

**MODERN STATE AND TRENDS IN THE NUMBERS OF TESTUDO GRAECA
IN THE NATURAL BOUNDARY "SHIROKAYA BALKA" (NEAR NOVOROSSISK CITY)**

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Spur-thighed tortoise (*Testudo graeca* Linnaeus, 1758) is the only species of the Testudinidae family found in Russia. These tortoises are rare in the south of the European Russia but common in some places of the Caucasian Black Sea coast (Inozemtsev, Pereshkol'nik, 1985; Leontyeva et al., 1995; Dzhmirzoev, Tertyshnikov, 2000; Darevski, 2001; Leontyeva, Sidorchuk, 2001). However, the knowledge of their ecology is still imperfect and, in some cases, may be erroneous. So studies of the tortoise biology and its distribution are needed to reveal the species' requirements to the environment and the abundance limiting factors. For the Caucasus this is topical since the number of tortoises tends to reduction and this species already enters the Appendix II of the Bern Convention, The International Red Book, and the Red Book of Russian Federation as a disappearing one (Category I) (Darevski, 2001).

Now the habitat of *Testudo graeca* in Russia is a mosaic network of plots inhabited by isolated reproductive groups (Inozemtsev, Pereshkol'nik, 1985; Darevski, 2001; Dzhmirzoev, Tertyshnikov, 2000; Leontyeva, Sidorchuk, 2001; Leontyeva et al., 2001). There is one of the largest groups near Novorossiysk City, on the Caucasian Black Sea coast (Tabachishin, Zavialov, 2003).

The materials of several censuses conducted in the natural boundary "Shirokaya Balka" (near Novorossiysk City) from 1 to 15 July, 2000-2002 were analyzed. The censuses were made on permanent though not fixed routes with subsequent recalculation of the data in terms of area (Chelintsev, 1996):

$$D = n / 2LW,$$

where D is the population density (ind. / ha), L the route length (m), W the halfwidth of the observation band (m), n the number of animals seen.

The territory under survey was found to be inhabited by tortoises unevenly. Their life is associated with various kinds of landscapes and their derivatives (mountain and low-lying forests, sparse growth of trees and bushes on the slopes and bottoms of gullies, etc.). The reptiles avoid stony precipices and steep heights. Juniper brushwood and sparse growths of *Paliurus spina-christi* with juniper on gentle (< 20°) slopes of southern expositions are most preferable. The animals often can be found in deserted gardens and vineyards bordered with brushwood and sparse growth of trees.

The number of *Testudo graeca* in such local habitats on the territory under survey did not exceed 1 ind. / 1 km. However there were some specific plots with the density up to 8-11 ind. / 1 km and even to 22 (10-28 ind. / ha). Pubertal individuals prevailed (57-63%, 59.6% on the average). Juniors were met much more rarely, their fraction in the population varied from 27.2% (2000) to 16.1% (2002). Such factors as the recreational utilization of the territory (uncontrolled catching tortoises by tourists and health-resort visitors) and mechanical treatment of the soil should be regarded as the chief ones affecting the population structure.

Thus, in spite of the relatively high modern values of the *Testudo graeca* numbers on the territory, a trend of destabilization of the habitats due to the increasing anthropogenic (recreational) press is obvious. This requires further studies with the aim to propose a set of measures to protect the species.

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