Научный журнал "Терра", 2007

- 3. Кутикова Л. А. Коловратки фауны СССР. Л., 1970. 744 с.
- 4. Мануйлова Е. Ф. Ветвистоусые рачки фауны СССР. М., Л.: Наука, 1964. 328 с.
- 5. Методические рекомендации по сбору и обработке материалов при гидробиологических исследованиях на пресноводных водоемах: Зоопланктон и его продукция. Л., 1984. 33 с.
 - 6. Мэгарран Э. Экологическое разнообразие и его измерение. М: Мир, 1998. 184 с.
- 7. Рылов В. М. Фауна СССР. Ракообразные. *Cyclopoida* пресных вод. т.3, вып.3. М., Л.: АН СССР, 1948. 320 с
- 8. Скакун В. А., Киселева В. А., Горюнова А. И. Экосистема озера Борового и возможности ее преобразования // Selevinia, 2002. № 1-4. С.249-264.
- 9. Хеллауел Д. М. Сравнительный обзор методов анализа данных в биологическом надзоре // Научные основы контроля качества поверхностных вод по гидробиологическим показателям. Л.: Наука, 1977. С. 108-123.
- 10. Цалолихин С.Я. (под ред.) Определитель пресноводных беспозвоночных России и сопредельных территорий. СПб: ЗИН, 1995. 628 с.
- **Крупа Е.Г.** ЩУГНН-БОРОВ К6ЛДЕР1НЩ ЗООПЛАНКТОН КУРАМЫ. ЗООЛОГИЯ ИНСТИТУТЫ, БАЛЬЩ ШАРУАШЫЛЫГЫ ИСНТИТУТЫ. 2006ж. тамыз айында Щугин- Боров системасының зоопланктон алуан турлшп және сандык дамуы зерттелдк Зоопланктон турлершщ сандык ©Згеруі бдан (Кііпі Чебчье коленде) 27 ге (улкен Чебачьекол) дешн ауыткыды, сыны 61,2-207,5 мың. экз/м³, ал биомассасы1,1-3,1 г/м" кур ад ы.
- **Krupa E.G.** UP-TO-DATE LEVEL OF BIODIVERSITY AND QUANTITATIVE DEVELOPMENT OF ZOOPLANKTON IN KOKCHETAV REGION LAKES. Institute of Zoology, Fishery Research and Production Centre, Almaty. Zooplankton of Kokchetav Region Lakes was investigated in August 2006. Number of zooplankton species varied from 6 in Maloe Chebach'e Lake to 27 in Bolshoe Chebach'e Lake. Quantitative development of zooplankton varied from 61.2 to 207.5 thousand specimens in nr¹ and from 1.11 to 3.13 g/m³. Crustacca dominated.

УДК 598.1(574)

UNUSUAL FIND OF THE STEPPE-RUNNER, *EREMIAS ARGUTA* (PALLAS, 1773) WITH BLUE OCELLI IN SOUTHEAST OF KAZAKHSTAN

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The Stepper-Runner *E. arguta* has a wide range in Eurasia and is characterized with a high level of variation in external morphology including coloration and drawing pattern. All types of the dorsum drawing pattern ever described for this species can be observed in the specimens from Kazakhstan territory [1;2;3;4;5]. A presence of white (light) ocelli with black (dark) outline (at least in young specimens or females) has been described as an obligatory element of the most types of drawing pattern of *E. arguta*. However, during the numerous trips in different regions of Russia, Caucasus, Middle Asia, Kazakhstan and Mongolia inhabited with stepper-runners we never saw the specimens with clearly expressed color ocelli. We also never observed the color

Научный журнал "Терра", 2007 ocelli in the specimens preserved in herpetological collections although the bright blue spots keep their color even in fixed racerunners including those of long time preservation. In this respect it was quite surprisingly for us to find E.arguta population in Ily River Depression (southeast of Kazakhstan) all the males of which had unusual for species the bright color ocelli in lateral body surface.

The bright color ocelli mainly presented in males and sometimes accompanied with bright coloration of whole belly are typical for many lacertid lizards. Within Eremias genus the bright blue, greenish or yellow ocelli were mainly observed in the species of subgenus Dimorphea (=Eremias s. str.), including E. velox and close species - E. strauchi and E. nikolskii as well as in the species of E. multiocellata complex or *E. przewalskii* (subgenus Pareremias).

17th August 2006 during the fieldwork in the northern part of Ily River Depression (Southeastern Kazakhstan) in the vicinity of Konirolen Village (44°17,308'N; 079°23,108'E; 1250 m) we caught the adult male of *E.arguta* with relatively large bright blue ocelli in the lateral surface of the trunk and tail base (Fig. 1 A). The ocelli of 4 females and 4 juveniles caught at the same time were white. To check an unusual find we twice - in May and August of 2007 made a field round trip along Ily River Depression. In its northern part we passed through Konirolen Valley from Altyn-Emel Gap in the west to Kayshi Ravige in the east. In the southern part of the depression our trip started from Dubun Guay placed in Ily River bank in the east and passing Chundzha Town run through Syugaty Valley to its western periphery (Fig. 2). In May working in Konirolen Valley within a section of $78^{\circ}5\Gamma$ - $79^{\circ}24$ 'E we caught the adult and subadult males (n=17) which had the yellowish-green ocelli in the lateral surface of the dorsum, base of the tail and dorsal surface of the limbs (Fig. IB). The adult females found at the same time had the white ocelli. The ocelli in the young females as well as their background ventral coloration of the tail base and femora were yellowish. During the repeated investigation of the territory in August 2007 we observed the bright blue ocelli in the adult males (n=15) and yellowish-green ocelli in the young males (n=7). The adult females were distinguished with white and the young females - with bright yellow ocelli. In the most western (just after descent of the Altyn-Emel Gap) and in the most eastern (Kajshi Ravine) parts of Konirolen Valley as well as in Syugaty Valley all the lizards collected had the usual white ocelli independently of sex, age and season. It would be especially interesting to note that 10th September 2007 in the southeastern coast of the Tekess Reservour located in Central Tien-Shan Mountains (42°49.834'N, 80°06.793'E, 1800 м) among the other specimens (females and juveniles) we caught the adult male with greenish ocelli (Fig. 2).



