

the numbering system for species. There are also some errors of omission and commission. It is noted that scales are not used for ageing mudminnows but does not explain why. The number of lamprey species is given as about two dozen (the same as in the 1964 edition) but this number has increased to about 34 since then. Some scientific names are given as a trinomial; e.g., *Semotilus atromaculatus atromaculatus*, but no other subspecies are mentioned which makes this extensive name unnecessary.

The list of families provided includes native fish only, so to get a comprehensive count of all the different genera and species in the Great Lakes region you would have to look through the entire book. Also, upon comparing the present list to the list provided in the 1964 edition, the latter includes all fish, not just native species. It is therefore not possible, without great effort, to find out how many new native fish have been discovered in the past forty years. There have also been many name changes that have occurred since the last edition was published. *Entosphenus lamotteni* has now become *Lampetra appendix*, *Lepisosteus productus* has become *Lepisosteus oculatus*, and *Pomolobus pseudoharengus* has become *Alosa pseudoharengus*, to name a few.

Some of the criticisms of this book mentioned here could be addressed by an on-line version. This book must be small and therefore concise for use in the field and laboratory. An on-line version could have larger maps (updated as new information or corrections are noted), colour photographs of live fish which would be of use to field workers, keys segmented by lake or country (most work is done locally, a worker in eastern Ontario would not find the same suite of species as a worker in Illinois), larger illustrations of key characters, key characters embedded in the key for easier reference, new species could be added as discovered, and keys to larval fish developed.

This book is a great tool for use in the lab or field by beginners and professionals alike. With some use it will lay open flat, preventing the loss of place while your hands are busy working on the fish. The positive reputation of this book as *the* book for Great Lakes region fishes is long standing and will only increase with time.

KRYSTAL LAPIERRE and BRIAN W. COAD

Canadian Museum of Nature, Ottawa, Ontario K1P 6P4  
Canada

## Seabirds and Atlantic Canada's Ship-Source Oil Pollution

By F. Wiese. 2002. World Wildlife Fund, 245 Eglinton Avenue East, Suite 410, Toronto, Ontario M4P 3J1 Canada. 82 pages.

The public seems to have a love-hate relationship with oil. Oil allows for high salaries and contributes to civilisation, but it also can create severe pollution. As this report shows well, chronic offshore oil ranks among the most severe pollution problems in the world.

"Many people consider Canada to be one of the leading nations in environmental conservation in the world". However, the still conservative estimate of 300 000 dead Canadian seabirds due to chronic oil pollution and presented in this report is shocking; to say the least. Besides a seabird population issue this also a major animal care issue: over 300 000 animal individuals are suffering and are dying a gruesome death. As this informative report emphasizes, for each oiled seabird found in Newfoundland one can assume that at least 10 more have died.

Together with several individuals devoted to the issue of marine and oil pollution, author Dr. F. Wiese studied seabirds and their oil-related mortality for many years. His report on chronic offshore oil pollution is structured in two parts: The Problem (11 chapters) and The Solution (8 chapters); four appendices, a list of abbreviations and some references are also given. Half of the report deals with OSIRs (Oil Spill Intelligence Reports 1997-2000), presented in Appendix 4. OSIRs are only accessible for few signed-up members, and it is great that this report provides the wider public with an opportunity to access this information.

Besides reporting baseline numbers of seabird mortalities and oil pollution incidents, other highlights of this document are presented to a wide audience dealing with ocean modelling, detectabilities of oiled birds on a beach, drift block experiments and emphasizing how important such methods are to address the chronic offshore oil pollution efficiently and in accurate terms.

"Most of those in the marine industry carry out their operations in a safe and environmentally responsible manner." This statement is somewhat in contrast to the fact that oiled birds keep washing up on shorelines worldwide which suggests that national legislation and international conventions and guidelines are not being followed or that they are inefficient. "The illegal discharge of oil from ships into the world's oceans is a global problem that affects the entire marine ecosystem". This calls for a global oiled bird survey; e.g., citizen- and volunteer-based marine and beach surveys.

From this nice report it becomes quickly obvious that the history and track-record of chronic oil pollution, a by-product of the current civilisation, is not an environmental success story. Instead, the current progress for trying to keep the (marine) environment clean presents more of an international embarrassment. It is still difficult to understand why the "burden of proof" for chronic oil pollution is not on the industry side. After reading this report and its seabird facts one cannot deny that oil pollution equals environmental massmurder.

