

Distribution of Lizards of the Absheron Peninsula

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Abstract

60 species of reptiles live in the Azerbaijan Republic. From them 17 species, or 28.3% are spread on Absheron Peninsula. These species belong to 3 orders, 13 families, 22 genera. Lizards are reptiles belonging to the order Squamata. On Absheron peninsula lizards inhabit a wide variety of biotopes, from garden habitats to sand dunes. Most species of Absheron are diurnal, but Caspian bent-toed geckos comprise a night time fauna in many habitats. Many species, can shed their tails in order to escape from predators. Lizards have many morphological adaptations that suit them to the substrates they inhabit, from specialized toe-pads in vertical rock-face dwellers to fringed-toes in loose-sand runners. Modern scientific study of lizards in Absheron began with the field natural history studies of E.P. Menetrem and E.E. Eichwald in the 19th century.

Keywords: Absheron Peninsula; Ecology; Lizard; Environmental Condition; Map

Introduction

Absheron is the largest peninsula in Azerbaijan, located on the western coast of the Caspian Sea. The peninsula, with its climatic and relief index, has good conditions for different species of reptiles, so it has rich lizard members. However, territory of Absheron is exposed to ever-increasing anthropogenic influence. Research of distribution and ecology of lizard populations are necessary for solving one of global problems of our time preservation and use of biological diversity as the basis for the sustainability of the biosphere.

Materials and Methods

In 2007-2018, we studied the distribution of lizards on Absheron peninsula and compiled the corresponding maps. In order to discover habitats of lizards on Absheron

peninsula, we organized an expedition and studied herpetological collection of the Institute of Zoology of National Academy of Sciences of Azerbaijan. Activity of lizards was investigated at different times of day and in certain months of year. During the expeditions, we found 823 individuals of different species of lizards, among which were: 746 individuals of *Cyrtopodion caspius*, 427 *Ophisops elegans*, 298 *Eremias velox*, 226 *Lacerta strigata*, 109 *Eremias arguta*, 87 *Laudakia caucasia*, 41 *Eumeces schneideri*. In addition, all studies which were carried out before us for detection of this species were reviewed, and all literature data were studied.

Result and Discussion

From the Lacertidae family on Absheron Peninsula, there are 4 species-*Eremias velox*, *Eremias arguta*, *Ophisops elegans* and *Lacerta strigata* that makes about

57,1% of lizards, which live on this peninsula. From families Agamidae, Scincidae and Gekkonidae, there is one species of lizard *Laudakia caucasia* Eichwald, 1831, *Eumeces schneideri* and *Cyrtopodion caspius*, each makes up about 14,3% of total number of lizard species (Figure 1).

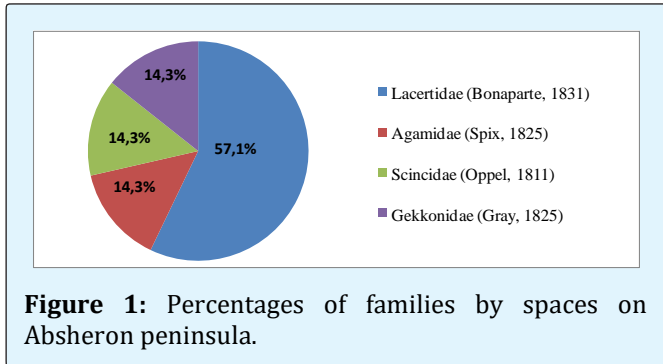
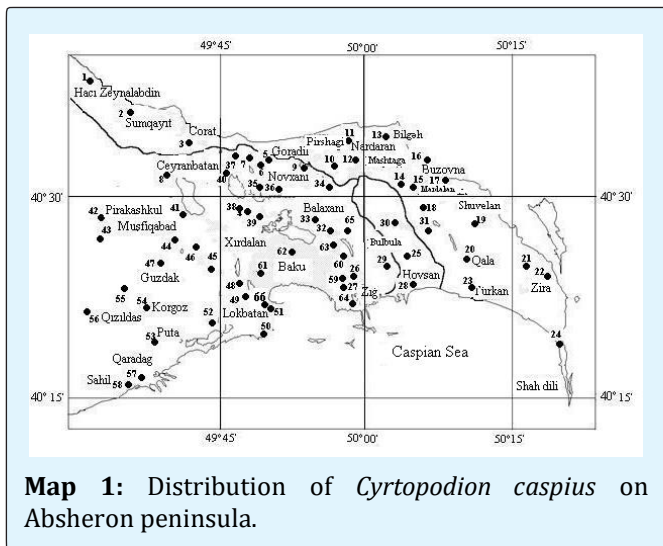


