

## First records of the Pine Marten (*Martes martes*) in the Danube Delta

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Received: 27. January 2011 / Accepted: 21. July 2011 / Available online: 06. August 2011 / Printed: June 2012

**Abstract.** The first observations of pine marten (*Martes martes*) in the Danube Delta are presented, based on an occasion of trapping and four sight records. All observations took place in the NE part of the Danube Delta, respectively on the Letea Island and its close surroundings. This represents considerable range extension for the species to the east. Based on these observations we suggest that the presence of pine marten in the Danube Delta it is no more an accidental occurrence, rather we may witness a possible range expansion towards an unfamiliar habitat type: the forests of lowland wetlands.

**Key words:** pine marten, *Martes martes*, Danube Delta, wetlands, range expansion.

The pine marten (*Martes martes*) is a medium sized, forest dwelling mustelid, with Palearctic distribution. It is a species recorded mostly in compact, large forests, both deciduous as well as conifer, ranging from lowlands to the upper limits of forests (Ognev 1931, Brainerd & Rolstad 2002). In Romania it occurs mainly in the hilly and mountain regions (Cotta et al. 1998, Geacu 2007), and there are only a few records from lowlands (Călinescu 1931, Murariu 1989). Only 2 proven historical records exist from Dobrogea, both from forests: in Macin (north) and Pazarlia (south), dating back to Călinescu (1931). There were undocumented sight records of the species in the area during the year 2008 (Pocora & Pocora 2010), while in this communication we report the first individual captured and photographed in the Danube Delta. Carnivores are among the most threatened mammals of Europe (Temple & Terry 2007), thus any new knowledge, especially of an expanding population, may provide new possibilities to enhance carnivore conservation (Balestrieri et al. 2010).

The studied region lays in the easternmost part of Romania, and it is one of the largest European wetlands complexes. The Danube Delta covers more than 5400 km<sup>2</sup>, being formed by a number of lakes, reedbeds, forested patches on several sand levees, interconnected by a vast network of ditches and channels. This is a large freshwater wetland, bordered by arable lands to the north, the Black Sea to the east, agricultural areas and steppes with small rocky hills to the west and by a brackish lagoon system to the south. The habitats are mostly related to the presence of freshwater, thus true wetland cover reaches 92%, and less than 5% of the total area lacks (at least) seasonal water cover. Forest cover is 6% and a considerable part of it is seasonally flooded. Non-flooded, continental

type hardwood forests are located on Letea and Caraorman islands, covering less than 1% of the whole delta (Găstescu and Ştiucă 2000).

The first substantiated record of the pine marten was a result of intensive live trapping for medium sized carnivores, a project targeting the European Mink (*Mustela lutreola*) (Kiss 2010). The trapping was performed using grid-lines of 40-50 cage-traps placed at intervals of 10-100 m. The traps used in the Danube Delta were 50 x 16 x 16 cm single entry cage traps, baited with sardines in vegetable oil, and were placed in locations preferred by minks. The traps were controlled at least once daily, any animal caught was removed, identified and measurements were taken (Kranz et al. 2004), after which the animals were released. An adult female pine marten was caught in a trap placed on the Bogdaproste canal (45°12'N; 29°23'E; Point 1 on Fig 1) in the morning of 19 March 2010. Body mass (720 g) was about half of average normal weight (Powell & Zielinski 1983). It had an overall light yellowish color, with the exception of the face, ears, belly and the tail, which were much darker (Fig. 2 and 3.), with the typical orange bib, characteristic for the species. It had a strange and unusual behavior, lacking vigor and aggression. When released, it departed slowly, climbing into a tree. It was found dead after one day in another trap, located at a distance of ca. 10 m from its initial capture, we suppose the cause was starvation. The corpse was deep frozen and transported to the laboratory for subsequent analysis (Oltean et al. 2011). The specimen lately was deposited in the zoological collection of the Eco-Muzeum Institute Tulcea, specimen no. 64/2010.

The second record of the species was on the

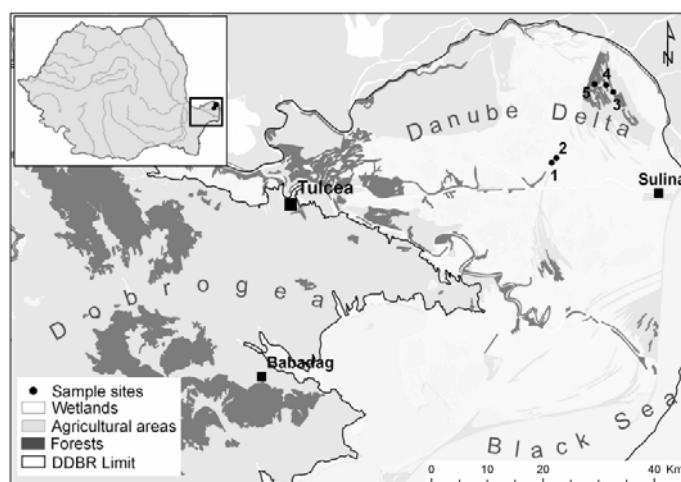


Figure 1. Distribution of pine marten observations in the Danube Delta.



Figure 2. and 3. Pine marten (*Martes martes*) captured on channel Bogdaproste 19 March 2010.

early morning of 24 April 2010, when an adult was observed close to the Dovnica channel, at a distance of ca. 225 m from the first observation (point 2, Fig. 1). The animal was located on a willow (*Salix* sp.) tree containing an active nest of Hooded Crow (*Corvus cornix*). This animal was highly ac-

tive and mobile and left the tree after a few minutes, escaping on the ground towards the dense scrub along the channel (Alexe & Marinov 2010).

To document these observations a thorough search was performed, interviewing local rangers

and researchers for further records, with a result of three more sight records. Pocora, V. observed the species (Pocora & Pocora 2010) on two occasions (20 March 2007 and 23 April 2008, one animal each case) on Haşmacul Mare of the Letea Forest (point 3 and 4 on Fig. 1). Another observation was made by a ranger of the reserve, in the same Letea forest, at Haşmacul Roşu, on 4 May 2010 (Lupu, C. pers com., point 5 on Fig. 1). Two animals were located on this occasion, moving fast in tree-tops. One of them disappeared soon, entering a treehole. The other one left the area, climbing further in the canopy of the trees. Based on the overall appearance and the typical behaviour, the observer identified them as pine martens.

The appearance of a new carnivore species in the forests of the Danube Delta wetland complex may change the existing predatory-prey relations over time; however it is unlikely that such a small population already had any impact on the local biodiversity components. We suggest that a targeted study should be launched to monitor the range expansion of the pine marten in the Danube Delta, and to collect data on the way how this medium sized carnivore will adapt to life in a low-land wetland habitat complex.

**Acknowledgments.** We thank Pocora, V. and Lupu, C for the data provided. The study of European Mink was funded by the DANUBEPARKS Program (2494/05.02.2010, I.N.C.D.D.D.: 412/2010), while SDA was sponsored by POSDRU/88/1.5/S/60185 Grant.

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