
SHORT
COMMUNICATIONS

On the Distribution of Reindeer in the Middle and Northern Urals

N. S. Korytin

*Institute of Plant and Animal Ecology, Ural Division, Russian Academy of Sciences, ul. Vos'mogo Marta 202, Yekaterinburg,
620144 Russia*

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The reindeer populations of the Middle and Northern Urals have been declining since the second half of the 19th century (Kirikov, 1966); in northern areas, this process began even earlier, approximately in the 1830s or 1840s. This is attributed to the intensive development of domesticated reindeer breeding. In the late 1930s, the southern boundary of the reindeer range passed along the Pechora–Kolva watershed (Kuklin, 1938), crossed the Loz'va River near its source, and then extended to the southwest along the Loz'va, Tavda, Tobol, and Irtysh rivers (figure). However, isolated reindeer populations also occurred farther to the south: on the western macroslope of the Veslyana River basin (no less than 1000 animals; Kuklin, 1938), on the Tura–Tavda watershed and in the adjacent areas of Krasnoufimskii and Manchazhskii raions, and in the Southern Urals (Sabaneev, 1988; Kuklin, 1938). According to Kurazhkovskii (1949; cited from Perovskii, 1975), the northern boundary of the main reindeer range in this region was at the latitude of the Cherdynskii Kamen' and Konzhakovskii Kamen' mountains, i.e., south of that indicated by Kuklin (1938).

To date, both the range and population size of reindeer in the Middle Urals have decreased significantly. This is apparently explained by large-scale tree cutting in lichen pine forests (wintering stations for reindeer), hunting, and generally increasing anthropogenic pressure. For a long time, reindeer have not been found in their former insular areas south of the main range, at least in Sverdlovsk oblast. In the northern part of Sverdlovsk oblast, the presence of reindeer is periodically recorded during winter route censuses in Garinskii raion. A small herd of about 100 animals inhabits the area between Pelymskii Tuman and Vagil'skii Tuman.

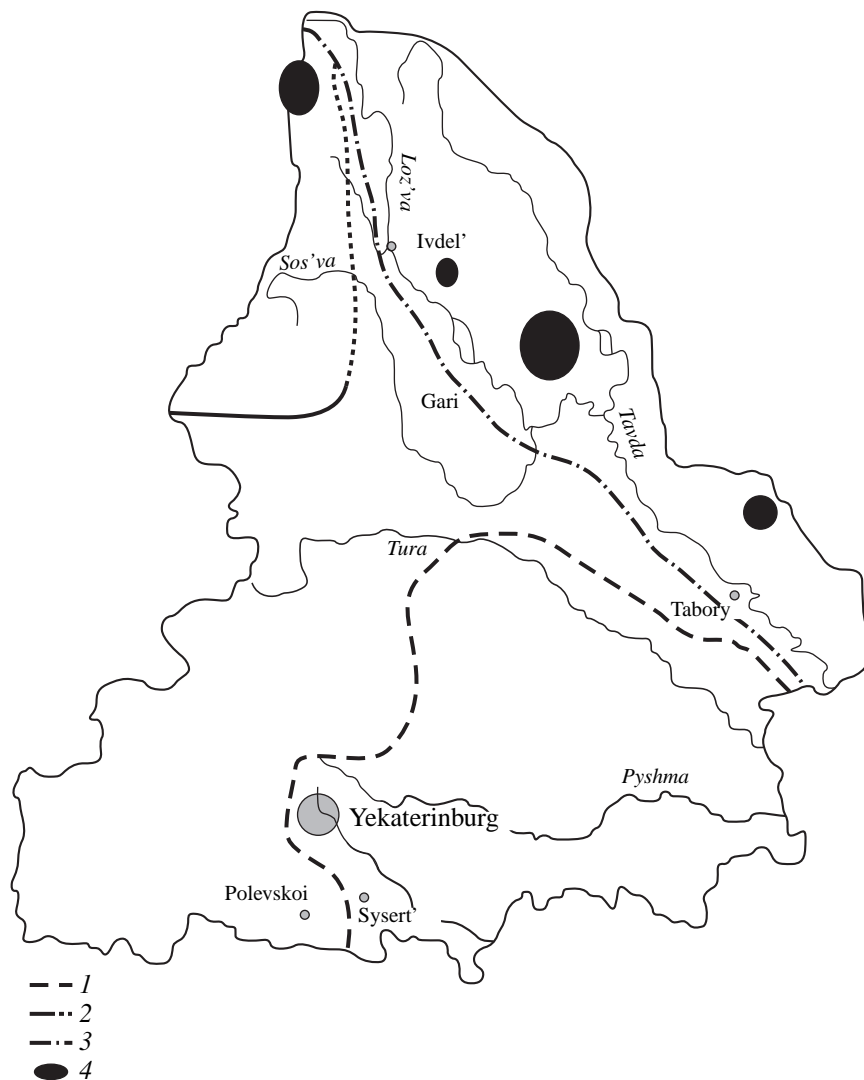
In Taborinskii raion, reindeer lived on both banks of the Tavda River (on the right bank, in the Taborinka River basin and near lakes Bol'shoe Krivoe and Maloe Krivoe) in the 1960s and 1970s. As reported by V.L. Shishkin, a local hunting expert, the southern boundary of the range subsequently shifted to the northeast, and reindeer disappeared from the right bank but still occurred on the left bank near the lakes Bol'shoi Akh and Malyi Akh, in the Chernaya River

