FAR EAST BRANCH - RUSSIAN ACADEMY OF SCIENCES
AND
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
(Arctic and Pacific Divisions)

BRIDGES OF THE SCIENCE BETWEEN NORTH AMERICA AND THE RUSSIAN FAR EAST

45th ARCTIC SCIENCE CONFERENCE

ABSTRACTS, BOOK 1

25-27 AUGUST, 1994, ANCHORAGE, ALASKA
29 AUGUST - 2 SEPTEMBER, 1994, VLADIVOSTOK, RUSSIA

VLADIVOSTOK
DALNAUKA
1994

PRESERVATION OF BIODIVERSITY - NOT ONLY IN NATURE

A.V.Rzhavsky

Kamchatka Institute of Ecology and Environment Far Eastern Branch Russian Academy of Sciences Petropavlovsk-Kamchatsky

By termin «preservation of biodiversity» we usually mean establishing of any reserves, zoos and so on, which are meant to save rare species or ecosystems (biotops) in nature. In latter case, all living things (not only rare or useful for people) formally get protection. Nevertheless, in the first line attention is paid to noticeable vertebrates, plants, and more seldom insects (mainly butterflies) and invertebrates (some corals, mollusks, echinoderms, crustaceans). As for other numerous living things, they are perceived often only as «foraging resource», «living biofilters» and so on. I suppose that many reservations have not even preliminary lists of species of small invertebrates and algae, though their biodiversity is much higher than biodiversity of vertebrates. For example, the number of zoologists studying the sea otter (1 species) is far greater than number of scientists studying sponges (animal type). In principle, this disproportion is understandable, but it doesn't mean that it should stay the same.

On the other hand, the problem of protection and preserving of numerous invertebrate animals is specific. 1)The conception of «rare species» worked out for the large ground living things is not suited for numerous invertebrates. In spite of that many of them are known only from some records, this often may be due to scantiness of collections, inaccessibility of biotops or regions, or character of spatial distribution. 2)It is very difficult and often impossible to observe and identify many species in nature. 3)Taxonomic base for many taxa is in poor condition.

So, fixation and keeping of the material in scientific collections is very important for study of biodiversity. These collections are of great value by themselves. Additionally, their existence is also directly connected with preservation of biodiversity in the nature. 1)According to theoretical estimations, less than half of existing species is described. There is a real possibility to lose some of them before knowing about their existence. Careful keeping and attentive examination of the collected material let to describe many new species without additional withdrawal of any nature components. 2)It is necessary to establish colections during long-term monitoring researches both in reservations and out of them. In future, it will let to compare not only records, but real material, and to estimate the reliability of it's identification. Besides, in course of time the conception of monitoring study can change and new methodology appear. Keeping original material, we may get additional data which was not obtained initially.

At the same time, the condition of biological collection in Russia is unsatisfactory. In 1985, in USSR were present about 60 constant zoological collections against about 300 in USA. Besides, about 80% of material is kept in Zoological Institute (St. Petersburg), and even some common species are absent from collections.

Establishing of the regional scientific biological collections is very important for study and preserving of biodiversity in the nature.