

Short Communication

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A note on scavenging behaviour of adult Hermann's tortoise (*Testudo hermanni*)

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Abstract:

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Report of the first observation of scavenging behaviour in the population of *Testudo hermanni boettgeri* that has been monitored for six years in the village Kunovica near the city of Niš in Serbia. On 31 May 2015 at 10:18 a.m., the adult tortoise was observed while eating a dead European green lizard (*Lacerta viridis*).

Key words: *Testudo hermanni*, diet, scavenging behavior, Serbia

Apstrakt:

Nikolić, M., Savić, D., Ilić, M., Stojadinović, D., Crnobrnja-Isailović, J.: Beleška o strvinarskom ponašanju kod adulta šumske kornjače (*Testudo hermanni*). *Biologica Nyssana*, 7 (1), Septembar 2016: 53-55.

Beleška o prvom zapažanju strvinarskog ponašanja u populaciji šumske kornjače *Testudo hermanni boettgeri*, čiji monitoring se sprovodi već šest godina u selu Kunovica, u blizini grada Niša u Srbiji. Adultna kornjača je uočena prilikom hranjenja lešinom zelembaća (*Lacerta viridis*) 31. Maja 2015. u 10:18.

Key words: *Testudo hermanni*, ishrana, strvinarsko ponašanje, Srbija

Introduction

Testudinidae is the family of terrestrial chelonians (i.e. tortoises) which are, apart from a few species of lizards, the only terrestrial ectothermic vertebrates with generalized herbivorous or omnivorous feeding habits (DeI Vecchio et al., 2011). Luiselli (2006) reviewed general dietary habits of 50 species from the family Testudinidae and 15 species from the

families Geoemydidae and Emydidae. Of those, about 66% of terrestrial chelonians were exclusively herbivorous, 33% were omnivorous, and only one species (*Terrapene carolina*) was predominantly carnivorous. Herbivory in tortoises is not obligatory, as many species also feed on different food that



Fig. 1. The adult Hermann's tortoise (*Testudo hermanni boettgeri*) eating the remains of dead European green lizard (*Lacerta viridis*)

includes mushrooms, soil, sand, pebbles, and animal matter (Moskovits & Bjorndal, 1990; Celse et al., 2014).

Testudo hermanni is a southern European species (Bertolero et al., 2011). Several studies about its diet, done in Croatia, Italy, France and Spain, revealed the total of 134 plant species (46 families) on the menu, where the most frequently used plants were from the families Asteraceae and Fabaceae, and a bit less used species were from the families Ranunculaceae and Poaceae (for more detailed list see in Vetter, 2006). According to data from Corsica, the Hermann's tortoise is almost exclusively vegetarian (97.4% plants in 997 feedings observed in the wild), and its highly diverse food spectrum includes at least 250 species (Celse et al., 2014). Although Hermann's tortoises avoid ligneous, aromatic, resinous, milky or hairy plant species, it has been shown that they consume some plants that are toxic to other animal species, such as *Tamnus communis*, *Arum* sp. and *Ranunculus* sp. (Vetter, 2006; Bertolero et al., 2011), perhaps to neutralize intestinal parasites (Longepierre & Grenot, 1999).

In addition to various vascular plants, Hermann's tortoises occasionally feed on mushrooms, colonies of cyanobacteria (*Nostoc* sp.), different species of invertebrates, and feces from various mammal species (human, dog, rabbit, goat, and pig) which seem to be appreciated for the hair and bone fragments or moisture that they contain, as well as on carrion (Vetter, 2006). Heterospecific

coprophagy was also reported elsewhere (Vetter, 2006). The ingestion of soil and stones can be a common albeit rarely observed behavior of desert tortoises (i.e. *Gopherus* sp.). The deficiency of a mineral other than calcium or a ratio of minerals may be responsible for the ingestion of bones, stones, and soils by tortoises (Esque & Peters, 1994). Also, it is known that Hermann's tortoises occasionally ingest soil (geophagy) to acquire minerals (Đorđević & Golubović, 2014).

Here we report on the first observation of scavenging behaviour in the population of *Testudo hermanni boettgeri* that has been monitored for six years in the village Kunovica near the city of Niš, Serbia (43° 18' 00" N; 22° 05' 29" E). Feeding behavior was previously observed in 27 of 1398 records collected during the fieldwork from 2010 to 2015. In all those 27 cases tortoises were feeding on plants. However, on 31 May 2015, at 10:18 a.m., the adult tortoise was observed while eating the remains of a dead European green lizard (*Lacerta viridis*) (Fig. 1).

Kunovica is a typical highland village area, situated at 621 m a.s.l., with the surface of 13.41 km² and agricultural part covering about 4.44 km². It is characterized by diverse vegetation and habitat composition, as about 58% of the land is covered with forests, 19% with fields and gardens, pastures constitute 6%, and there are also abandoned and active vineyards, and orchards (Turnšek, 2006). All these facts suggest optimal plant resources for local Hermann's tortoises.

Budó et al. (2009) recorded scavenging behaviour in *T. h. hermanni* in Albera, (Catalonia, Spain) (one tortoise was observed while eating the remains of a dead bird). To our knowledge, this kind of feeding behaviour was reported in Celse et al. (2014) as sporadically detected in tortoise populations in Serbia, but no details were provided.

On the basis of relations between habitat preferences and dietary habits in tortoises, their sporadic carnivorous diet is considered as relic (Natchev et al., 2015, but see Jackson et al., 1999). Therefore, further investigation about variation in its feeding habits is necessary for building more comprehensive knowledge on Hermann's tortoise ecological requirements.

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