Figure 1: Percentages of families by spaces on Absheron peninsula.

Caspian bent-toed gecko *Cyrtopodion caspius* (Map 1): It is one of the most common nocturnal lizards of Azerbaijan (Figure 2). This species was first discovered in 1831 by E.E. Eichwald on mountains of Baku. Caspian bent-toed gecko is a small sized lizard of Gekkonidae; it is distributed in many cities and villages in Absheron. *Cyrtopodion caspius caspius* and *Cyrtopodion caspius insularis* inhabits on the peninsula.



Map 1: Distribution of *Cyrtopodion caspius* on Absheron peninsula.

Activity of Caspian gecko in March, April and October is daytime. And from May to September, the activity is twilight and night (Figure 2). In recent years, a lot of constructive, industrial and communicative works have been carried out on Absheron peninsula [1]. In this regard, Caspian bent-toed gecko is widespread on Absheron Peninsula [2].

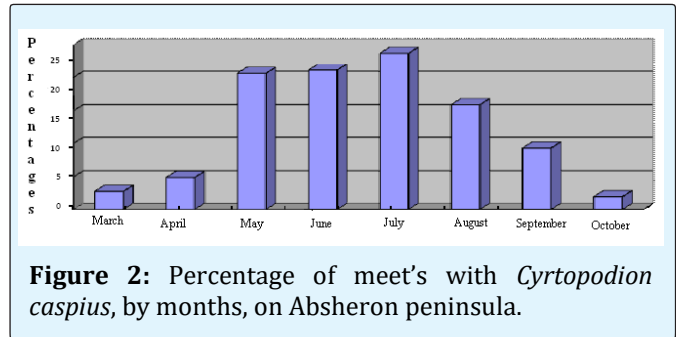
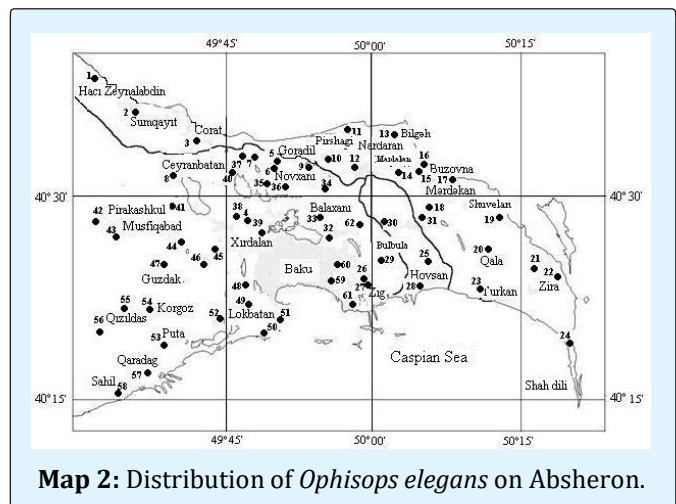


Figure 2: Percentage of meet's with *Cyrtopodion caspius*, by months, on Absheron peninsula.

Snake-eyed lizard *Ophisops elegans* Menetries, 1832 is widely spread on Absheron Peninsula (Map 2). For the first time in 1830, it was marked by E.P. Menetrim in settlements of Mashtagi and Buzovna.



Map 2: Distribution of *Ophisops elegans* on Absheron.

Ophisops elegans adapts well to semi-desert climatic conditions Ananjeva NB, et al. [3] and has high resistance to cold and environmental pollution (Figure 3).

