Materials of Conferences

NEW METHOD OF DESCRIPTION AND INTERPRETATION OF CLASSICAL FORMULA FOR RETICULAR FENESTELLIDA (BRYOZOA)

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The rhythmic analysis of diagnostic signs species of Bryozoa executed. «Extreme local linear frequency» on sites of bifurcation of branches has the biological contents and is the specific diagnostic sign of species. If at the moment of growth of a branch in the colony the meaning of local linear frequency of branches on a site of the colony exceeds some critical then the growing branch was eliminations. The branch can adhere to the branch or the dissepiment. At the places between zones of bifurcation of branches the meaning of the extreme local linear frequency of branches directly changes from the least meaning (before bifurcation) through arithmetical average and median meaning up to the greatest meaning (at once after bifurcation).

This phenomenon (elimination of a branch after excess in colony of critical local linear frequency of branches) can serve the proof that the critical meanings of parameters of local linear frequency supervise biologically important properties of colony as biological system. From here follows, that the paleontological description of species necessarily should contain «the extreme formula Nekhoroshev-Nikiforova» (the extreme N-N-formula) for local linear frequencies on sites directly before and after bifurcation of branches. «The classical formula of the basic sizes» (the classical N-N-formula) of mesh bryozoans, offered by the scientists V.P. Nekhoroshev and A.I. Nikiforova, shows round selective arithmetical average of meaning of the linear normalised frequencies of branches, dissepiments and other. The distances centre to centre of these structural elements are lengths of rhythmic elements of colonial structure. If the paleontological description of a species contains arithmetical average meanings of rhythmic colonial elements then all parameters of the classical N-N- formula can be received as opposites to meanings of arithmetical average.

A standard deviation of variants from arithmetical average meaning of variant's parameters have (in most cases) only mathematical (statistical), instead of biological sense. This statistical sense of signs in the paleontological description is very difficult for using for the purposes of classification and diagnostics. This probability follows only from of mathematical model, but not from a biological nature of bryozoans. From here follows that the limiting meanings, really noticed on natural object should always be specified in the description. Therefore numerous measurements of the signs (length of lines and distances) have not advantage for the decision for classification.

There is no need to carry out numerous measurements of rhythmic signs. New method of sign description influences upon results of paleontological description and recognition (diagnostics) numerous species of Fenestellida and raises their value for stratigraphy.

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