

native names. For example Maderan vs. Band-rumped Petrel or Parasitic Jaeger vs. Arctic Skua. The text here along with the rest of the book is good and clear.

The author has added a table of accidental species for the two islands (31 on St. Helena and 46 on Ascension. This did not quite match my own list, but I think the difference is due to the political boundary that includes Tristan de Cunha and Gough Islands, thus adding several Antarctic species)

The artwork consists of watercolours that are refined sketches of birds during their normal activities. This gives a better idea of their jizz than the more formalized field guide style of the recent books, and is more akin to the style of postwar books. Indeed, my favourite is a perky field sketch of a Java Sparrow that fronts the section of land birds on which you can almost count the small number of brush strokes. The reader can compare this with the more "finished" plate in the accounts section.

I found it ironic that the endemic Madagascar Fody was introduced, not from Madagascar but from Mauritius (where it is an introduced threat to the endemic

Mauritius Fody) and became so numerous it was part of the St. Helena cage bird trade. How convoluted we make the world.

So why go to these remote places? First there is the attraction of wild oceanic islands. While they are no longer the lush paradise first seen by the Portuguese they still are dramatic. The rich brown cliffs surrounded by blue sea set off the white, guano-capped islands. Second, however diminished, there are good seabird colonies; always exciting places. And last, for the hard core, they are the only places to see Ascension Island Frigate and Wirebird. While remote, these islands are not inaccessible. There are some tours that include them on a cruise, although these are very expensive. Routine commercial sailings leave from Cardiff, Wales and Cape Town, South Africa a few times a year. They dock in St. Helena and Ascension for a day or two – enough time with this guide to see most of the islands birds

ROY JOHN

2193 Emard Crescent, Beacon Hill North, Ottawa, Ontario
K1J 6K5 Canada

BOTANY

Flora and Climatic Conditions of the North Pacific: A Collection of Scientific Papers

Edited by A. N. Berkutenko, H. G. Lumsden, and D. Lumsden. 2001. Institute of Biological Problems of the North, North-East Scientific Center, Far East Branch, Russian Academy of Sciences. Magadan. 189 pages, No price available.

The subtitle – *A collection of papers* – better indicates the contents of this book than does its lead title. What we have here is a nicely produced small book consisting of papers on flora and vegetation, for the most part, but also one paper each on fungi and ethnobotany, two on seed biology, and one on the influence of air masses from the Sea of Okhotsk on summer temperatures in Japan. An odd mix, but perhaps the inevitable result of the need to collect sufficient papers, achieve critical mass, and gain publication. To one interested in floristics and taxonomy, several of these papers are informative and useful. Since the book is entirely in English, it opens to a wider audience than usual the results of botanical studies in the Russian Far East. The prime mover for this collection was A. N. Berkutenko who wrote entirely or contributed to six of the collected 15 papers. Since it is difficult to generalize the disparate contributions, I will give a précis of each.

Yakubov et al. provide a brief sketch of the physical setting, a history of botanizing, and an annotated checklist of 235 species for the flora of Avachinsky volcano. The next paper by Mochalova describes the very small flora of very small islands of the Commander archipelago and the effects of bird colonies on the vegetation there. Two papers by Khoreva and by Berkutenko et al. discuss the vegetation and flora of two islands in the Sea of Okhotsk and provide checklists

for the Yams Islands and Nedorasumenia Island, the latter with the unexpected occurrence of the Asiatic shrub *Caragana jubata*.

Sinelnikova gives a synopsis of the plant cover and a checklist for 454 species of vascular plants found at the Orotuk field station in the upper Kolyma River region. The station lies in larch taiga near the Kolyma floodplain. The *Chosenia arbutifolia* and *Populus suaveolens* of the gallery forest and the *Pinus pumila* communities farther upslope are among the memorable botanical images I took away from my trip to the region. A short paper by Berkutenko and Khoreva, in a structure now familiar, provides a sketch of the vegetation and a checklist to the 98 species found at the Mount Kamenny Venets nature monument, which includes the endemic willow *Salix magadanensis*. Thus ends the first 117 pages. From here on, the papers have less to do with each other or to what has gone before.

