RESULTS OF RECENT RESEARCH ON NORTHEAST ASIAN BIOTA

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Preface

Japan is composed of many islands stretching more than 3000 km from north to south in the Northwest Pacific. Its northern regions are close to the subarctic zone while the southern area belongs partly to the subtropics. Thus, it is natural to recognize that the Japanese flora and fauna consist of both northern and southern components.

Our museum, The Natural History Museum and Institute, Chiba, is located on the Boso Peninsula which extends from Tokyo Bay on the west to the Pacific shores on the east and comprises almost all of Chiba Prefecture. The peninsula is influenced strongly for the most parts by the Kuroshio warm current and partly by the Oyashio cold current.

To obtain better understanding of the natural history in and around the Boso Peninsula the museum has conducted three 5-year overseas research expeditions since its founding in 1989. The first two involved studies of the southern biota and were entitled "Biological expedition to the northern Mariana Islands, Micronesia" and "Lucidophyllous forests in southern Japan and Taiwan". The results have been published in the museum Bulletin, Natural History Research, Special Issues No. 1 (1994) and No. 4 (1997) respectively. The 3rd project, entitled "The origin and biogeography of northeast Asian biota", is still ongoing and focuses on the fauna and flora in the Russian Far East to assess the origins, biodiversity, speciation and evolution of the northern life forms inhabiting the Boso Peninsula. This research is in cooperation with the Institute of Biology and Soil Sciences, Far East Branch of the Russian Academy of Sciences in Vladivostok. Scientists from the two institutions have carried out joint expedition in 1996 to the Kamchatka Peninsula and in 1997 to the North Kuriles including the Paramushir and Shumshu Islands. The 1996's survey is about twenty days and the 1997's is about one month. Specimens collected during the expedition are being studied by scientists at the Natural History Museum, Chiba, and the Vladivostok Institute as well as in other institutes and universities in Japan and other countries.

The results to be published in this special issue of Natural History Research comprise 36 articles. Several of these papers were presented at the symposium "The origin and biogeography of northeast Asian biota" held on 20 and 21 February, 1999, at Chiba. In addition to these works, further studies are continuing and will be published elsewhere. Until recently this region of Russia was not accessible to foreign scientists and consequently these studies will contribute greatly to our knowledge of the northeast Asian biota.

Finally, I, as Director-General, wish to express my sincere gratitude to Dr. Eugenyi A. Makarchenko, Head of the Laboratory of Freshwater Hydrobiology, Institute of

Biology and Soil Sciences and his colleagues who participated in the project for their cooperation and hospitality. I also wish to express my special thanks to those who have contributed papers, for their cooperation in producing manuscripts and responding to referees' comments.

Mitsuo Chihara
Director-General
Natural History Museum and Institute, Chiba

Preface

The natural environments of Japan and the Russian Far East have very close links. In the Russian Far East, we can still find nature that is largely untouched. That is no longer possible in Japan. So it is not too much to say that a visit to the Russian Far East is a dream for many Japanese biologists.

Northern life forms have their antecedents in the creatures that crossed the northern land bridge that appeared as the sea level dropped during the glacial period. To proceed with the taxonomic and biogeographical studies of these life forms, research in the far eastern area of Russia is essential. The recent change of the political situation in Russia has enabled us to carry out scientific expedition in the Far East areas where in the past was inaccessible for the western scientists. This means that a comparative study of the biota in Japan and the Eurasian continent become possible.

In our two years of study, less than two months in total was actually devoted to research. But this research has given us many new experiences and many material for study. We also shared experiences that we shall remember for the rest of our lives with Russian researchers during our research in the Kamchatka Peninsula and North Kuril Islands. On behalf of the Japanese team, I would like to express my deepest appreciation to the Russian research participants (Drs. Eugenyi A. Makarchenko (leader), Vjacheslav Y. Barkalov, Sergey K. Kholin, Yuri A. Tshistjakov, Yuri M. Yakovlev) for their assistance when we were in serious and sometimes even life-threatening trouble. I am also grateful to the many local Russians, including fishermen, border guards and farmers who offered us comforts during our research.

I also would like to sincerely thank our colleagues in the museum who supported our overseas study trip, the volunteers who helped us prepare and organize the specimens, as well as all of the researchers who studied the materials we brought in and responded to our many requests.

This study was supported by a grant-in-aid from the Natural History Museum and Institute, Chiba. The 10th Natural History Symposium "Origin and Biogeography of Northeast Asian Biota" during 20-21th February 1999, was partly supported grants from Kajima Scientific Foundation. Publication of this volume was partly supported by grants from Pro Nature Foundation.

Leader of the Expedition Team of the Natural History Museum and Institute, Chiba and Research Group of the Northeast Asian Biota.

R. B. Kuranishi
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Preface

The nature of the Far East is rich, characterized by high biodiversity and very interesting for scientists, who study biogeography, speciation, and evolution of biota of this region. Really, here the «bouquet» of Holarctic, Palaearctic, Oriental species of plants and animals are distributed. These species do not know about borders and political orientation of the Far Eastern countries. They do not need to prepare visa for spreading from Japan or China through Russia to USA and Canada, or from North America to Europe. They follow the lows of nature and «keep in mind» about old geological history of the Earth and this region.

Therefore, the best way for investigation of origin, biogeography, evolution, and other aspects of the flora and fauna is a cooperation of the Far Eastern scientists for study all problems together. The good example of that is joint Japanese-Russian project between the Natural History Museum and Institute (Chiba), and the Institute of Biology and Soil Sciences FEB RAS (Vladivostok), which entitled "The origin and biogeography of northeast Asian biota".

During two years the botanists, geobotanists, hydrobiologists, ichthyologists, zoologists and entomologists of the both institutes had joint expedition to some of the least accessible and most insufficiently investigated regions of the Kamchatka Peninsula (1996–1997) and North Kuril Islands (1997).

We collected and studied original material from these regions together and together endured all strong conditions of the field life. We had a joint idea and the joint problems. We helped each other and were not only colleagues but became really good friends.

Later, on 20–21 February, 1999 a joint symposium «The origin and biogeography of northeast Asian biota» was held in the Natural History Museum and Institute, Chiba where we showed and discussed the obtained data. Of course, we could not study all material collected during expedition, so the other scientists from Japan, Russia and other countries were invited for this purpose.

This special issue of the «Natural History Research» is devoted to the results of our four years joint work.

IT WAS REALLY JOINT PROJECT!

Finally, I, as a curator-organizer of joint project from Russian side, should like to express my cordial thanks to Dr. Mitsuo Chihara, Director General of the Natural History Museum and Institute, Chiba, Dr. Makoto Numata, Emeritus Director General and Dr. Ryoichi B. Kuranishi, Senior Researcher for the joint project organization and collect funds for support of expedition, symposium and visit of the Russian scientists

to Japan.

Also I am much grateful to all Japanese friends and members of joint project for their cooperation, hospitality, kind and warm relationship. My special gratitude to editor of the special issue of the «Natural History Research» Dr. Tomoyuki Komai for hard job with Russian (and I think not only Russian) manuscripts.

All my acknowledgments are supported by Russian members of joint project.

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