

## A preliminary analysis of biodiversity of molluscs of Russia and adjacent territories

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**ABSTRACT.** The analysis is based on the catalogue of molluscs of Russia and former republics of the USSR. The total fauna consists of 3674 species from 6 classes; marine molluscs are represented by 1744 species, the land snails by 736 species and freshwater molluscs by 1194 species. Faunal composition of different areas (marine and land habitats) is briefly discussed. Basing on the comparison of the size-structure of the molluscs of Russian Far-East seas with that of other regions in tropical, subtropical and boreal zones, the conclusion is made that a large number (150-500) of species of micromolluscs can likely be found in Russian waters. Generally, the biodiversity of marine molluscs in Russian waters is rather low in comparison with adjacent areas (Japan, Mediterranean, and others).

Assessment of global biodiversity, as well as of biodiversity of particular groups and territories is the high priority task in these days. Molluscs is the second largest phylum of animals and the most diverse in marine environments [Bouchet et al., 2002]. Currently the inventory of the molluscan faunas of different regions of the planet is quickly progressing. Quite naturally, it has started from the best studied faunas (e.g., marine and terrestrial molluscs of North America, Europe, and Japan), though gathering information on such immense and obviously insufficiently studied fauna as that of the Indo-Pacific is also under way.

Two somewhat different approaches can be mentioned. One consists in development of a computer-based databases with a free on-line access. The most well-known examples are the *Database of Indo-Pacific Marine Molluscs* (<http://data.acnatsci.org/obis/findmollusc.php>; currently containing 66,527 names), the *CLEMAM (European Marine Mollusca) Database* (<http://www.somali.asso.fr/clemam/index.clemam.html>) with 17,000 names (3,500 valid), and the *Western Atlantic Gastropod Database* (Malacolog version 3.2.4.) currently including 4870 species.

The other approach is to prepare essentially the

same kind of database as a paper-based publications. The examples are numerous and varying in scope and content, and include checklists and catalogues of the Mediterranean [Sabelli et al., 1992], British [Smith, Heppell, 1991] and Japanese [Higo et al., 1999] marine molluscs, as well as of the terrestrial fauna of Europe [France — Falkner et al., 2002; CLECOM — Falkner et al., 2001], not to mention the others.

In terms of geography, there are still large areas with comparatively well studied faunas and in need for general inventory of molluscs. Clearly, one of such areas is Russia (or, in a broader sense, the republics of the former USSR [RFU]). It possesses a huge territory and a very long coastal line, and connecting at the same time the well studied faunas of Europe and Japan together with the North Pacific. Despite more than 230 years of investigations of Russian molluscs (since P.S. Pallas' pioneering work of 1771), and the publication of revisions or reviews of many taxonomic and ecological groups, nobody has tried to compile even a complete list of them. In recent years, some regional checklists and guides to identification were, however, published [gastropods and bivalves of Northwest Pacific — Golikov et al., 2001; Kafanov, 1991; freshwater molluscs of Russia — Starobogatov et al., 2004; freshwater molluscs of Russian Far East — Bogatov, Zatravkin, 1992; Zatravkin, Bogatov, 1988; and others].

In the recent literature, there was only one attempt to estimate the total richness of molluscan fauna of Russia and adjacent territories (Scarlato et al., 1994). It was based on expert estimates of specialists in different molluscan groups and resulted in the figure of 2753 species for the former USSR (Aplacophora — 20, Polyplacophora — 52, Monoplacophora — 1, Gastropoda — 2000, Scaphopoda — 10, Bivalvia — 600). An elaboration of that attempt can presently be seen at <http://www.zin.ru/projects/zooiut-r/zi2.htm>. In the latter version, the total fauna of Russia contains 2863 molluscan species. As it will be shown below, in