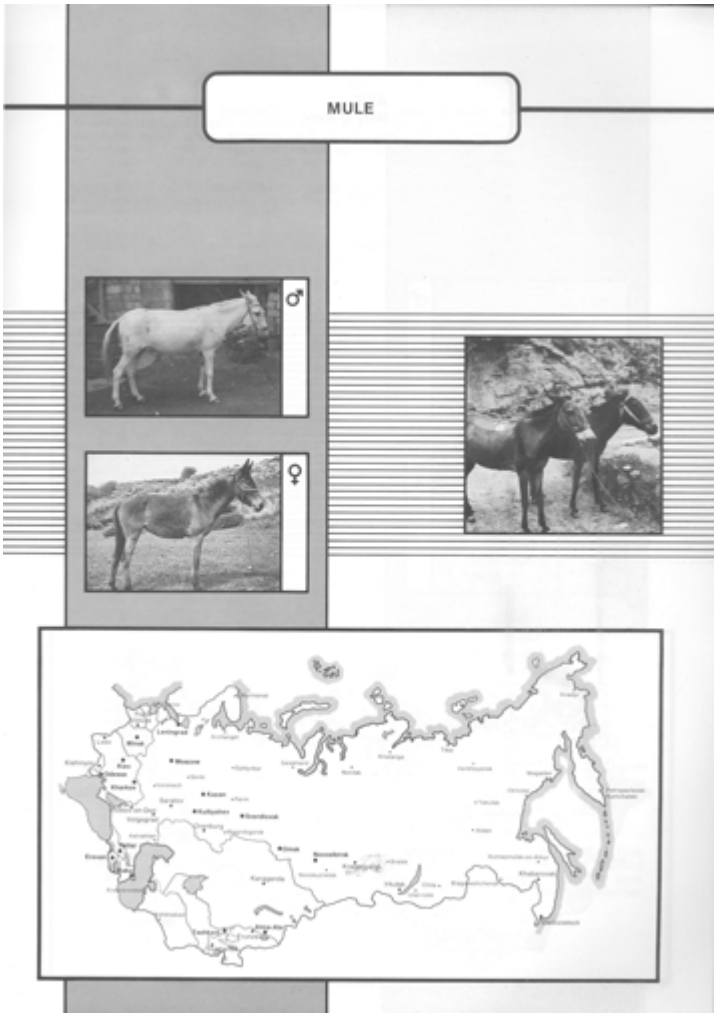

The varieties of ass in Caucasian and Central Asian Soviet territory are mostly indigenous.

The primaeval donkey (Equus asinus hidruntinus) was common in the Crimea during the Pleistocene but it was not recorded in the fauna of the Holocene. The domestic donkey was brought to Eastern Europe during the 9th to 7th centuries BC by Greek colonizers of the northern Black Sea coastal region and was found almost exclusively in cities and neighbouring settlements. Mule bones found in this region and in Armenia date back to the 1st millennium BC.

Archaeological evidence obtained in contiguous countries of southwest Asia and Iraq, ranging from Sumerian pictography to the excavated base camp of onager hunters in Umm-Dabagiya (beginning of the 6th millennium BC) gave grounds for believing that domestication of the ass occurred at the time of the Nubian culture in Africa or even earlier. In addition to E. africanus, in Mesopotamia in separate remote periods domestication could also have involved E. hemionus onager.

The arrival of a property-owning ethnic group from the Iranian plateau brought asses to Central Asia which was influenced at that time (not later than the middle of the 2nd millennium BC) by the Suiargan culture. This species was of considerable economic importance for the population of ancient oases in the valleys of the Tejen and Murgab. In monuments of

Northern Khorezm (the Amu Darya delta, the present-day Kara-Kalpakia) dating from the early years A.D., the proportion of asses among other domestic animals was 9.4%; in the 11th to 14th centuries small cattle began to prevail and the share of the ass dropped to 6.7%. Southern Khorezm also showed a steady reduction in numbers over a long period: in the 7th to 5th centuries B.C. 4.1%; in the 4th century B.C. to the 1st century A.D. 3%; in the 3rd to 8th centuries 2.8%; in the 2nd millennium 1.8%. Osteological analysis reveals two characteristic features of the material: better preservation compared with other edible species, and the absence of any significant changes in height and habitat over a long period. The Kara-Kalpak variety has an average live weight of 135 kg; sexual dimorphism is not very marked.

The plasticity of the species is demonstrated by its adaptation to the conditions of the intermediate mountain zone as well as to the seasonal migration to the Alpine zone where mountain pastures are located.

Mountain and steppe formation tall-grass savanna-like formations are distributed over the southern part of the Lesser Caucasus at altitudes of 700 to 2400 m, in the northern part at 900 to 1600 m, in the western Pamirs and Tien Shan at 600 to 2800 m and in the Kopet Dag at 800 to 1400 m. A very broken relief is typical of the areas of ass breeding. The south of Turkmenia is noted for its ephemeral vegetation: the yield of poa/sedge pasture in Batkhyz onager reserve is 400-450 kg per ha. Extremely broken country in Tajikistan makes it necessary to transport loads over mountain trails and steep slopes with an inclination of 30 to 35 as well as over temporary bridges of local design.

