

## Newly registered tracks of Raccoon dogs (*Nyctereutes procyonoides*) indicate the presence of resident population in the region of Bolata dere (NE Bulgaria)

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**Abstract.** The Raccoon dog (*Nyctereutes procyonoides* Gray, 1834) is an invasive species which was first recorded for the Bulgarian fauna in 1968. To date, data concerning the distribution of the species in Bulgaria are rather scarce and often provided by non specialists (mostly local fishermen and hunters). The present note includes information concerning the presence of Raccoon dogs in the region of Bolata dere (NE Bulgaria). Faeces and footprints were found in the springs of 2014 and 2015. Apparently, the predators are resident inhabitants of the site, so that particular population could be used for field surveys on the biology of the Raccoon dogs in Bulgaria.

**Key words:** Bulgarian fauna, zoology, monitoring, Canidae, invasive species, predator

### Introduction

The Raccoon dogs belong to an aberrant branch in the evolution of the canids, which had its phylogenetically split from the other dogs about 10 million years ago, or even earlier (see Wayne 1993). One of the Raccoon dog species - *Nyctereutes procyonoides* (native to the Far East), was artificially introduced to the western regions of the Soviet Union in the thirtieth year of the nineteenth century (for overview see Koneva & Durnev 2012). According to these authors, the populations of the Raccoon dog had increased dramatically in short period of time. The predator become invasive in Europe and currently inhabits 24 of the European countries, including Bulgaria (see FACE 2014). In Bulgaria the species was reported for the first time by Peshev & Yordanov (1968). There are few publications in the scientific literature on the distribution of the Raccoon dog in the country (see Georgiev 2010). The present study reports on the results of two years monitoring on the limnic water basins near the Black sea coast in the regions of Shabla, Balchik and Kavarna (NE Bulgaria).

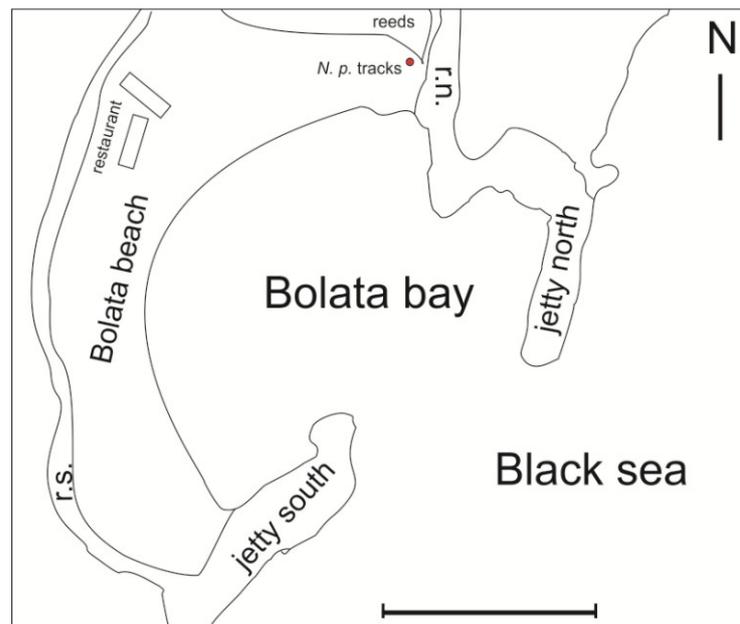
### Materials and Methods

The field studies were performed in the springs of 2014 and 2015 (from 15-th of March to 15-th of June). The shores of Shabla lake, Ezeretz lake, Durankulak lake, Balchishka Tuzla water basin, Shablenska Tuzla water basin and Bolata lake were investigated for marks indicating for presence of Raccoon dogs. That interval of the year was selected, because the Raccoon dogs are active in that period, but the presence of humans in the region is minimal. The research was provided in irregular intervals of 10 to 14 days between the visits. The terrain was inspected for footprints, faeces and hairs. All markers were documented by a Kodak Zx5 camera. The coordinates of the found indicators were

recorded by using portable GPS devices “Garmin Etrex 10” and “Garmin Etrex 30” (Garmin International Inc., Kansas, USA). Figure 1 is based on a “Google Earth” image from 05.08.2013.

### Results and Discussion

During the period of the field research, markers of Raccoon dog’s presence were found only in the region around the fresh water basin located in the “Bolata dere”. On 10-th of April 2014, in the reed belt northern from the lake were found faeces of *N. procyonoides* (coordinates 43°23'24.82"N; 28°28'14.40"E). Later in that spring (on 18-th of May), south of the lake, was found a print of Raccoon dog’s limb (coordinates 43°23'0.98"N; 28°28'17.16"E). The size of the print (length x bright) was 4.5 x 5.4 cm.



**Figure 1.** Schematic map of Bolata bay. The red dot indicates the position of the footprints of a Raccoon dog found on 16.04.2015. Abbreviations: *N. p. tracks* – *Nyctereutes procyonoides* tracks; r.n. - road north, r.s.- road south. Scale bar – 60 m.

In the next year, on the 16-th of April, were documented fresh tracks of a Raccoon dog (Figure 1). The four footprints (coordinates 43°22'58.96"N; 28°28'16.28"E) are presented on Figure 2. The left trace was not well preserved, so the right prints were measured (length x bright): fore limb right – 4.8 x 5.8; hind limb right 4.2 x 5.0 cm; stride length – 36 cm.

Data concerning the distribution of the Raccoon dog in Bulgaria are scarce, probably due to the lack of profound field research. My investigations and literature research indicate that the invasive predator is presumably rather rare in the country. According to Markov (2012), Bulgaria is inhabited by around 39 000 (precise citation 39 343) Golden jackals (*Canis aureus* L., 1758). The number of the jackals was growing since 1962 and in the moment, the country holds the largest population of that species in the world. I propose that in the last years, the competitive Golden jackal had diminished dramatically the Raccoon dog populations in Bulgaria.



**Figure 2.** Tracks of a Raccoon dog at the shore of Bolata dere; Scale bar – 10 cm.

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