Figura 1 - The Stepper-Runner (. Eremias arguta) from the vicinity of Konirolen Village (Ily River Depression, Southeastern Kazakhstan): A - the adult male caught in August; B - the adult male caught in May

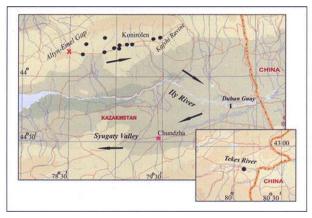


Figura 2 - The map of the records of the steppe-runners with blue spots in southeast of Kazakhstan

The typical habitats of the unusual stepper-runners in Konirolen Valley are the foothill plains located at 1000-1500 m a.s.l. with crushed stones and clay soil and rare desert plants represented with *Caragana* sp., *Krascheninnikovia c era/o ides, Atraphaxis tompacta, A.frutegcens, Nanophyton erinaceum* and *Artemisia heptapotamica* (Fig. 3). In the surroundings of the Tekess Reservour the lizards were found at higher altitude (1800 m a.s.l.) along the clay plain with domination of *Artemisia* sp. and rare plants of *Stipa* sp.



Figura 3 - The crushed stones desert with rare *Caragana and Artemisia* bushes is a typical habitat of *Eremias arguta* with blue spots in Konirolen Valley (southeast of Kazakhstan)

Seemingly a changing of ocellus coloration from the yellowish -green in May to bright blue in August in the lizards described herein belongs to the same phenomenon with that reported by Ercmchcnko et al. for *E. multiocellata* [6]. The authors documented the changing of ocellus coloration from green to blue and dark blue with fall of sexual activity of the lizards.

The lizards collected had visibly shorter snout-vent length (SVL) in comparison with specimens from other populations of Kazakhstan (maximal SVL 62, 3 and 58.6 mm for males and females accordingly) and tail length of equivalent or slightly less than that of body. The males and females were also differed in relative tail length and length of head (higher means for males) as well as in some characters of scalation.

At present the morphological and genetic analyses of the steppe-runners from different regions of Central Asia are close to completion and we hope their results will help to elucidate a taxonomic status position of the unusual specimens from Ily River Depression and Kazakhstan part of the Central Tien-Shan Mountains.

Acknowledgements. We thank Dr. Anna Ivashchenko for floristic determination.

Literature

- 1. Shcherbak N.N. Palearetic Racerunners. Kiev: Naukova Dumka, 1974. 294 p. [in Russian],
- 2. Shcherbak N. N., Neruchev V.V., Okulova N.M., Orlova V.F. Systematics, geographical variability and interspecies structure // Raznotzvetnaya Yashchurka. Kiev: Naukova Dumka, 1993. C.22-34 [in Russian].
- 3. Orlova V.F., Terbish Kh. Lacertidae // Amphibians and Reptiles of Mongolia. Reptiles (E.I. Vorobyova, and I.S. Darevsky, eds.). Moscow: KMK Ltd, 1997. P. 145 -166 [in Russian].
- 4. Chirikova M., Kolbinzev V. Morphologie und Unterartgliederung des Steppenrenners, *Eremias arguta* Pallas, 1773 in Kasachstan // Salamandra, 2003. Vol. 39 (1). P.49-90.
- 5. Chirikova M.A. Lizards of the family Lacertidae in Kazakhstan (distribution, morphology, systematics). PhD Thesis. Almaty, 2007. 133p. [in Russian].
- 6. Eremchenko V.K., Panfilov A.M., Tzarinenko E.I. *Eremias multiocellata*-complex: a solution of the problems in systematics of multiocellated racerunners of Kirgizstan (Sauria, Lacertidae, *Eremias*) *H* in: Abstract of the Researches on Cytogenetics and Systematics of Some Asiatic Species of Scincidae and Lacertidae. Bishkek: Ilim, 1992. P.65-80 [in Russian].

Дуйсебаева Т.Н., Белялов О.В., Орлова В.Ф., Чирикова М.А. КАЗАКСТАННЫН, ОЦТУСТЖ-ШЫЕЫСЫНДА ТУЛГАСЫНЫЦ БУЙ1Р1НДЕ К0Г1ЛД1Р К03ШЕЛ1 ДАЕЫ БАР ТУРЛ1 ТҮСТІ КЕС1РТТЩ ТАБЫЛУЫ. Макалада 1ле ш^нкыры мен Текес езеш ангарында т^лгасынын бушршде когшд1р козшел1 дагы бар турл1 ТусТі КесірігіН *Eremias arguta* алгаш табылуы жайлы мэл!меттер бершедг

Дуйсебаева Т.Н., Белялов О.В., Орлова В.Ф., Чирикова М.А. НЕОБЫЧНАЯ НАХОДКА РАЗНОЦВЕТНОЙ ЯЩУРКИ, *EREMIAS ARGUTA* (PALLAS, 1773) С ГОЛУБЫМИ ГЛАЗКАМИ НА ЮГО-ВОСТОКЕ КАЗАХСТАНА. В заметке сообщается о находках разноцветных ящурок (*Eremias arguta*) с необычной голубой окраской глазков в Илийской котловине и долине р. Текес.