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COASTAL OTTERS IN SOUTHWEST PORTUGAL

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INTRODUCTION

Otters are currently thought to thrive in Portugal, however only limited published information is available to assess the present status and distribution of the species (see Almeida, 1980, Macdonald & Mason, 1982, Simões-Graça & Almeida, 1983 and Reis, 1983). In particular, there is a dearth of information concerning coastal otters (but see Simões. 1977-1982).

It has long been speculated that a healthy population of coastal otters exists in southwest Portugal. The purpose of this work is to clarify the status of this population, as well as to contribute to the knowledge of the biology of coastal otters.

Besides the conservation significance of coastal otters, these populations also have a high scientific interest, since they seem to possess several peculiarities in relation to the inland populations. Coastal otters live in much higher densities, with differences in their spacing-out systems and territorial behaviour (Kruuk & Hewson, 1978; Macdonald & Mason, 1980; Erlinge, 1984; Mason & Macdonald, 1986). At this moment, only the Shetland population of coastal otters has been thoroughly studied (Kruuk et al, 1987).

In this report the preliminary results on the distribution and status of coastal otters in southwest Portugal are presented.

STUDY AREA

The present work has been carried out on an exposed coast where the shore consists of both rock outcrops and small shingle or sandy beaches. backed by small to medium high cliffs. Some stretches have no shore except at low tide.

Beyond both sides of Cape St Vincent, this coast extends over a straight lino distance of about 120 Km. The rocky coastline is only broken by the mouth of small streams, several of them fishless, except for a few eels, and drying out in Summer. There are also a few larger rivers, generally associated with small estuaries, coastal lagoons or marshes. The main catchment basins are those of the rivers Mira, Aljezur and Seixe, all having otters (pers. unpublished observ.).

Inland topography is dominated by an extensive plain mostly occupied by crops and pastures, with pine or eucalyptus windbreaks and scattered pinewoods. This plain is sided by hilly country - "serras" of Cercal, Monchique and Espinhaço de Cão. The latter extends westwards to the sea between the villages of Aljezur and Vila do Bispo, resulting in a broken country, cut. by deep stream ravines and covered by dense mediterranean scrub. Small native woods of cork and lusitanian-oak (*Quercus suber* and *Quercus faginea*) can be found in some protected slopes.

Long left aside, while most of the south Algarvian coast was being invaded by crowds and massively built up, the southwest coast started to be thought as a touristic alternative a few years ago. This resulted in an increase of tourism, with some areas starting to be threatened by large touristic facilities.

Fortunately, human pressure did not go too far and it is to be expected that recently issued protective legislation will prevent further disturbance in most of the area.

Apart from touristic pressures, the southwest coast is a well preserved area, very rich in wildlife (Costa et al, 1983)

METHODS

The use of spraints to monitor populations of otters has been recently challenged, with studies in Shetland by Kruuk et al (1986), Kruuk & Conroy (1987) and Conroy & French (1987) casting doubt on the reliability of this technique. Jefferies (1986) and Mason & Macdonald (1987) have vigorously defended the use of spraints as a survey and conservation tool, and demonstrated the reliability of this technique in habitat evaluation. Further comparisons between known otter populations and their spraint distributions seem to be needed.

In the study area otters are shy and elusive, being almost exclusively active by night and, due to the rocky nature of the substrate, leaving almost no footprints. This faced us with the question of how to assess otter distribution and habitat requirements. Since these kinds of data are urgently needed for the development of environmental policies, a steady but expeditious methodology had to be designed. A survey for otter signs and an inquiry to the local population was carried out in order to obtain a map of otter

distribution with the location of the areas where otters are more likely to occur. In this way, it was expected to overcome some of the potential shortcomings of spraint surveys.

Between December 1987 and March 1988, and less regularly throughout 1988, the coast was walked from Sines to Cape St. Vincent. Signs of otters were looked for (spraints, anal secretions, footprints) with particular attention paid to areas of boulders and to the mouth of small streams where signs seem to be concentrated. Streams were followed upstream for at least 100 m. Most of the areas were checked at least twice at intervals during the period of the survey to confirm otter presence or absence; frequently the absence of signs was related to the rise in the water level in streams, further surveys revealing the presence of otters. During the surveys, inquiries were made to local professional anglers, who generally are aware of otter presence and behaviour, in order to ascertain whether the animals were resident or transient in each area where signs had been found. The results of the inquiries were generally in good agreement with the signs survey.

The south coast, from Cape St. Vincent to Lagos, was prospected during the same period, with 7 sites visited. Stations were chosen for ease of access and for likelihood of otter presence. At each station, a minimum distance of 200 m was searched for otter signs and the species assumed absent, if these were not found after 600 m had been searched. This was only a preliminary survey, since all this coast is to be walked during 1989.

Spraints were collected from sites distributed throughout the study area, with a special interest in 7 pilot sites where monthly collections have been performed. The study of the otter diet in the area is now in progress.

RESULTS

The distribution of the otter on the Portuguese southwest coast is shown in Figure 1. Signs of otters were found at 30 sites on the west coast, and in 6 out of 7 sites prospected on the South Coast.

From a consideration of continued scarcity of positive sites and a continued scarcity of positive signs of otters between sites, as well as on the results of the inquiries, it is preliminarily suggested that there were located twenty-five to twenty-seven areas on the west coast where otters are resident. Doubtful areas are those where information is not enough to decide whether the otters are resident or transient, and those where a very short gap between sites does not allow a clear separation between areas. The site indicated in Figure 1 with a black arrow is an area where otters probably occur but that was not checked because of a lack of access by land.

On the south coast 85.7% of the sites proved positive for otter presence. This number is clearly biased since sites were chosen for likelihood of otter presence rather than randomly or systematically.