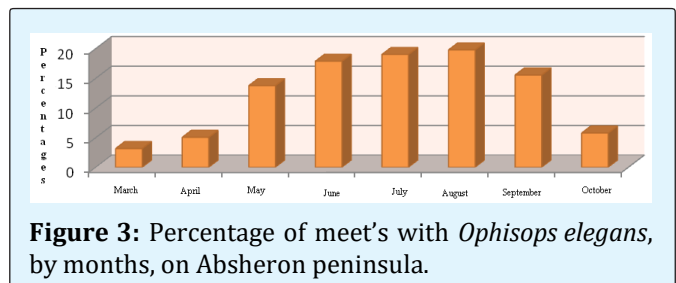
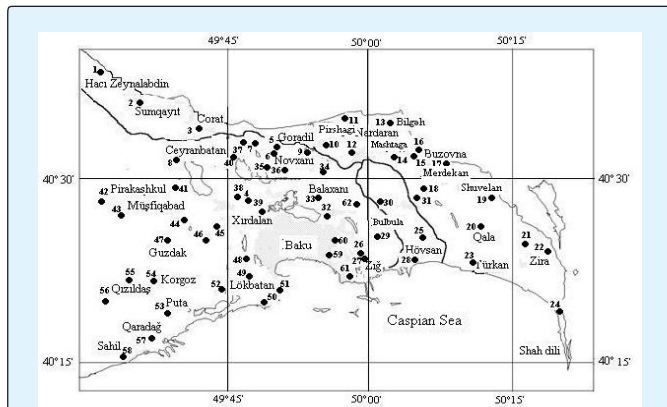


Figure 3: Percentage of meet's with *Ophisops elegans*, by months, on Absheron peninsula.

Eremias velox Pallas, 1771: It is assumed that the lizard that was found in 1832 by Menetria EP, also called *Podares velox* Wagh, is snake-eyed lizard. In addition, Kessler KF [4] noted in his writings that in 1878 he brought this species for Absheron peninsula. Today, this

species is very common on Absheron peninsula [1] (Map 3).



Map 3: Distribution of *Eremias velox* on Absheron.

Rapid racerunner is a small lizard (approximately 45-67 mm in length) [5]. This lizard is widely distributed in arid and semi-arid areas of Absheron. Subspecies of *E. v. caucasica* Lantz, 1928 inhabits on the peninsula (Figure 4).

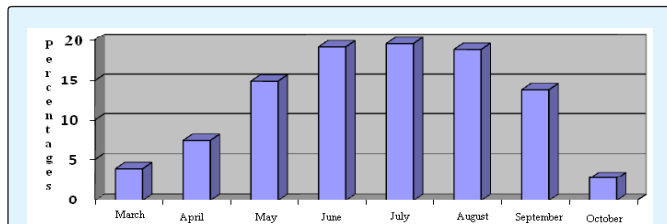
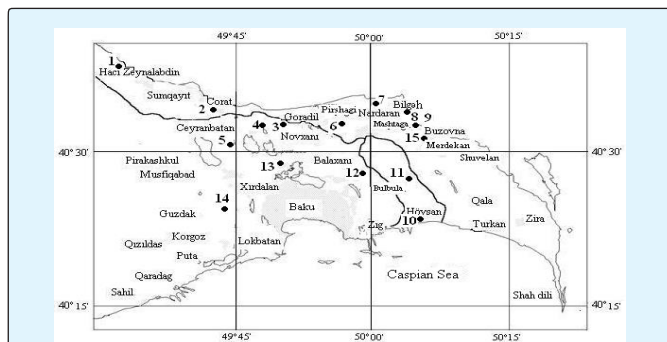


Figure 4: Percentage of meet's with *Eremias velox*, by months, on Absheron peninsula.

Schneider's Skink *Eumeces schneideri* (Map 4): In 1875 Grimm emphasized in his research's finding *E. schneideri* near Baku. Subspecies of *E. s. princeps* inhabits on the peninsula.



Map 4: Distribution of *Eumeces schneideri* on Absheron.

