(oral)

Reasons of the synurbanization of wild boar in the region of Lake Balaton

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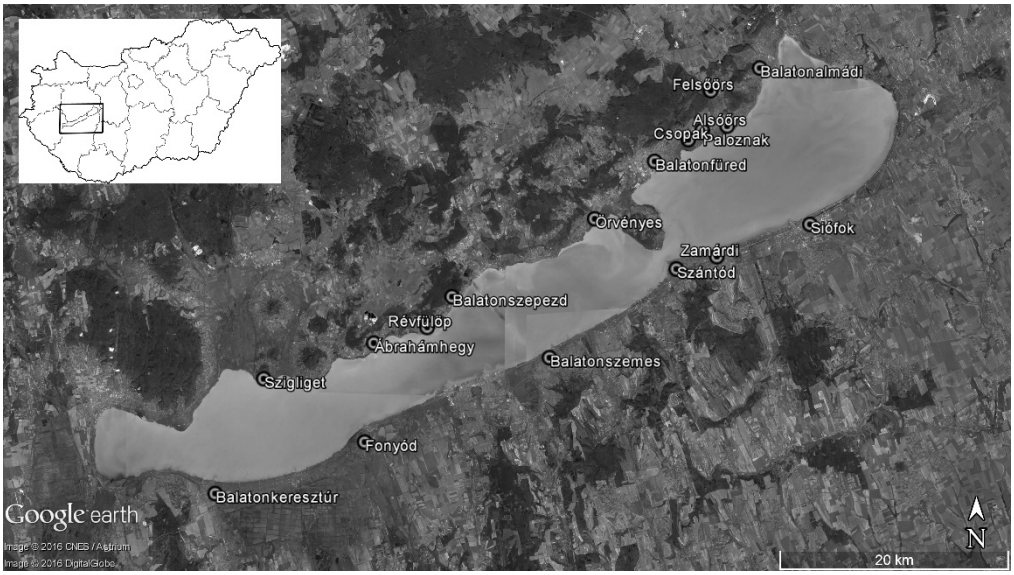
The habituation of the wild boar to urban areas became a growing problem in Hungary. One of the most affected regions is the surroundings of the Lake Balaton, a heavily affected resort area. Being a resort area the human disturbance is low during the winter and spring. The area is surrounded by reed on the lake shore on one side, and by forest and agriculture fields on the other. Wild boar use both of these habitats, and from time to time cause damages in urban areas situated between the two habitats. In order to work out mitigation measures to reduce the negative effects caused by wild boar, we investigated the reasons of the phenomenon.

During our research we used two methods. First we applied keyword search method on different web platforms. We used the Google search with keywords „wild boar" and the name of the settlements which are located on the shore of the lake. We analysed the online national- and local news websites, and the Database of the National News Agency as well. We selected down the search results based on the topic of the article connected to the wild boar appearance in urban areas. We recorded the date of the article, the name of the location, the type of the topic (e.g. direct observation or signs of the damage) and the supposed reason of the appearance. We have found 163 articles or documents which were connected to wild boar problems in urban areas. 20 of them have been connected to the region of lake Balaton, the first result was from 2000. Overall 17 settlements were affected with the problem (**Fig. 1**). The region of the lake was the second mostly affected by wild boar area after Budapest.

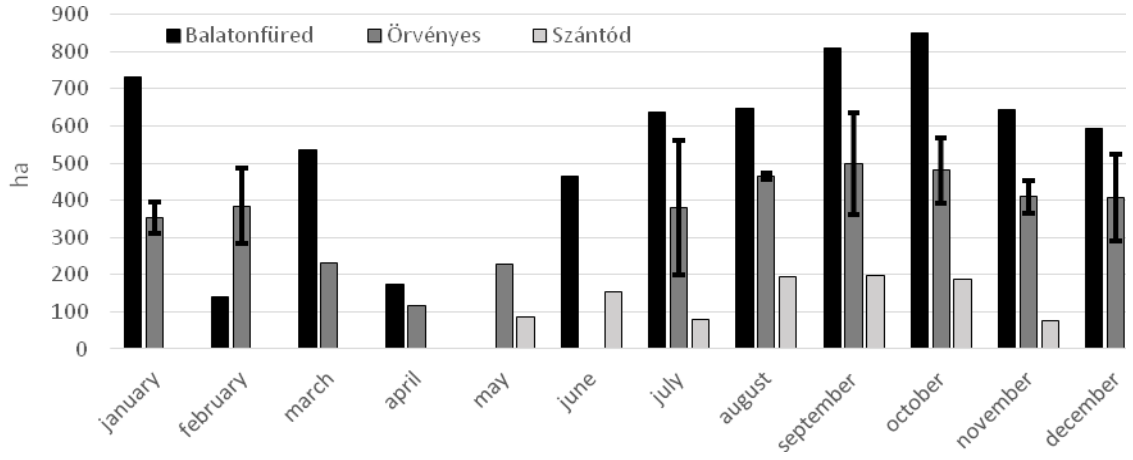
Figure.1. *Map of the Balaton with the affected settlements*



The most frequent reason mentioned in the articles were the artificial food supply on public domains and gardens, and the abandoned real estates and orchards which offered suitable hideaways. They were referred in 65% percent of cases. The population overabundance, the incomplete/damaged fences, the illegal feeding and weather conditions were mentioned in 25% percent of cases.

As a second method we applied GPS-telemetry. We trapped 4 wild boar females in the shrubland habitat on the edge of the reed and equipped them with GPS collars. The 4 animals were trapped nearby settlements with different characteristics. One of them was a bigger town (Balatonfüred) between forest and reed, the second one was a small settlement (Örvényes)(2 animals), connected to agriculture areas and reed, and the third was a middle sized settlement (Szántód) surrounded by reed. We investigated the seasonal change of the home ranges, the activity patterns, and the habitat preference. Habitat use was determined by direct GPS position tracking in the field. The yearly home ranges of the selected animals have evolved in different ways. Measured by minimum convex polygon, the animal from Balatonfüred moved on 1215 ha, while the individuals from Örvényes used 935 ha and 803 ha respectively. The wild boar from 1Szántód had a 209 ha home range. There were also differences between the seasonal home ranges sizes in the three areas (**Fig. 2**).

Figure 2. *Sesonal home range size (MCP) of wild boar in three diferent habitat*



In Balatonfüred and Örvényes the changes between the seasons followed the same trend: the end of the summer and early autumn have the highest values. In case of the wild boar from Balatonfüred which lived close to large vineyards, an autumn habitat shift has been observed. The animals from Balatonfüred and Örvényes used intensively the forest in winter time. The boar from Szántód used only the reed each month. There were no differences between the individuals regarding their daily activities. In both cases an elongated diurnal resting period has been observed, fact which was related to human activity especially characteristic in the tourist season. There was difference between the animlas regarding their habitat use as well, which was due to the different habitat availability. The daytime hideaways (reeds and forests) were straightly connected to the urban areas in more than 90% of the cases. The wild boar from Balatonfüred and that from Szántód visited the urban area for food supply mainly at nighttime. They used abandoned and cultivated gardens, orchards and damaged them by rooting. They often damaged the fences of the gardens as well. The animals from Örvényes visited for food supply mainly the croplands situated between the inhabited agricultural areas. Their appearance and damaging in the gardens was negligible.

As a conclusion we can state that the habituation of wild boar to urban areas is a complex problem because each settlement has a special characteristic. However, regardless the area three parties should manage the problem: the hunters/wildlife managers, the city council via legislation and last but not least the citizens The problem could be solved only by the cooperation of the three parties.

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