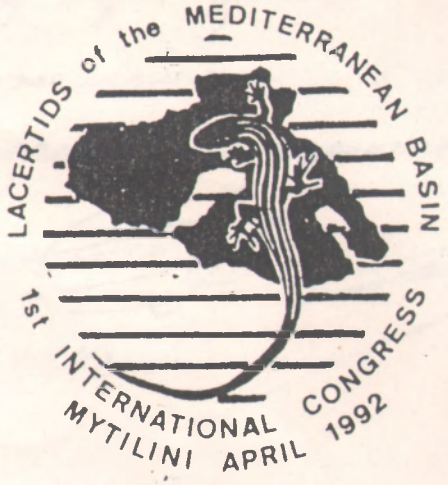
First International Congress on the Lacertids of the Mediterranean Basin



Programme & Abstracts

13-17 April 1992
Mytilini, Hellas

Дорогому Вере Гулиеву

С лучшими пожеланиями и надеждой

на интересное сотрудничество

27. VIII. 42 г.

SOME REGULARITIES OF INTRASPECIFIC VARIATION OF SCUTELLATION CHARACTERS IN LIZARDS OF THE GENUS Lacerta.

Roytberg E.S.

Biol. Inst., Russian Acad. Sciences, Makhachcala, RUSSIA.

Intrapopulational (individual) and interpopulational (geographic) variation of pholidosis characters in Lacertas was studied and some general regularities in this variation were found. The study is based on examining about 5.000 specimens of ***Lacerta agilis, L.strigata*** and ***L.caucasica*** as well as on analyzing literature data on some other Lacerta species.

In individual variability a weak but highly significant covariation among certain meristic characters (such as numbers of scales around midbody, femoral pores, subdigital lamellae, temporal scutes) was revealed. Almost all the significant correlations are positive, suggesting that some of the factors that determine numbers of scales act ~~but~~ simultaneously on several of these characters. Covariation among different scale counts was also revealed in interpopulational comparisons within species or subspecies. It should be noted that populations with exceedingly high average number of scales around midbody are often characterized not only by relatively high average numbers of some other scale counts, but also by a more frequent occurence of some additional scutes in head scutellation (e.g., ***Lacerta trilineata diplochondrodes, Lacerta saxicola szczerbaki***) and vice versa (e.g.,***Lacerta derjugini sylvatica***). It is probable that these phenomena in geographic variation are caused by the same very factors that determine overall positive covariation among meristic scale characters at the level of individual variability. This determination seems to be developmental (rather than adaptive) in its nature.

Another set of regularities in geographic variation of scale characters concerns its relation to environmental parameters. There are plenty of cases when this variation seems to be determined by climate. Pattern of the climatic determination is, however, not consistent and can be quite different even in related species. For example, in ***L.agilis*** from eastern North Caucasus femoral pores number was found to increase distinctly in more warm and dry areas, while in ***L.strigata*** from the same localities it was not the case. Possible causes of such inconsistency will be discussed in the report.

Both the "developmental" and "environmental" regularities concerned were often found to be disturbed drastically when taxonomically or phyletically heterogenous sets of populations were tested. On the other hand, such disturbances could serve as indicators of relatively high level of divergence.

CONTRIBUTION TO THE STUDY OF INTRASPECIFIC DIFFERENTIATION OF THE CAUCASIAN LIZARD, Lacerta caucasica.

Roytberg E.S.[1] and Lotiev K.Yu.[2]

[1]*Biol.Inst., Russ.Acad.Sci., Makhachkala, RUSSIA.*
[2]*Chechenco Univ., Grosny, RUSSIA.*

In two localities in eastern North Caucasus (Khvarshi, western part of highland Daghestan and Khorachoi, southeastern Checheno-Ingushetien) the sympatric occurence of ***Lacerta caucasica caucasica*** and ***L.c.daghestanica*** was found. The samples of ***L.caucasica*** from both the localities (72 and 75 speciments) can be divided in two groups on the basis of colour pattern differences. These divisions were strongly confirmed by a principal component analysis, using 7 meristic scale characters (numbers of preanals, femoral pores, ventrals, scales around midbody, subdigital lamellae, supraciliar granules, and temporals). Scores of the first principal component, accounting for 53-57% of the total variability, form two discrete classes with only a few intermediate scores (specimens) in Khvarshi and without any intermediates in Khorachoi sample. ***L.c.caucasica*** tends to have more preanals ~~and ventrals~~ and fewer femoral pores, scales around midbody, and scales in all the other rows counted, than ***L.c.daghestanica***.

Sympatric occurence of two forms, which are morphologically distinct from one another, suggests that some reproductive isolation between them takes place and therefore a subspecific level of evolutionary divergence has been exceeded, at least locally. In both the localities ***L.c.daghestanica*** tends to occupy open, rocky habitats, while ***L.c.caucasica*** prefers contiguous sites with more dence vegetation. This spatial separation is, however, far from complete and cannot be solely responsible for the supposed reproductive isolation.

It should be noted that a lot of traits in colour pattern, scalation, and body proportions, differing ***L.c.caucasica*** from ***L.c.daghestanica***, makes it similar to another related species, ***Lacerta praticola***. This profound similarity involves not only morphology but also the mode of life: ***L.praticola*** is and ***L.caucasica*** tends to be a ground dwelling (rather than a rocky) lizard, inhabiting sites with grassy vegetation. Further study of the relationships of these three taxa may be a substantial contribution to the knowledge of evolutionary trends in the group of Caucasian Archaeolacertas.

PATTERNS OF DISTRIBUTION AND HABITAT SELECTION IN *Algyroides marchi*.

Jose' Luis Rubio and Luis Maria Carrascal

Museo Nacional de Ciencias Naturales, c/Jose Gutierrez Abascal, 2, 2806-Madrid, SPAIN.

Algyroides marchi is an endemic species of the Iberian Peninsula with a very small area of distribution. Restricted to the Prebetic mountains (SE), presents great biogeographic and ecological interest. Since its description (Valverde, 1959) most aspects of its biology, including distribution have kept unknown.

In this work patterns of distribution and habitat selection are studied at two levels. At a regional one the aim was to define environmental attributes differing localities occupied by ***A.marchi***.

A comparison of geomorphological and structural features was done between localities with presence of the species and localities sampled at random. According to the variables characterizing the habitat at regional level, an "optimal" locality was defined in wich population density was studied by recapture methodes. At this local level, we studied variation of abundance in relation to a gradient of environmental features (structural variables, thermal gradient, incidence of sunlight, etc.) within a sample parcel.

Data on seasonal and intraspecific variations are provided.

CONSERVATION OF LIZARDS ON THE CAUCASIAN BLACK SEA COAST

Tuniyev,B.

Caucasian St. Biosphere Reserve, ul. Karla-Marxa 8a, RU-354347 Sochi, RUSSIA

There are 11 species of the genus ***Lacerta*** on the Caucasian Black Sea coast. Among them are ***Lacerta clarkorum, L.strigata*** and ***L.saxicola szczerbaki*** which have limited distribution. These forms need protection. Those species like ***L.media*** and ***L.agilis grusinica*** need additional steps of protection.

It is necessary to found Novorossiysk Reservation (from cape Utrishi to mountain Papay and village Dzhubga) for protection ***L.saxicola szczerbaki, L.media*** and East-Mediterranean cenosis as a whole. Lasistan-Shavshetian Reserve must be found for protection ***L.clarkorum*** and all adzharo-lasistan species of animals and plants. ***L.strigata*** may be preserve after increase of Pitzunda-Mussera Reserve. Also it is necessary to extend the area of the Caucasian Reserve for preservation all species of lizards.