A R T I C L E

THE CURRENT STATUS AND DISTRIBUTION OF THE OTTER *Lutra lutra* L., 1758 IN SERBIA AND MONTENEGRO

Milan PAUNOVIĆ[1] and Miroljub MILENKOVIĆ[2]

1: Natural History Museum, Njego{eva 51, P.O.Box 401, 11000 Belgrade, Yugoslavia
2:Institute for Biological Research, Bul. 29. novembra 142, 11000 Belgrade, Yugoslavia

Abstract: A total of 358 reports of otters from Serbia and Montenegro were collected and plotted onto 194 UTM squares. The data here have been divided between those resulting from direct observations (57%) and those from indirect observations (43%). We consider that status of the otter population to be encouraging, and probably stable at present in Serbia and Montenegro.
Keywords: *Lutra lutra*, current status, distribution, Serbia and Montenegro

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INTRODUCTION

Otters are one of the most intensively investigated mustelid species in Europe (Mason and Macdonald, 1986). Knowledge of the species is traditionally widespread amongst rural peoples of Serbia and Montenegro (Yugoslavia), but there has been little formal scientific research. The otter is only mentioned in general terms in the catalogue of the mammals of Yugoslavia (Djulić and Mirić, 1967) and in the list of the mammals of Serbia (Petrov, 1979), but more detailed data are scarce. Information on otter distributions and estimates of population sizes for the regions of Serbia (Petrović, 1989, Mirić, 1981, 1987) and the whole of the former Socialist Federal Republic of Yugoslavia (Liles and Jenkins, 1984; Reuther, 1980) are also scarce. On the basis of these data (ibidem) it has previously been concluded that few otters inhabit the territories of Yugoslavia. However, the most recent report on the species (Paunović and Milenković, 1994) shows that the population status of the otter in this area is actually rather better than previously supposed.

MATERIAL AND METHODS

Data presented in this paper cover the period between 1970 and 1995. They were compiled in three ways:

a) by examining physical evidence (e.g. skins, taxidermic preparations, skulls, parts of skeletons, bacculae);
b) through field research conducted by authors (and based on finds of traces such as scats, food remains, holts);
c) through oral and written enquiries made to biologists, hunters, game wardens, water bailiffs, foresters, naturalists, farmers, etc.

Here, only data that could be validated and was considered to be valid by the authors were taken into account. The persons interviewed were later included into a network of contacts, who continuously reported on each subsequent find or observation made. Sites are represented by UTM 10 km squares, but the number of finds exceeds the number of UTM squares represented on the map.

RESULTS

A total of 358 reports of otters were collected and plotted onto 194 UTM squares (see Fig. 1). Empty squares and the low density of full squares, although signifying the presence of otters in certain areas, also reflect a lack of evidence and research rather than any actual absence of otters. There is a notable absence of otter data from the province of Vojvodina, from central Serbia (especially along the lower course of the River Velika Morava), from southern Serbia, and from western and central Montenegro.