In Absheron, Schneider's skinks are found in dry, rocky steppes and ruins [1] (Figure 5).

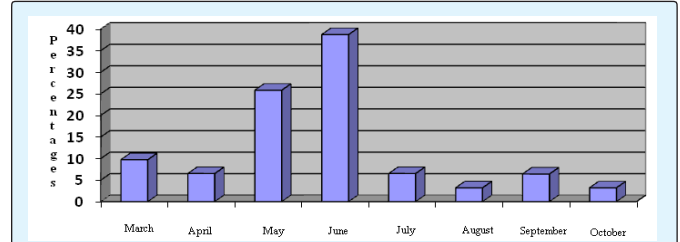
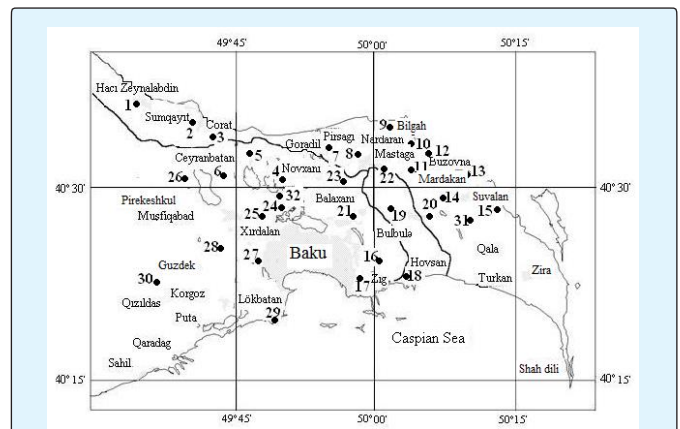


Figure 5: Percentage of meet's with *Eumeces schneideri*, by months, on Absheron peninsula.

Steppe-Runner *Eremias arguta* (Map 5): The subspecies of this species, *E. a. deserti* lives on Absheron Peninsula. For the first time, Menetrie noted this lizard in 1930 near Baku. In 1878, K.F. Kessler caught a representative of this species near Baku and named it *E. pardalis*. This species was widespread on Absheron peninsula.



Map 5: Distribution of *Eremias arguta* on Absheron.

Steppe-Runner is very sensitive to the surrounding effects (Figure 6) and it can easily be caught by enemies and therefore, in recent years its number has significantly decreased.

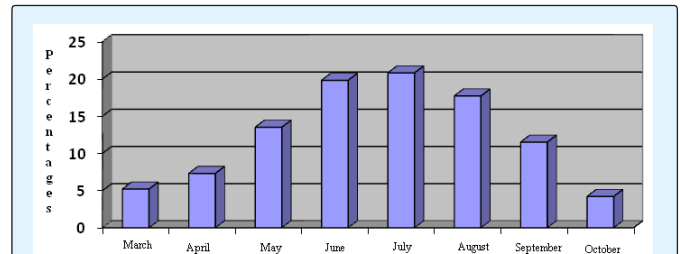
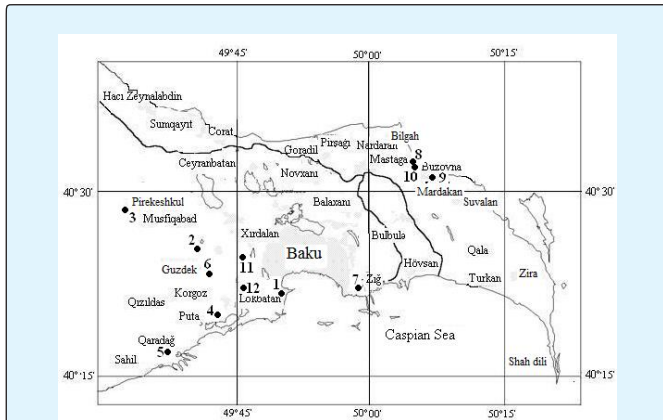


Figure 6: Percentage of meet's with *Eremias arguta*, by months, on Absheron peninsula.