A list of 161 macromycetes in the Magadan Preserve by Sazanova is followed by a report by Berkutenko and Yukawa of the first record for the orchid *Liparis kumokiri* for mainland Russian Far East. Next Misako proposes that morphological variation in the Japanese *Sanguisorba tenuifolia* has originated from hybrids between *S. parviflora* and *S. officinalis* occurring in coastal Russian Far East. In a brief, idiosyncratic but interesting essay, Berkutenko contrasts with ethnobotanical anecdotes the changes that have taken place in people's lives since Krashenninnikov reported on 18th century habits of the local people on Kamchatka. She includes some differences between practices in the Russian Far East and Alaska as well. This paper is fol-

lowed by comments on the germination of 78 species by Andrianova and Berkutenko: which taxa require pretreatments and which kinds of treatments are efficacious. A paper by Kryukov reports briefly on the relative germination success of 27 species following different periods of storage. Haese describes a phytosociological analysis of coastal tundra using the methods of Braun-Blanquet, and provides tables typical of this analysis. Hanno and Oka in a short paper that reads more like a proposal noted that the Sea of Okhotsk affects the climate of eastern Japan. Pachomov and

Sinelnikova present six years of observations on the effect of artificial warming on the growth of four tundra plants at or near the field station described by Sinelnikova (see above). I fear these studies in support of the International Tundra Experiment (ITEX) project will be lost to the ITEX community in these pages; it belongs with others of its ilk.

DAVID F. MURRAY

University of Alaska Museum of the North, Fairbanks, Alaska

ENVIRONMENT

The Russian Far East

By Josh Newell. Second Edition, 2004. Daniel and Daniel, Publishers, McKinleyville, California, USA. 486 pages, U.S.\$59.95. Paper.

This is a massive and thorough compendium. The subtitle reads, "A reference guide for conservation and development." The format is a series of chapters each concerning one of the major administrative divisions of the huge region, abbreviated as "RFE." These divisions are: Primorsky Krai, Khabarovsk Krai, Jewish Autonomous Oblast, Amur Oblast, Republic of Sakha, Magadan Oblast, Chukotsky Autonomous Okrug (Chukotka), Koryak Autonomous Okrug (Koryakia), Kamchatka Oblast, Sakhalin Oblast. There are over 50 maps, and a host of tables, figures and photographs, as well as an index.

Vegetation is organized into the classic Tundra and Taiga formations. This book divides Tundra into two parts: "Arctic Tundra" and "Tundra" (referred to in much Russian ecological literature as "High Arctic" and "Low Arctic.") Taiga is defined correctly as "the large mass of the boreal forest that forms the heart of the RFE." The southern taiga, which in much of Russian ecological literature is known as Ussuri Taiga, is also known as "Dark Taiga" because of the high percentage of spruce and pine.

This division serves to differentiate it from the northern part of the Taiga which is widely known in the Reindeer literature as "Light Taiga" because of the very large percentage of the forest cover of deciduous larch. The Reindeer literature, and much ecological literature, also designates the southern-most tundra, combined with the northern-most taiga as "Forest-Tundra." This recognition of it as a separate entity is undoubtedly because the Forest-Tundra is particularly important as winter pasture for the semi-domesticated Reindeer.

The Ussuri taiga is relatively familiar to English-speaking biologists because of translations of works by such authors as Sdobnikov and Arseniev, as well as Kurosawa's famous 1975 film about Arseniev and Dersu. The number and distinctiveness of the species of plants and animals of the RFE is legendary, especially the Ussuri taiga.

Each of these 10 administrative regions receives a section of the book. Each begins with an overview, ranging from a paragraph or so to a number of pages, followed by extensive entries on: location, size, climate, geography and ecology (including carbon stocks), major ecosystems, protected areas and their problems, biodiversity hotspots, political status, natural resources, main industries, infrastructure, foreign trade, economic importance in the Russian Federation, general outlook.

This latter section is particularly interesting for such items as a full-page table of major environmental issues and problem areas of each of the regions: fishing, energy, timber, mining, agriculture. There are pertinent discussions of the weaknesses of various Russian governmental regulations concerning oil, gas and mining operations compared to the (already-weak) United States and Canadian regulations.

There is discussion of various schemes with potentially-severe effects as well as prospects for a sustainable economy, ENGOs, the UN Global Environment Facility, foreign government aid agencies, other promising sectors such as ecotourism and NTFP (Non Timber Forest Products). There is rather detailed consideration of the degradation of zapovedniks ("protected areas") by tourism, poaching (salmon, caviar), bear killing (for paws and gall bladders).

The forests of Kamchatka are particularly vulnerable and critical for mitigating floods and protection of salmon spawning grounds. (Remember British Columbia?). In the RFE the largest emitter of atmospheric CO₂ is fossil fuels combustion, but second place is deforestation leading to loss of carbon-rich boreal forest and replacement by pioneer types of forests and shrubby vegetation. More than 90 percent of the logging in the RFE is by clearcut. Even plantation-forests do not recover pre-logging stocks of CO₂; managed plantation-forests usually contain only 1/3 to 1/2 the carbon that undisturbed forests do.

Activities to "Save Tropical Forests" are having adverse effects on the taiga of the RFE... "Plywood manufacturers are promoting Russian larch (tamarack) as a green alternative to tropical luan timber and have been steadily increasing levels over the past decade...