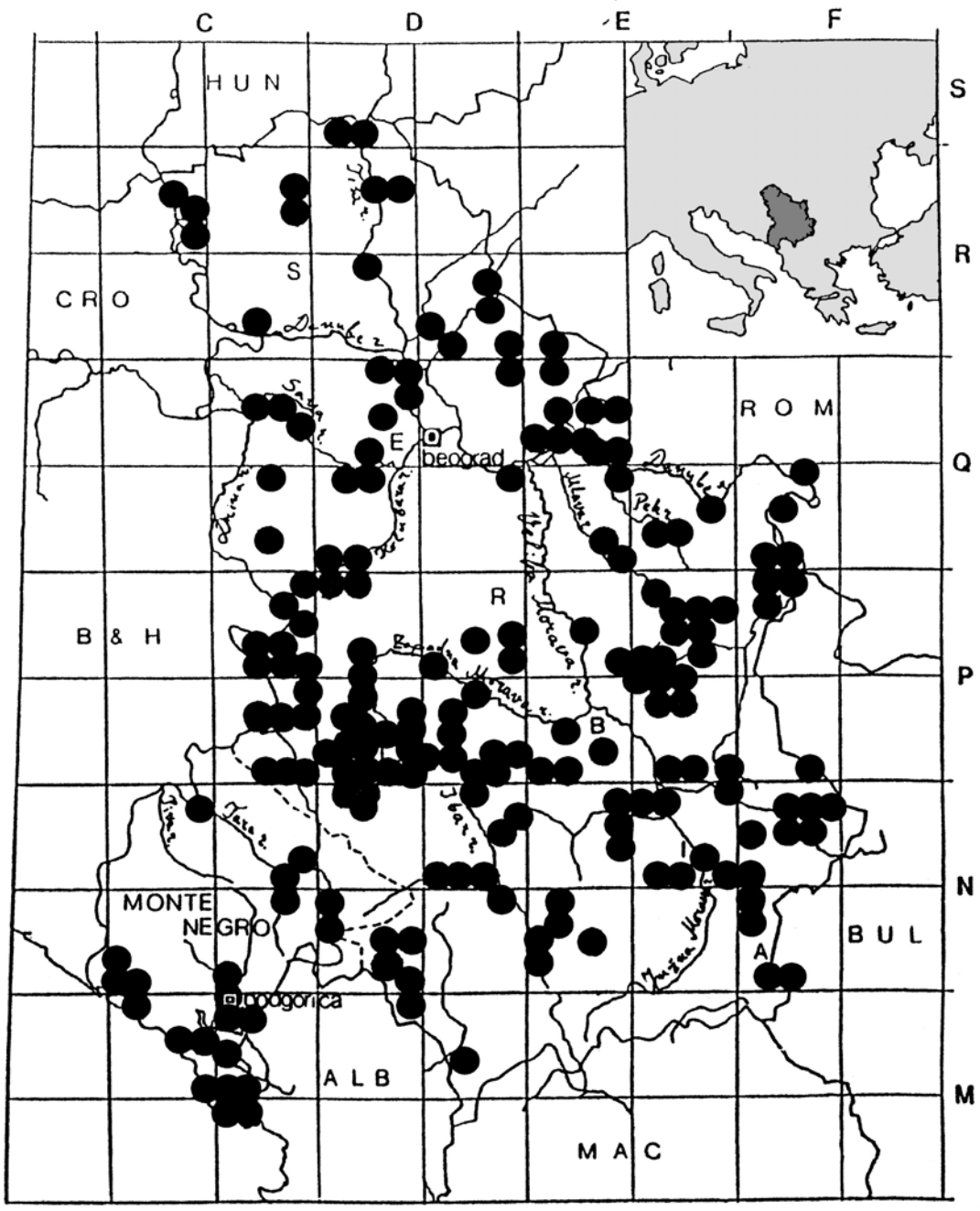

Figure 1: The distribution of otters in Serbia and Montenegro. Black squares indicate 10 km squares containing otters during the period of the survey. Empty squares may also reflect a lack of evidence and research rather than any actual absence of otter.

The data here have been divided between those resulting from direct observations (57%) and those from indirect observations (43%) (see Fig. 2).

