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Zoology**THE STUDY OF GREEK TORTOISE (*TESTUDO GRAECA* LINNE, 1758) IN THE ABSHERON PENINSULA IN MODERN ENVIRONMENTAL CONDITIONS****Dj.A. Nadjafov, R.R. Agverdiyeva**

(Presented by Academician of ANAS S.V.Aliyev)

In recent years in connection with various construction activities on the Absheron Peninsula the population of Greek tortoise is significantly reduced. On the background of the current environmental changes, a comprehensive study of the biological characteristics of these turtles is needed. The paper considers nutrition, reproduction and reasons of decrease in the number, as well as possible ways of addressing this shortcoming. Found that during the year the turtle twice change its food, with the beginning of the year eats food of animal origin (snails , worms and various insects), and then the food of vegetable origin. This process occurs two times. In addition , it was found that the Greek tortoise holds its finished eggs, if in connection with the onset of cold weather and females do not have time to put them.

Keywords: *Greek tortoise, ecology, herpetofauna, aviary, carapace, anthropogenic, plastron*

Mediterranean or dry turtle was prevalent in large areas of the world, including in Azerbaijan. The information about the survival of this species of turtle for the first time gave in Caucasus region in Pallas (1913), in the Gyandzha province in Azerbaijan (it was called the Province of Yelizavetpol) Kesler (1878), in Menetrie around Baku (1930), Hohenakker (1837) around Lankaran and in the Talysh Mountains (link A.M.Alakbarova, 1978) [1]. As the name suggests, this kind of turtle is better suited to the dry climate, drought, feeds herbal products, winter is a dream in the winter and in the summer, sleeping in the summer heat is like a cold-blooded animal. Due to the fact that the body of the turtle is covered with carapax from the outside (back of the pelvis), while in the lower part of the plastron (basin, covering the lower part of the body) to overcome the difficult nature of the factors reptiles lives up to now, is one of the very old class.

In recent years, a number of (population growth) settlements have been built, new roads, communication lines and other infrastructure systems, landscaping and reconstruction work, the production of demographic change in Absheron peninsula bruises. Of course, this work has an impact on the flora and fauna of Absheron. Building of gardens and villages and

ongoing constructions on the peninsula, cutting affects living creatures of the earth, especially its herpetofauna. Herpetofauna moving relatively quickly, showing activity in the run up to identify the types of asylum for them in other areas, but remained below the passive ones perish or stone-ground or are quickly eaten by the enemies can't find shelter. In this respect, the Mediterranean turtle on the peninsula are exposed to more anthropogenic factors animal. Therefore, the number of Absheron land tortoise has dropped dramatically in recent years. It should be noted that the best indicator reflecting the Mediterranean turtle species, environmental cleanliness. *Testudograeca* pathogenic factors of the environment on the other hand, over-sensitive. The fate of the Absheron peninsula Mediterranean tortoise against the back-drop of acute environmental changes literally at stake. Not surprisingly, studies have shown that after taking the Baku-Dzeihan oil pipeline, construction of renewable animals in the most difficult areas of the land turtle. Therefore, the environmental conditions of the peninsula and future generations to maintain the number of Mediterranean tortoise biology study and, when necessary, the aim was to produce duplicate nature.

Materials and methods

The research covers the first half of 2012-2014. This period of time in different areas of the Absheron Peninsula Mediterranean tortoise kept as a volyer conditions. Both sides of volyeris iron mesh fence surrounded by stone. Dimensions -10 meters long, 6 meters wide, adapted to the natural conditions, a maximum of Absheron conditions. Nutrition and volyer grass, shrubs and trees at the expense of crops, but also with a variety of vegetable crops were (cabbage, carrots, beets, apples, etc.). In the volyer number of individuals in the ratio of 1-in from 2 to 1, meaning the individual male and female individuals are expected to be 2. A total of 36 units scheduled Mediterranean tortoise, of which 12 units, while the number of male and 24 are female. Turtles have reached sexual maturity animals gathered for practice. They are generally accepted methods for reptiles on the morphometric measurements were taken from the base [2,3]. The hottest time of the day to learn embryogenezes tortoise observations on them, it was noted that the exact date of fertilization. Then put the eggs were kept in custody. Observations show that the Mediterranean turtle on the front edge of the digs so they try to escape with their are not going to put you in the back with their location then dig the eggs [4,5]. The depth and breadth of nests to lay eggs in the mother's weight, reproductive activity and associated correlative with the number of eggs set. AOSAI branded electronic scales weighing the eggs are laid, with the total number of accepted methods, sizes taken shtangenpergar.