Caucasian Agama *Laudakia caucasia* (Map 6): For the first time this lizard was marked by Eichwald on rocky places near the city of Baku. This well-spread species was once again noted in 1913 by B A Dombrovsky.



Map 6: Distribution of *Laudakia caucasia* on Absheron.

On Absheron Peninsula, subspecies of this species *L.c. caucasia* [6] can be found now days. To date, this lizard can be found in the mountainous areas of peninsula (Figure 7).

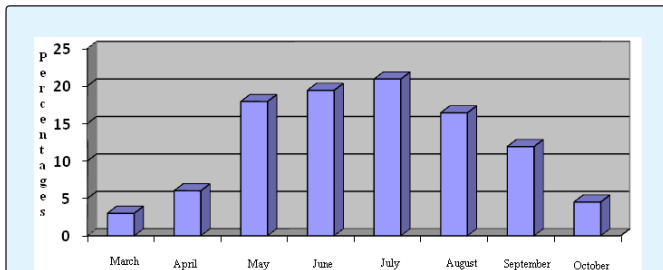
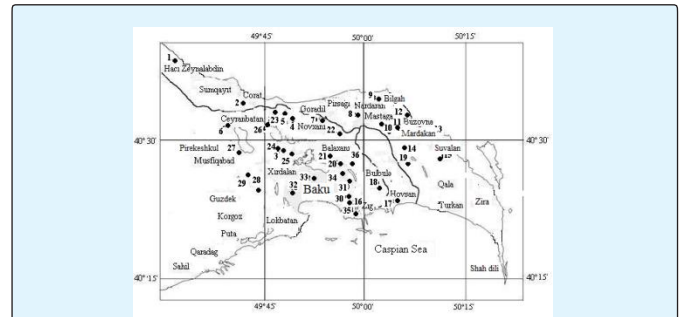


Figure 7: Percentage of meet's with *Laudakia caucasia*, by months, on Absheron peninsula.

Caspian Green Lizard- *Lacerta strigata* (Map 7): AM Nikolsky, et al. notes that for the first time this lizard, was discovered by Menetrie near the Baku in the early 19th century and called it *Lareta quinquevitto*. But this is not true, since the ecological environment of Absheron Peninsula was not suitable for this species two centuries ago. These lizards are not able to live in a semi-desert climate, so they could be brought after a plant environment appeared in this area [7,8].



Map 7: Distribution of *Lacerta strigata* on Absheron.

The first time this species was marked by AM Alekperov in 1966 [9]. He found two representatives of this species in the village of Razin. Now you can meet Caspian Green Lizard at dachas and parks (Figure 8).

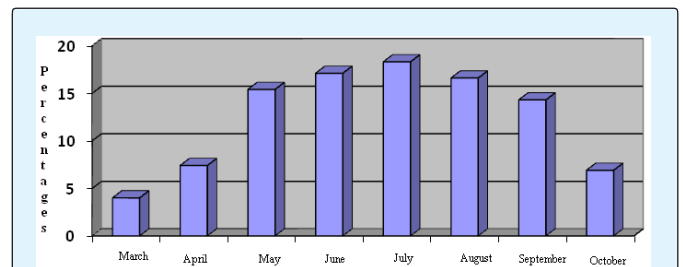


Figure 8: Percentage of meet's with *Lacerta strigata*, by months, on Absheron peninsula.

Conclusion

On Absheron Peninsula, 7 species of lizards *Eremias velox*, *Eremias arguta*, *Ophisops elegans*, *Lacerta strigata*, *Laudakia caucasia*, *Eumeces schneideri*, *Cyrtopodion caspius* including to 4 families, Agamidae, Scincidae, Gekkonidae and 6 genera, *Ophisops*, *Lacerta*, *Laudakia* *Eumeces* *Cyrtopodion* live [10-12]. From them six species well adapt to modern ecological conditions and one other species of lizards is seldom met on Absheron Peninsula. The most common species of lizard in Absheron peninsula is the Caspian bent-toed gecko [13,14]. In addition to these species, *Ablepharus pannonicus* is found only on islands near the peninsula. All species of Absheron are oviparous. Most members are small size and are insectivorous.

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