basin. In the early 1980s, A.A. Kiselev observed a group of 20 reindeer in the basin of this river during the aerial census of ungulates. Later, reindeer and evidence for their presence were found in near the Kuminskoe Swamp in the upper reaches of the Volchim'ya and Bol'shaya Iksa rivers. According to Shishkin, a small group of no more than 20–30 reindeer may live in near the Chernoe Swamp.

Another isolated population lives in Ivdel'skii raion of Sverdlovsk oblast and the adjacent area of Perm oblast. In the spring of 1985, I found footprints and feces of seven or eight wild reindeer on the western slope of Mount Molebnyi Kamen' and observed a reindeer swimming across the Moiva River in its upper reaches. Footprints left by a group of six reindeer were found in the area of the confluence of the Moiva and Vishera rivers. V.Yu. Kuprin reported the presence of reindeer in the subgoltsy zone and open Siberian stone pine forests on Mount Tulymskii Kamen', at least in the early and mid-1980s. According to V.S. Obyval'tsev, head of the local meteorological station, reindeer in this period permanently inhabited the Niols River basin and the Niols–Moiva watershed, where they occurred in groups of 5–15 animals. Herdsman P. Bakhtiyarov and N. Akhmedeev, game warden of the Ivdel' State Forest Enterprise, reported that they also have encountered small groups of wild reindeer in the same region. Akhmedeev once observed a herd of 150–200 reindeer in the autumn in the upper reaches of the Takhta River.

It should be noted that Mansi people do not use this area for pasturing domesticated reindeer, as lichens on grazing grounds in the mountain tundra are generally in short supply due to the presence of steep and rocky slopes. However, some gently sloping areas are relatively rich in lichens, including those of the genera *Cladina* and *Cetraria*. The signs of damage by grazing reindeer in the lichen cover of these areas are manifested very weakly, in contrast to those in the more northern tundras used as summer grazing grounds for domesticated reindeer.

In recent years, the anthropogenic impact on the northern Sverdlovsk oblast has decreased: as many prison camps were closed and villages for people sen-



Distribution of reindeer in Sverdlovsk oblast: (1) approximate southeastern boundary of the range in the 19th century (according to Sabaneev, 1988), (2) southern boundary of the range according to Kurazhkovskii (1949), (3) southern boundary of the main range in the 1930s (Kuklin, 1938), (4) approximate location of isolated populations at present.

tenced to exile were abandoned, large-scale tree cutting ceased; in addition, many roads broke down and poaching became less common. These changes suggest that a group of wild reindeer has survived and currently inhabits this area. This is even more probable because reindeer breeding by Mansi people has ceased completely, although the size of their reindeer herds in the late 1980s was estimated by different experts at 600 to 1000 animals. Thus, summer reindeer grazing grounds in the region of Gumkopai, Otorten, and Sampalchakhl' are now vacant and their carrying capacity is approximately 2500–2700 reindeer per year (Korytin *et al.*, 1986).

As reported by S.V. Shevelev, director of the Ivdel' State Forest Enterprise, there are now two groups of reindeer in the region: up to 300 animals live in the upper reaches of the Takhta River (see above), and 60–70 animals live in the middle reaches of the Lyavdinka

River. The latter population has been gradually increasing in size during the past decade.

Thus, we can conclude that the range of reindeer in Sverdlovsk oblast has decreased during the past 150 years. According to some authors (Geptner *et al.*, 1961; Perovskii, 1975), the same situation is characteristic of the European part of the species range. Moreover, the reindeer population size within the range also decreases, as has occurred in Perm oblast (Syroechkovskii, 1986) and the Pechoro–Ilychskii Nature Reserve (Sokol'skii, 1975).

The reindeer is a species poorly adaptable to anthropogenic environmental changes; hence, it needs protection. The reindeer groups remaining in Sverdlovsk oblast should have a special protective status at the regional level, the species should be included in the regional Red Data Book, and natural refuges should be

established in the areas currently inhabited by wild reindeer.

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