

Foreword

DOI: 10.1134/S0031030118140150

This volume contains works presented on the reports at the conference “Morphogenesis in individual and historical development: ontogeny and the formation of biological diversity,” held at the A.A. Borisiak Paleontological Institute, Russian Academy of Sciences, on November 22–24, 2017. This is the fifth of a series of conferences held in the framework of the broad problem “Morphogenesis in individual and historical development.” These conferences traditionally unite developmental biologists and paleontologists of Russia on a single debating platform, allowing productive discussions.

The late Academician Emilia Ivanovna Vorob’eva and Professor Lev Vladimirovich Belousov were at the root of the organization of this series of conferences. Therefore, the conference and the papers are dedicated to their memory. The works of these remarkable scientists have made a fundamental contribution to the study of the individual and historical development of animals, and the volume is opened by a short essay on their scientific activities. The conference was attended by researchers from Moscow, St. Petersburg, Tver, Novosibirsk, and Mongolia

Some papers were on the most general questions of evolutionary developmental biology: genomic-morphogenetic correlations in the evolutionary trajec-

ries of Bilateria, evolutionary trends in the use of Hox cluster genes, retrograde evolution of the blastopore, the development of V.V. Beklemishev’s methods of studying architectonics and promorphology for the reconstruction of key processes of ontogeny in extinct taxa of animals of higher taxonomic ranks and some others.

Many reports were on more specific processes of morphogenesis of individual fossils and modern groups: algebraic geometry of icosahedral viruses, gigantism of radiolarian skeletons, coloniality of bryozoans, the diversity of Paleozoic brachiopods and cephalopods, Mesozoic ammonoids, morphogenesis of the exoskeleton of early agnathans and geochronologically later predatory dinosaurs, and modern frogs.

The publication of these materials, as the editorial board hopes, will contribute to a broader interaction of specialists in evolutionary developmental biology, paleontologists and researchers in other fields of biology.

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