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ABOUT EXACT BORDERS OF THE COLCHIS BIOGEOGRAPHICAL PROVINCE

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The problem of the definition of exact boundaries of the Colchian biogeographical Province is discussed. It is noted the disagreement between Colchian Biochore and Colchis in physiography mean.

Key words: Biogeography, Colchis, boundaries.

Colchian biogeographical chore has determining importance for understanding of the history of origin, development and preservation of the tertiary – relict landscapes and biota in conditions of the largest mesophillous refugium of the Caucasus, and also for general understanding of post Pleistocene genesis of biota in the eastern part of European continent.

The fact of existence of the Colchian biogeographical Province (Fig. 1) is recognized by an overwhelming majority of the researchers, though facts are also known of both ignoring of independence and role of this chore in the works of the famous zoologists – Darevsky (1957), Vereshchagin (1959).

Most debatable still is a question on borders, rank and belonging of Colchis to that or other larger biochore. Thus, some researchers included the Colchis into Mediterranean Region (Wallace, 1876; Severtzov, 1878; Haake, 1896; Nikolsky, 1913; Menzbir, 1934; Puzanov, 1938; Alekhin, 1938; Vulf, 1944; Rikli, 1946; Grossgeim, 1948; Kuznetsov, 1949; Shcherbak, 1984; etc.), others carried it to European (Boreal) biochore (Boissie, 1877; Rustamov, 1945; Kuznetsov, 1950; Bobrinsky, 1951; Takhtadzhan, 1978; Isachenko and Lavrenko, 1980; etc.).

About independence of the Colchis center of the flora and fauna speciation and its belonging to East Mediterranean Subregion we specified earlier (Tuniyev, 1987a, 1987b; 1990; 1994, 1995) and in these works have received the further development of Satunin's zoogeographical ideas (1910; 1912).

Cenosis of the Colchis type, i.e., sated by mesophillous of the Colchis origin relicts of the Tertiary period, are represented rather widely on both slopes

of Greater Caucasus, in western part of Lesser Caucasus and at northern coast of Anatolia. However, if to take for a basis the sectoral multibelt approach, the significant distinctions in a composition of altitudinal-ecological belts of various areas of the Caucasian Isthmus and the Pontic ridge are looked through. These distinctions do not allow to include into joint Colchian biochore all the sites only by an attribute of presence in that or other mountain belt phytocenosis of a Colchis type with characteristic Colchis species of animals. Really, already on the Navagir Ridge (between Anapa and Abrau-Dyurso) on the background of representative East-Mediterranean cenosis in the first gorges with constant watercourses the picture sharply changes and is presented by mesophillous broad-leaved woods with their typical inhabitants. The typical Mediterranean species are represented here by *Lacerta media*, *Testudo graeca nikolskii*, *Pseudopus apodus*, *Coluber najadum*, and others when in the noted mesophillous gorges *Triturus vittatus ophryticus*, *Bufo verrucosissimus circassicus*, *Lacerta saxicola szcerbaki*, and *Coronella austriaca* occur. Eastward, the first shy intrusions of Colchis cenosis gradually develop into struggle with Mediterranean cenosis, but, that is characteristic, – practically along the all Caucasian Black Sea coast of complete loss last do not occur. Presence of a narrow seaside strip of vegetation of the Mediterranean type around the Black Sea specifies also Kolakovsky (1980).

Generally, the change of vegetative belts in Colchis can be presented according the scheme offered by Shiffers (1953): 1) glaciers and snow fields; 2) subnival vegetation; 3) alpine meadows; 4) subalpine meadows with *Rhododendron* bushes; 5) subalpine elfin woodland; 6) dark coniferous forests; 7) meso-

