

Very long northern vipers *Vipera berus* from Norway

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Vipera berus (Linnaeus, 1758) is a widely distributed species covering nearly the entire Palaearctic realm. It is both the most widely distributed terrestrial snake and the most northerly with populations living north of the Arctic Circle in Sweden (Andersson, 2003). The species is sexually dimorphic in both coloration and size; males generally attain total lengths of 50-55 cm whereas females average 60-65 cm (Otte et al., 2020). However, the longest males may measure about 70 cm and the longest females about 90 cm. Very large individuals are more often observed in northern Europe than in other parts of the distribution (Nilson et al., 2005). Herein, we report two Norwegian vipers, one female and one male, that exceed these lengths.

On 20th April 2007, PS found a road-killed female viper on the roadside on the west side of lake Årunge (59° 41'38" N, 10° 44'9" E, altitude 37 m) near the town Ås, county (fylke) of Viken, 25 km south of Oslo. The habitat consisted of mixed forest and arable land. He kept it in a freezer for 13 years. In 2020 it was given to KHO who measured, weighed and photographed it before it was stored in alcohol. It had a total length of 93.5 cm, of which 10.2 cm was tail, and weighed 158 g. It was melanistic without any sign of a zigzag pattern (Fig. 1). Melanistic individuals (with or without visible trace of zigzag pattern) are regularly observed in this area. The specimen was deposited at the Norwegian University of Science and Technology, Trondheim, voucher number NTNU-VM-HE-2657 (Hårsaker & Dolmen, 2020).



Figure 1. The dead melanistic female *Vipera berus*, found 25 km south of Oslo, total length 93.5 cm

On a field trip on 13th March 2020 to Jeløy island (59° 25'11" N, 10° 35'21" E, altitude 10 m), county (fylke) of Viken, 50 km south of Oslo, a very long male adder was captured by KHO just 40 m from the sea (Fig. 2). It had a total length of 78.5 cm, of which 10.6 cm was tail, and weighed 206 g. The ground colour was greyish-brown with a normal dorsal black zigzag. The habitat was volcanic rock with scattered shrubs and other sparse vegetation. This male had been observed regularly for several years (G. Hermansen pers. comm., 2020) and was found at its usual location.



Figure 2. The live male *Vipera berus*, found 50 km south of Oslo, total length 78.5 cm

Long females have been mentioned by both Nilson et al. (2005) and Otte et al. (2020), one from Thuringia in Germany with a total length of 87.5 cm and one of unknown origin measuring 89 cm. Citing R. Kreüger with reference to the journal *Ornis Fennica* from 1930, Vainio (1931) mentioned a 94 cm long female that was captured in the summer 1929 in the Finnish part of Sápmi at latitude 68° N. However, nothing further was apparently ever published in *Ornis Fennica* or elsewhere. Smith (1919) reported that in August 1914 an individual of 104 cm was found in Härjedalen, Central Sweden. But no documentation exists for these very long northern vipers. Moreover, we have been informed that *V. berus* in populations east of Kiruna 150 km north of the Arctic Circle in northern Sweden may grow to a very large size, a result of their great longevities (Andersson & Madsen pers. comm. 2020-2021). The longest female measured by

Andersson (pers. comm., 2021) in that northern area had a total length of 86 cm, of which 8 cm was tail, and the longest male was a total of 79 cm, of which 10 cm was tail. The national record for Norway has until now been 86 cm total length (Engdal, 1978). Record sizes of males have seldom been published although Vainio (1931) records a male from Finland of total length 72.5 cm.

A number of females longer than our new record of 93.5 cm have been reported, however our Norwegian female probably constitutes the longest vouchered or otherwise properly documented specimen to date. Nevertheless, females longer than 93.5 cm may potentially be encountered in northern environments in the future. We believe that our Norwegian male of 78.5 cm total length is the second longest male *V. berus* recorded, only exceeded by the above-mentioned male from the Kiruna area.

ACKNOWLEDGEMENTS

We are indebted to Geir Hermansen (Moss, Norway) who discovered the large male adder. Thanks to Stefan Andersson (Nyköping, Sweden) and Thomas Madsen (University of Wollongong, NSW, Australia) for useful data and inspiring discussions. We thank David Bird (Spetisbury, Dorset, United Kingdom) and Jenny Stien (Norwegian Institute for Nature Research, Trondheim) for providing literature. The Norwegian Environment Agency (Oslo) allowed KHO to catch Norwegian reptiles and amphibians for subsequent release under permit no. 2017/2638.

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Accepted: 28 February 2021