When employed on farm work the ass is kept on pastures with an extremely scarce grass stand. The productivity of the pastures does not exceed 500 kg of edible dry matter per ha and is thus equal to that of desert plateaux. In some areas grazing is maintained throughout the year except during the period of agricultural work and on cold winter days. Asses can feed on some of the species of xerophytes on the rocky slopes and even on some milk vetches, usually rejected by other animals. A special feed for Caucasian asses is Echinops ritro. During a short stable period the usual diet contains 5-6 kg of roughage, mostly chopped straw but also hay, and 1.0-1.5 kg of barley. The hay is made from grass in combination with sedge, legumes and forbs. From the hay the animals select 60-75% of the grass and sedge, 50-65% of the legumes and 35% of the forbs.

The total number of asses in the USSR in 1940 was 850 000, the number of mules was 10 000; in 1972 corresponding figures were 568 600 and 3200 and on 1 January 1984 there were 342 300 and 1900. The number of asses fell to about one-third in the Caucasian republics, especially in Armenia, where formerly there were 55 000. Somewhat less but still considerable change took place in Central Asia: numbers declined by 2.3 in Kirgizia and Uzbekistan, 1.7 in Tajikistan and 3.1 in Turkmenistan. 98% of asses and 63% of mules are privately owned.

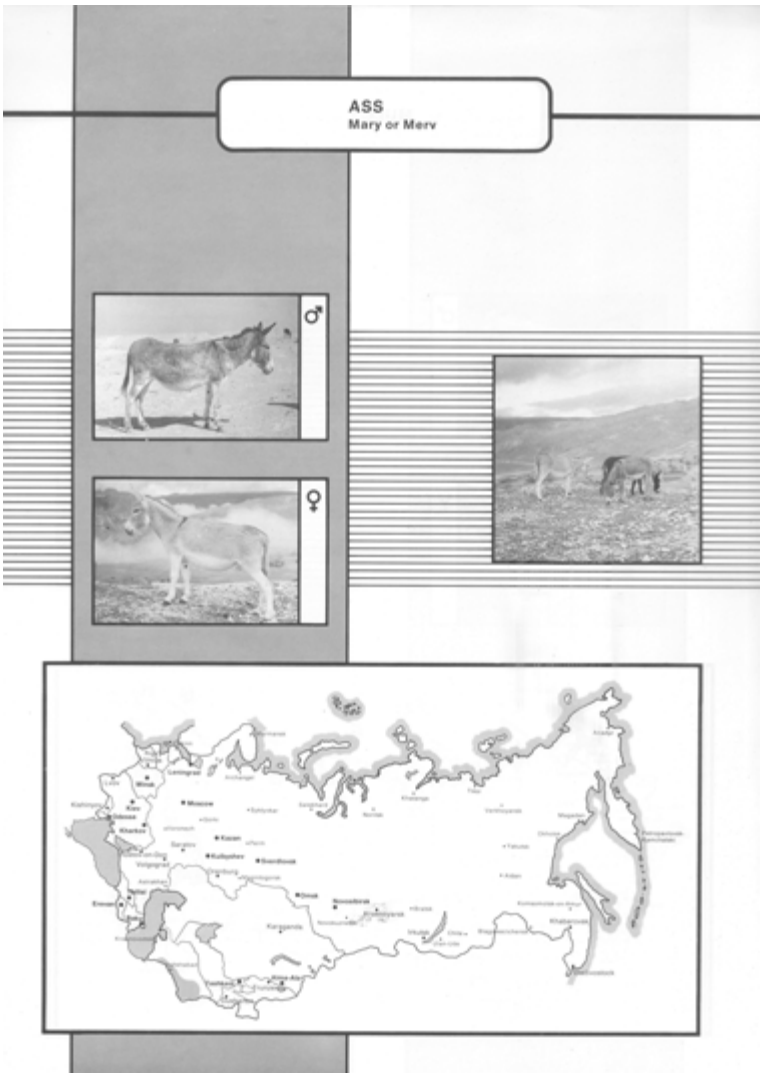

Table 11.1 THE NUMBER OF ASSES AND MULES IN THE USSR
(1984, 1000 head)

Republic	Asses	Mules	Republic	Asses	Mules
Russian Federation	25.9	0.3	Uzbekistan	138.0	-
Azerbaijan	32.6	0.5	Tajikistan	67.5	0.5
Georgia	8.1	0.1	Turkmenistan	33.9	-
Armenia	5.3	0.4	Kazakhstan	17.6	-
			Kirgizia	13.4	0.1
			Total	342.3	1.9

A group of small indigenous asses with a common typical conformation and low height (80-110 cm at withers) is the most numerous and widespread. The animals of this group have a rather long and narrow coarse head with a very prominent forehead and a slightly dished face in the nasal region. Jaws are of medium width. The neck is straight and short, without marked withers. Shoulders are straight. Shallow chest is compensated by we11-sprung ribs. The back is carp-shaped (in 65% of animals); sway back is very rare (2-3%). The loin is short, high and heavily muscled (92.5%). Older

working asses sometimes have a sunken loin (7.5%). The croup is usually narrow, short, in some cases (27.5%) drooping, but is always higher than the withers. Joints are well developed. Strong hoofs have steep front walls. Bow-legged or cow-hocked hind legs (33.0%), sickle hocks (18.0%) and splay-legs (10.2%) represent the most frequent defects in the exterior of asses.