The results and discussion

Mediterranean tortoise (fig. 1) spanning 52

species of reptiles in the country is one of a class (Aliyev, Ganiev 1997; Safarova, 2000). Wide spread in the country, natural and climatic conditions of the Absheron peninsula dry subtropical climate more favorable for their survival and proliferation. Mediterranean turtles that does not demand too much water has been taken, the need to provide water in the plant, to increase its drilling there, putting their eggs in the sand, the sun's rays from the influence of incubation the eggs are fertilized.

Mediterranean turtles throughout the year (in terms of volyer feeding detainees in the winter months) mainly feed on plant foods. However, in Absheron peninsula they are feed the animal-based foods, as well as in food and plant origin. Our observations show that the Mediterranean turtle on the peninsula in the early summer, the vine and the small land snails feed on Cucina. It can be assumed that the lack of green plants this time of year and just awaked tortoise hibernation due to the need for animal-based proteins in invertebrate animals, they prefer to eat. Then the wild and cultivated plants are feeding. In gardens and freshly planted areas and planting sunflower, tomato, cabbage and other vegetable crops seedlings part of the food-body cause damage. The effects of high temperature on the Absheron peninsula, nature, plants dry up in August, so the turtles and other animals feed on invertebrates. According to some literature [6,7] of the African continent in the center and south of the Mediterranean tortoise living in large and small cattle feed experiments.



Fig. 1. Mediterranean tortoise.

The peninsula new gardens, residential areas, roads and other development works in the improvement of conditions on the one hand, creates conditions for the growing population, the vast majority of them, while the other side tortoise habitat is gradually narrowing the reptile, as well as other causes, the end result of their a decrease in the number of leads. Not surprisingly, as a kind of Mediterranean endangered turtle in the country and protection of the red book has been recommended settlement. Not surprisingly, as a kind of Mediterranean endangered turtle in the country and protection of the red book has been recommended settlement.

One of the factors in Absheron peninsula, which led to a decrease in the number of Mediterranean tortoise by to have a many natural enemies. In particular, foxes, stray dogs, and birds of prey wild birds are as a result of the proliferation of baby turtles and sometimes even older individuals are exposed to such attacks and destroyed. Since the enemies are very soft egg dish best out of individuals can't be protected, they are getting smarter and are eaten by enemies quickly. Older members of the enemy and to protect the safety of your head and pulling the bottom of the dish can easily protect their environment. Of course, in the Mediterranean turtle caught by a large bird of prey is raised into the air, then at the height of any hand-thrown rock. Although there is no right and how strong they karapax and plastrons disintegration as a result of enemy eats it easy. Absheron peninsula, such events are often observed in the rocky shores of the sea.

Mediterranean turtle's promotion of hibernation and mating activity of Absheron in different months in different years show dates. This is the start time and temperature rise, first of all depends on what you type. Environmental factors such as temperature changes, hibernating tortoise walking time and dramatically affects the activity of mating. Thus, on November 15-16, 2013 in the Mediterranean tortoise intensive multiply Fatmai Novkhany – of Absheron we observed. It can be assumed that they do not fertilized eggs in the nest, keeping their

bodies are hibernating, but the body as well as the incubation of eggs, there is not going to lower the temperature of the surrounding community. Early spring starts and raised enough temperature (14-16 ° C) is ready for the eggs in the nest, there are correcting.

When dry, the turtle living in Absheron peninsula unstable couples form of sexual activity. As a general rule, male individuals reach sexual maturity relatively quickly than females. Thus, the activity of mating males are 5 years of age, while females too late, that they are capable of making the next generation of 11-14 years [8,9]. The physiological aspects of giving the next generation so different yet been studied in detail by scientists. Mating usually begins with "wedding dance" males with own dishes hits out strong blows to the females, and issue a different sounds. The process takes about 2-3 hours and then leaving, but it's cool to be operational in time (17-18 hours) is repeated again. Studies have shown that the condition of the Absheron Peninsula Mediterranean turtles lay eggs several times a year, but the impact of environmental factors in all of their offspring do not reach sexual maturity. Perpetrated by the enemies of the people and the natural habitats of limiting the increase in the number of animals in recent years has decreased sharply.