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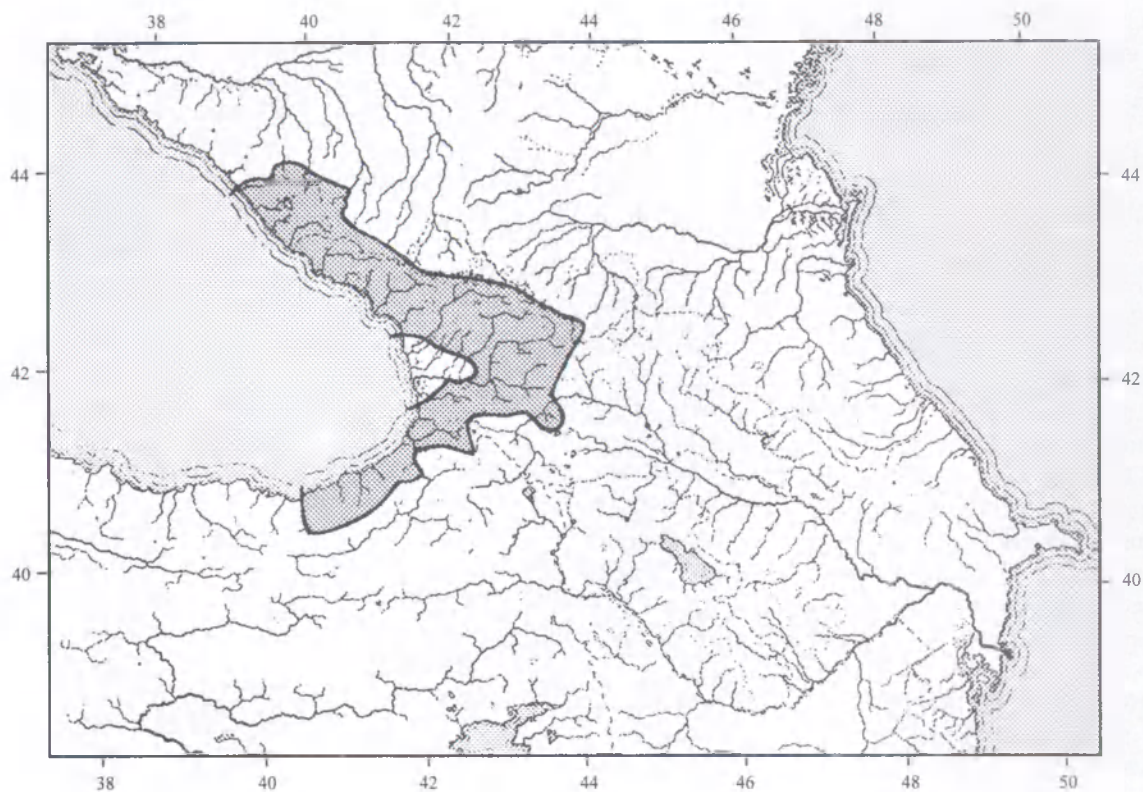


Fig. 1. Borders of the Colchian Biogeographical Province.

phillous broad-leaved forests (beech, chestnut etc.); 8) hemixerophillous oak forests in a combination with Mediterranean hemixerophillous bushes on the hills and marshy alder forests in the lowlands.

Schematically it is possible to present the narrowing of Mediterranean cenosis from the west to the east along the Black Sea coast of Caucasus and, on the contrary, the pressing of the Colchian cenosis to the axial part of the Main Ridge in western direction occur. In complete volume the characteristic West Transcaucasian mountain belts are distributed from the basin of Psezuapse River in northwest to Adjara in the southeast (within the limits of former USSR). Further on the seaside slope of Pontic Ridge the full composition of altitudinal columns of the Colchian belts is looked through in Turkey westward to Syurmene approximately (Shishkin, 1930). Despite of special Adjarian variant of composition of altitudinal belts in southeast sector of Colchis, the general laws of change of the belts remain uniform for all Colchian biochore.

Is paradoxical that the Colchis (Rion) lowland is poor by endemic species of plants and animals (Animal population of typical biocenosis of the Colchis lowland, 1984) and, it is rather an exclave of European aquatic-marsh biota. *Rana ridibunda* and *Natrix natrix* are only common here, when all Colchian herpspecies are absent. The reasons of such poverty by Colchian elements of Colchis lowland are in genesis of the landscapes of this lowland, which has disappeared for several times under the water of the Pont Sea and then the Black Sea till Pleistocene inclusive.