Up to the moment, the habitat features related to otter presence have not been quantified. However, it was already noted that most of the spraint sites were found in boulder areas, where some holts in use were found, and in streams where water is present throughout the year. Streams that fall high from the cliffs seem not to be used by otters. An exception is one site where a man made access to the beach made the stream suitable for otters (nevertheless, no data existed before the access was built). Bankside cover was also noted to be important in the otters' use of streams, but the extent in which this is likely to affect otter distribution was not investigated.

In summer, large piles of spraints were found in association with small freshwater pools, especially in long, dry stretches of coast.

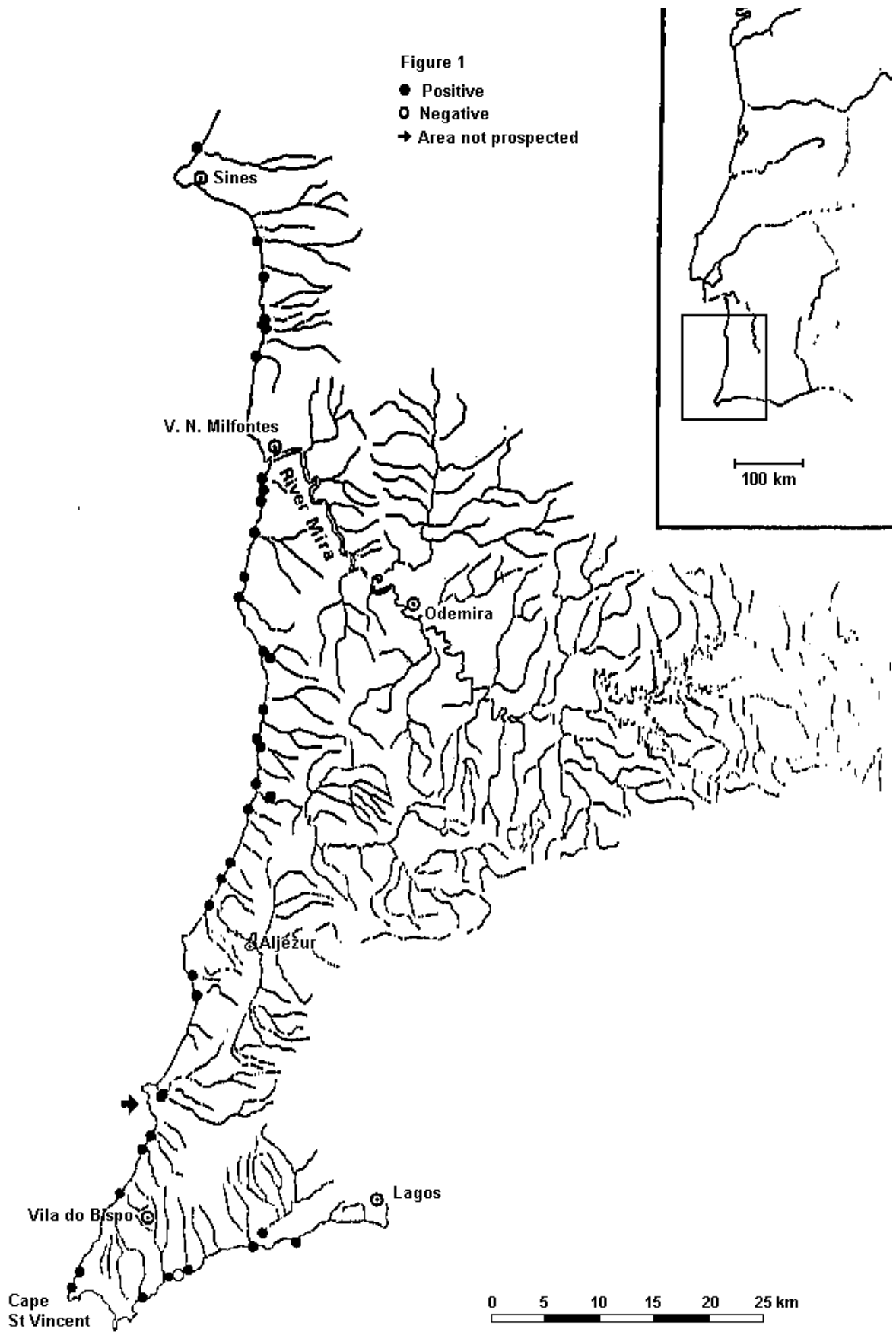


Figure 1: Results of Otter Survey in Southwest Portugal

DISCUSSION

As was previously thought, southwest Portugal seems to hold a good population of coastal-dwelling otters.

On the west coast, over a straight line distance of about 100 Km, twenty-five to twenty-seven areas that otters use permanently were identified. These, with the remaining site that has not yet been prospected, but where otters are likely to occur regularly, accounts for an average of one otter area per 3.6 Km to 1.0 Km of coast.

These so-called otter areas cannot be thought as individual otter territories since the home-ranges of coastal otters overlap considerably (e.g. Kruuk & Hewson, 1978). Knowing that in marine habitat the intensity of sprainting is positively correlated with the presence of holts (Kruuk & Hewson, 1978, Macdonald & Mason, 1980 and Conroy & French 1987, but see also Trowbridge, 1983), it is preliminarily suggested that our otter areas are places where holts are located. In fact, in most of the boulder areas, heavily marked holts were discovered. However, holts were never found in streams, probably because they were deep inside the shrubs (mostly *Rubus* spp.) that make up the thick bankside cover of most of them.

It is not known how many otters are based on each otter area or whether individuals used more than one area. Therefore, it is not currently possible to make any estimate of the absolute number of otters in the study area.

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