Table 11.2 BODY MEASUREMENT (CM) AND INDICES (%) OF INDIGENOUS VARIETIES OF ASS (FEMALES 4 YEARS OLD AND OLDER)

Variety	Height at withers (A)	Oblique body length (B)	Chest girth (C)	cannon girth (D)	Indices	
					Format B/A	Boniness D/A
Meskhet-Javakhet	91.6	91.1	98.9	11.1	99.5	12.1
Khakhetian	93.6	94.7	103.0	12.6	101.2	13.5
Armenian	96.4	97.3	105.4	12.3	100.9	12.8
Azerbaijan	97.3	98.4	107.5	12.5	101.1	12.8
Dagestan	97.4	96.5	109.2	13.2	99.1	13.6
Abkhasian	98.2	100.1	108.0	11.6	101.9	11.8
Kirgiz	98.7	102.3	107.5	12.7	103.6	12.9
Tajik	100.0	103.6	108.8	12.6	103.3	12.6
Uzbek	102.1	102.6	106.5	13.0	100.5	12.7
Kara-Kalpak	104.2	100.8	108.9	13.5	96.7	13.0

The animals are of various colours, the most frequent (70%) being grey, from light to dark in shade. In half the animals of this colour there is a marked spinoscapular cross; in 3-5% zebra stripes are present above the knee and hock joints. Among the 15% of black animals 10% have a white belly. In the Azerbaijan and Uzbek varieties mouse colour is as frequent as grey.

Mary and Ashkhabad regions of Turkmenia breed the Mary (Merv) breed of large asses. It numbers 7600 head. The heights of individual specimens reach 130-142 cm. Their origin and economic features are similar to the Iranian Hamadan whose descendants can also be encountered in Azerbaijan. In regions where Merv asses are bred large typical specimens (male height at withers 119.5-120.0 cm, female 116.0-118 cm) coexist with smaller ones, hardly different from the Uzbek variety.

The hybridization experiments of the National Horse Breeding Research Institute involved Merv asses and heavy draught mares to produce draught-pack and pack-transport mules. The latter type (out of dams of the Lokai breed) were successfully tested in Tajikistan. Along a difficult 90-km route up to an altitude of 3000 m the speed of the animals was 6.3 km per hour. Practical mule breeding showed that the pack mule should not be very large, as in the mountains balance and efficient movement are of the utmost importance. A short pace reduces the swinging of the pack and provides for a steady movement on poor paths. In the Nagorny Karabakh autonomous

region of Azerbaijan mules with a live weight of nearly 300 kg carry packs of 70-125 kg.
Uzbek asses normally pull a load of 100-300 kg but on test they may pull a cart with a load of 1.5-2.0 tons. Maximum load pulled by the largest specimen (110 cm high at withers) among those tested was 2532 kg. The average pack weight carried over a distance of 30-35 km in Azerbaijan varies from 40 to 60 kg for males and 30 to 50 kg for females. The most enduring and strong animals can carry a load of up to 110 kg.
The diseases of the ass include the proliferation of nasal cartilage and strangles; mastitis is sometimes involved in the latter. The incidence of onchocercosis reaches 70%; it usually affects the limbs, whereas in the horse the withers are frequently involved. As a pack animal the ass often develops tendinitis and tendovaginitis. Ticks represent a certain danger as the ass is a host of adult ticks of up to 5 species of Hyalomma.
The Merv breed and a number of local varieties, e.g. Georgian, occupy a rather limited area and comprises discrete "island" populations of diminishing number. The stock is declining due to low profitability of ass breeding and the related mule production. Expeditions and mountain rescue parties require only a small number of animals.
Recently animals of this species have been used in drug production. Frequently asses prove to be more suitable for the production of specific sera than classical laboratory species.
Transformation of the rural economy, acquisition of modern privately-owned means of transport and other factors in the second half of the current century are liberating the rural population from the need to keep draught asses. Their controlled introduction into the buffer zones of reserves of onager, Middle Asian gazelle (G. subgutturosa) and other disappearing species of wildlife is quite justified. Specific measures of protection comprise the concentration of typical specimens of individual ass varieties at genetic resource farms in Azerbaijan (for the Caucasian group) and in Turkmenistan (for the Central Asian group) and their multiplication.

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