Thus, the environmental conditions of the Absheron peninsula Mediterranean tortoise feeding study shows that these animals feed on the nutrients of various origins in separate chapters. At the beginning of spring foods of animal origin, type in the middle of the summer at the end of the second half of plant nutrients, again in late summer and early fall foods of animal origin, feed on botanicals at the end of autumn. As we have seen over the years, twice the Mediterranean turtles plant, animal-origin foods, eat twice.

Other interesting information associated with their proliferation. Apparently Mediterranean tortoise breeding activity (mating) directly relates to the temperature of the environment. At the end of the mating between November 15-20, and they can't put their eggs buried in the spring of next year, keep your own body.

Such individuals after waking from hibernation (March-April) to build the nest with their first drive and then mating activity after putting the eggs are there.

REFERENCES

1. *Alekperov A.M.* Amphibious and Reptiles of Azerbaijan. Baku: Elm, 1978, p.265
2. *Aliiev T.R.* The modern condition of amfibia and herpetofauna of Azerbaijan// The study and conservation of animal world. Baku: Elm, 1997, p.144-145
3. *Jafarov S.K.* Reptiles-Reptilia // Fauna of Azerbaijan. Baku: Elm, 2000, vol. III, p. 195-199.
4. *Denisman LT, Kaleckaya M.L.* Methods of quantitative calculation of amphibians and reptiles. Methods of accounting and the geographical distribution of terrestrial fauna. M., 1952, p. 329-341
5. *Nacəfov DJ.A., Iskenderov T.M., Eminova A.A.* Some features of biology of reproduction of Greek tortoise (*Testudo graeca* Linne, 1758) in the conditions of Azerbaijan // Zoologist. J. Moscow, 1992, Volume 71, No. 4, p. 148-153.
6. <http://www.zina-blog.ru/suhoputnyecherepahi/69-sredizem>
7. <http://www.zoodrug.ru/topic2718.html>
8. <http://dic.academic.ru/dic.nsf/ruwiki/1639185>
9. <http://myreptile.ru/forum/index.php?topic=5414.0>

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MÜASIR EKOLOJİ ŞƏRAİTDƏ ABŞERON YARIMADASINDA ARALIQDƏNİZİ TISBAĞALARININ (*TESTUDO GRAECA* LINNE, 1758) ÖYRƏNİLMƏSİNƏ DAİR

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Son illər Abşeron yarımadasında aparılan inşaat quruculuq işləri ilə əlaqədar olaraq aralıqdənizi tısbağalarının sayı xeyli azalıb. Mövcud ekoloji dəyişilmə fonunda bu heyvanların bioloji xüsusiyyətlərinin öyrənilməsi zərurəti yaranıb. Təqdim olunan işdə aralıqdənizi tısbağalarının qidalanması, çoxalması və sayının azalma səbəbləri, eləcə də onun aradan qaldırılması yolları göstərilmişdir. Müəyyənəşdirilib ki, onlar ilin əvvəlində heyvan mənşəli qidalarla, sonra isə bitki mənşəli qidalarla qidalanırlar. Bu heyvanlar öz bədənində mayalanmış yumurtanı növbəti ilin yazınadək daşıya bilirlər ki, bu da qışın başlanması ilə əlaqədardır.

Açar sözlər: aralıqdənizi tısbağası, ekologiya, herpetofauna, volyer, karapaks, antropogen, plastron

К ИЗУЧЕНИЮ СРЕДИЗЕМНОМОРСКОЙ ЧЕРЕПАХИ (*TESTUDO GRAECA* LINNE, 1758) НА АБШЕРОНСКОМ ПОЛУОСТРОВЕ В СОВРЕМЕННЫХ ЭКОЛОГИЧЕСКИХ УСЛОВИЯХ

Дж.А. Наджафов., Р.Р.Агвердиева

В последние годы в связи с различными строительными мероприятиями на Абшеронском полуострове численность средиземноморской черепахи значительно уменьшается. На фоне существующих экологических изменений следует всестороннее изучение биологических особенностей этих черепах. В работе рассматриваются вопросы питания, размножения, а также и причины уменьшения численности популяции, предлагаются возможности улучшения данной ситуации. Установлено, что в течение года черепахи два раза меняют питание, с начала года питаются пищей животного происхождения (улитками, червями и различными насекомыми), а затем пищей растительного происхождения. Причем, этот процесс происходит дважды. Кроме того, установлено, что у средиземноморской черепахи имеет место перенашивание готовых яиц в связи с наступлением холодов, так как самки не успевают откладывать их.

Ключевые слова: средиземноморские черепахи, экология, герпетофауна, вольер, карапакс, антропогенное, пластрон