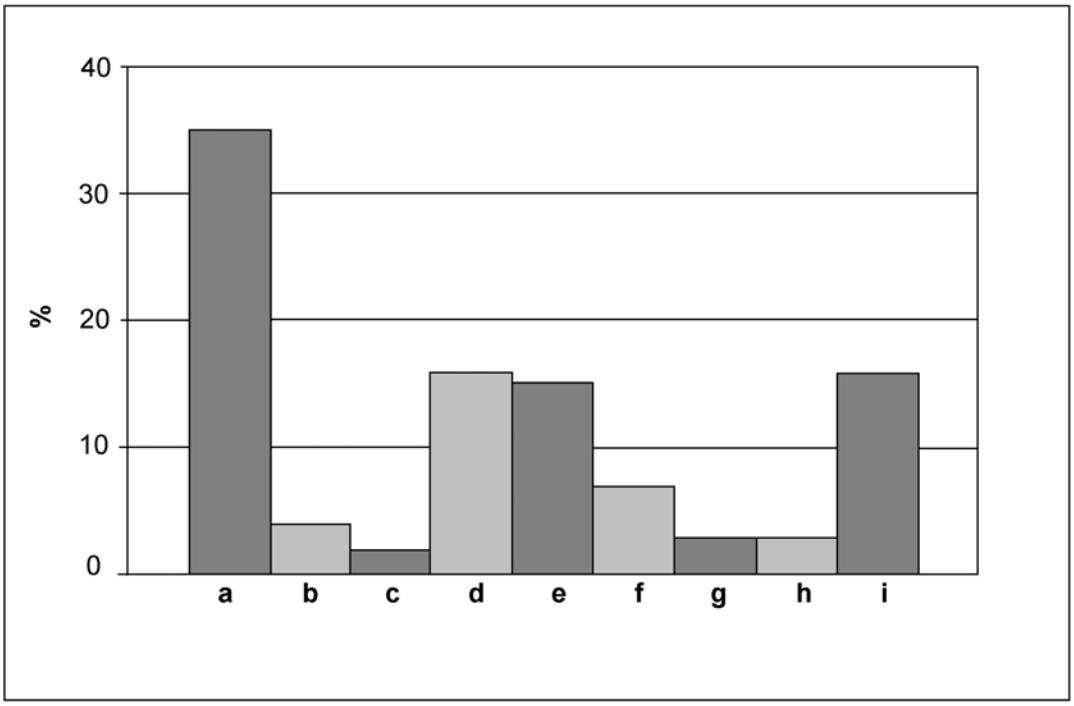

Figure 2: Percentage bars of types of "direct" (a, b, c, d) and "indirect" (e, f, g, h, i) evidence for the occurrence of the otter in the distribution maps. (a) from the direct observations of animals, (b). from physical evidence, (c) from road-traffic kills, (d) from other causes of death, (e) from spraints, (f) from tracks, (g) from food remains, (h) from holts, (i) from other types of evidence.

"Direct" data are considered to be those derived from the observation of animals in nature (126 records, 35%), data from physical evidence (14 records, 4%), from animals registered as having been killed by motor vehicles (7 records, 2%) or animals killed by various other means (58 records, 16%). "Indirect" data consist of data from spraints (53 records, 15%), tracks (26 records 7%), food remains (10 records, 3%), holts (8 records, 3%) and from other sources (56 records, 16%).

DISCUSSION

Within the study area the otter occurs in all types of natural wetlands, from lowland still-water habitats, to fast-flowing mountain streams and rivulets. It is also very common in reservoirs and other water bodies (e.g. ponds, pools, fish ponds) in which food is abundant and diverse. Its presence or absence appear to provide some indication of the degree of pollution in particular aquatic environments. The River Ibar, which has its source in western Montenegro, the main part of its course in northern Kosovo, and its confluence with the mouth of the River Zapadna Morava in central Serbia, provides a good example. In the 1970s, the River Ibar was polluted with various xenobiotics, including phenol, causing an almost complete disappearance of aquatic life. Once the discharge of pollutants was prohibited, aquatic communities began to regenerate. In

1982, the reappearance of the otter was reported in this river (Liles and Jenkins, 1984) and, during our research in 1994, the species was registered at two sites (UTM squares: DP 62 and DP 63). This shows the ecological flexibility of the otter, and its ability to respond readily to renewed favourable conditions in habitats from which it had previously disappeared.

In the coastal regions of Montenegro the presence of otters (although in very small numbers), was recorded in most of the water bodies found along the length of the seashore.

As far as vertical distribution is concerned, the otter occurs at altitudes ranging from sea level (0 m asl) along the shore of Montenegro and at 40 m asl in the very east of Serbia (on parts of the Valahian Plain), to 1,400 m asl in other parts of Montenegro and southern Serbia.

Within the study area the otter is protected within the framework of the hunting laws, within which it has been accorded protected status since 1976 in Serbia (Sl. glasnik 51/76), and since 1982 in Montenegro (Sl. list 36/82). The legislation on the prohibition of hunting is not always respected, but the positive effects of protection are noticeable. Hunting pressure is low, except in the vicinities of fish ponds, where the otter is considered to be a pest. It is well-known that the management authorities of a few fish ponds in central Serbia have demanded local suspensions of the prohibition on the killing of otters, but these requests have not be approved by competent institutions and the appropriate Ministry. Furthermore, although otters are hunted for trophies, they have no commercial value. More complete data on such trophies (mainly skins) are difficult to obtain, it being well-known that the otter is protected, and that the hunting of otters is subject to sanctions.

Otter road-kills are not uncommon on roads beside the larger water bodies, especially in lowland regions.

CONCLUSIONS

The results presented here provide a basis for the development of a more complete and realistic picture of the otter's distributional status within Yugoslavia, the otters being found to be widespread in all types of aquatic habitats in the study area. Its survival, status and presence in the territories of Serbia and Montenegro depend on the stability of the inter-relationships of the following factors:

- preservation of suitable habitats
- availability of appropriate food resources
- the provision of stricter and more rigorous legal protection for both the species and its habitats
- the intensity of road-traffic mortality

Although here are insufficient data for a more precise assessment of otter population size and trends, we may consider the status of the population to be encouraging, and probably stable at present.

We do not regard this article as being final, but only as an initial assessment of the otter in Yugoslavia. It is our belief that a special research project on the otter in Yugoslavia, supported by both national and international agencies and institutions, is desirable. This project would provide a basis for a thorough, comprehensive research programme, aimed at the provision of further data on the otter's biogeographical, ecological and taxonomic status, as well as on the issues of its preservation and protection in Serbia and Montenegro.

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