Among described three less significant refugia of Colchian biota (Tuniyev, 1990) – two (Belo-Labinsky and Borjomsky) should be considered within boundaries of the Colchian biogeographical Province.

The northwest border of Colchis is defined by a zone of influence of winter northeast winds, which influence is present southward till Ashe River valley. There are already absent *Pterocarya pterocarpa*, *Buxus colchica*, *Lacerta agilis grusinica*, *L. derjugini*, and many others the typical Colchian representatives

appearing in the next Psezuapse River valley and widespread further to the southeast along all Colchis. The dark coniferous belt and the alpine meadows fall out from the vertical belts column at the Ashe River basin.

The Belo-Labinsky refugium is only symbolically separated from the Colchis by the crest of the Main Ridge. Here, almost all north-Colchian species of animals are presented. The unity with Colchis is displayed also in soils, flora and vegetation, especially in the basins of Pshekha, Tzitze, Belaya (White) and Small Laba Rivers. Northward from the Main Caucasian Ridge the Colchian species have continuous distribution up to limestone Skalistyi (Rocky) Ridge. Typical for Colchis yellow subtropical soils spread this part of the North Caucasus too (Kirichenko, 1953). Maleev (1941) marked, that this area is inseparable from the Colchis by the character of flora and vegetation. Among the altitudinal belts of the Colchis the mixed broad-leaved belt of woods with evergreen understory (so called the Colchian type of woodland) is not expressed there, but along the all Pshekha – Small Laba interbasin area the chain of well-preserved exclaves stretches. There are box forests (*Buxetum*) in the upper basin of Tzitze River (Grossgeim, 1948) and on Kurdjips River (Guamskoe Gorge), chestnut groves (*Castanetum*) in the beginning of Pshekha River and in the Polkovnitzkaya Ravine (left side of Belaya River), Colchian beech forests (*Fagetum*) with *Rhododendron ponticum* and *Ilex colchica* along the all area and unique communities with *Gentiana paradoxa*, *Steweniella satirioides*, *Pelodytes caucasicus*, *Bufo verrucosissimus turowi*, *Triturus vittatus ophryticus*, *Lacerta derjugini*, *Vipera kaznakovi*, *Natrix megalcephala*, and many others in the Kapustin Canyon and Yatyrgvarta Mountain (Small Laba basin).

The Borjomskiy refugium is also symbolically separated from the Colchis by the crest of the Adjaro-Imeretinsky (Suramsky) Ridge. The characteristic belts of Colchian biota are observed on the east slope of this ridge and further behind the Kura River gorge they penetrate partially the western slopes of Trialetsky Ridge between Akhaldaba and Bakuriani.

At southern coast of the Black Sea the Mediterranean vegetation occupies the seaside rocks already in the vicinity of Gonio and Sarpi (Adjaria) and further to the Trabzon direction the shibliaks and macchia penetrate into inner parts of country and pushing

aside the Colchian cenosis to the most upper belts of mountains, for example at Zigana Pass. On the opposite slope of Pontic Ridge the Colchis Province continues only in the extreme northeast part of this ridge along the left bank of Choroch River from its mouth up to Atrwin inclusion.

Thus, the border of the Colchis biogeographical Province passes from a coast of the Black Sea along the watershed ridge of the rivers Ashe and Psezuapse up to the crest of the Main Ridge, then through the top of Shessi Mountain is lowered on right bank of the Pshekha River up to northern foot-hills of Skalistyi Ridge, where lasts to the east, approximately, on a line Chernigovskoe – Kamenomostskii – Shedok up to Small Laba River, upwards which it passes again the crest of the Main Caucasian Ridge and further eastward it continues along its crest till Suramsky Ridge, with irradiation into Kura River gorge up to western slopes of the Trialetsky Ridge (East Transcaucasia) and further from the mountain knot of the Arsiyanskii and the Shavshetskii Ridges it passes southward along the crest of the latter up to left side of the Choroch River till Artwin inclusive. On the Black Sea slope of the Pontic Ridge the border proceeds along the crest westward to the vicinity of Sjurmene. Apparently, it is necessary to exclude from the outlined contour of the Colchis Province the lower and central parts of the Rion Lowland.

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