It is correct that the Canadian legislation extends the enforcement of shipping, environmental, and

wildlife law to the 200-mile exclusive economic zone. However, some federal legal decisions have restricted these laws to the 12-nautical-mile territorial zone. Offshore pollution monitoring flights are made by Transport Canada and by the Canadian Coastguard; the Department of National Defence and Department of Fisheries and Oceans are encouraged as well. Although the Canadian Shipping Act, the Migratory Bird Convention Act, the Canadian Environmental Protection Act and the Fisheries Act deal with oil pollution issues, suspected ships have rarely been turned back to a Canadian port for further investigations. Only the Migratory Bird Convention Act protects migratory seabirds from oil-related offences; but so far, only five vessels were charged. Knowing that approximately 2500 offshore oil spills are reported per year in Atlantic Canada, one gets quickly an idea of the issue. Obviously, pollution pays ... and as the report convincingly shows, the polluter gets almost awarded due to the competitive business advantage when not punished. Atlantic Canada is simply the cheapest place to dump bilge oil on the Great Circle route between North Atlantic and Europe. No doubt, the enforcement needs to be stronger in Canada, higher fines are required, and on board disposal facilities, increased monitoring, increased awareness and other measures are necessary. Even the European Union uses RADARSAT (SAR), a satellite image product from Canada, in order to trace and to monitor offshore oil pollution.

As Wiese's WWF report presents, Canada does not really have a national standard for an EDA (Environmental Damage Assessment). It is surprising that the exact number on "how many seabirds are really oiled" is hard to get and not available with high accuracy; accurate numbers seem not to play a role in the legal decision and discussion even! Perhaps court fines should consider a price per oiled seabird, and thus could change the current dilemma?!

This document reports that approximately 40 million pelagic seabirds reside during the year on the Grand Banks off Newfoundland. However, some of the presented numbers are puzzling and might cause

confusion for the informed Naturalist. It was reported earlier that over 200 000 Thick-billed murres are killed annually during the Murre hunt off Newfoundland. Now, chronic oil pollution is even added, but breeding Thick-billed Murres in the Canadian Arctic – the seabird species believed to be affected the most by chronic oil pollution – does not show a significantly declining population trend at all. Are Canadian seabirds sensitive indicators of the marine environment? Or are birds from other areas in the world and being present in Canadian waters, such as Greenland's Thick-billed Murres and Manx Shearwaters from England (both populations are known to be declining), better indicators? More research is required. Some other confusion might arise from the presented population numbers of wintering Eastern Harlequin Ducks, and that no direct relationship is known to exist between the amount of oil spilled and the numbers of seabirds killed. For my taste, some key references such as J. Burger's 1997 book on "Oil Spills" would have been a great addition. Of interest might also be the seabird oil pollution work in British Columbia by A. Burger, the Festucca Oil Spill Trust Fund and the Provincial Government's work. Globally speaking, it might be interesting for the reader to learn how Norway, a country with major offshore oil resources and with a very long coastline and huge seabird resources, deals with chronic oil pollution! Perhaps it would also be informative to have a list of all known oil vessel accidents in Canadian waters.

However, this informative report provides many important details and baseline information on the slightly overlooked but very relevant chronic oil pollution topic in the offshore waters of Eastern Canada. It focuses on seabirds; but many other species and the entire ecosystem suffer from oil pollution, too. "Chronic oil pollution is an international problem whose solution requires national and international effort".

FALK HUETTMANN

Biology and Wildlife Department, University of Alaska, Fairbanks, Alaska 99777-7000 USA

### **Spiders of Australia: An Introduction to their Classification, Biology and Distribution**

By T. J. Hawkeswood, 2003. Pensoft Publishers, Geo Milev Street 13a, 1111 Sofia, Bulgaria. 264 pages. EURO 19.95 paper, 34.95 cloth

The past few decades have seen the production of a considerable number of landmark volumes on the natural history of regional spider faunas. Volumes by Dippenaar-Schoeman and Jocqué (1997), Song *et al.* (1999), Ubick *et al.* (2005) among others have set a high standard for concise, useful, in-depth coverage of regional faunas. With this in mind, I readily agreed to review *Spiders of Australia: an Introduction to their Classification, Biology and Distribution*.

I tried, I really did try, to find good things to say about this book. Certainly the dust cover of this volume, with its border of 24 colour images of various Australian spiders surrounding an anthropomorphic photograph of the front end of an immature male deinopid spider (looking as charmingly pugilistic as only an immature male can), promises an interesting and engaging piece of work. Unfortunately, as they say, you can't judge a book by its cover.

The content of *Spiders of Australia* falls far short of fulfilling the promise of either the cover or title. Interesting observations on the natural history of a variety