ecology and conservation efforts. Each of the following 25 chapters of "The Eagle Watchers" is by a researcher about their specific raptor and describes a particular event during their work Every chapter starts with a page showing the principal statistics of the species, including its conservation status, followed by a brief biography and a photo of the researcher. It is unfortunate that the black-and-white photos are too poorly printed to identify the person or even distinguish whether they are male or female! Then follows the writer's essay on their memorable research encounter with their eagle. The essays vary in length from 5 to 14 pages. The authors mostly live in the countries where their research eagles are found, having turned their passion into their livelihood, and many of the researchers spent at least a short period at Hawk Mountain in Pennsylvania gaining experience. Profits stemming from the book sales will go to Hawk Mountain.

More than one chapter speculates on the reason for "cainism" – the siblicide when there is a second chick in some species, but there are no firm conclusions. A new behaviour by eagles has been attacking hang gliders – the gliders are fragile enough without this problem! Eagle deaths by wind turbines have been mitigated by pre-consultation on situating wind farms away from known eagle habitat and migration paths. And in The Karoo, South Africa, electricity pylons have been redesigned to deter eagles from perching and nesting. It seems that eagles perching on the pylons were causing electrical failure when their liquid faeces created an arc. Now who could have foreseen that?

One would have expected an index in an academic publication, let alone ensuring identifiable photographs. The small number of colour photos of eagles are fairly good. The target reader for the book would be a researcher in a different discipline or different bird species who needs a world-wide summary of some research and salient facts about eagles.

JANE ATKINSON

400 Kensington Avenue #201, Westmount, Quebec H3Y 3A2 Canada

Identifying Land Snails and Slugs in Canada

By F. Wayne Grimm, Robert G. Forsyth, Frederick W. Schueler, and Aleta Karstad. 2010. Published by the Canadian Food Inspection Agency (CFIA), 975 Boulevard St Joseph, Gatineau, Quebec, J8Z 1W8. 168 pages. No charge, call 1-800-442-2342 to order.

There is perhaps no more important development in the popularization of an organism group among both the general public and the scientific community than the publication of a well-designed and useful field guide. Accurate and user-friendly publications of this type have the opportunity to greatly expand the ranks of land snail enthusiasts, both amateur and professional alike and publication of field guides for these charming if underappreciated animals are too few and far between. I especially looked forward to the publication of *Identifying Land Snails and Slugs in Canada* by Grimm, Forsyth, Schueller and Karstad since I am familiar with the remarkable illustration skills of Aleta Karstad. In addition, Canada represents an excellent opportunity to generate a reliable, public-friendly guide to these organisms, given the fauna represents a manageable number (slightly less than 200) of native or naturalized species.

Unfortunately, *Identifying Land Snails and Slugs in Canada* does not rise to the challenge, and I fear it may do more to confound new malacologists than to aid them. Part of the problem is the fact that the book's title and mandate do not match. While the title suggests that this will be a guide to allow identification of the entire Canadian fauna, its species-level content on identification, biology, and ecology is limited to alien (and potential agricultural pest) species in the country. As a result, it is not possible to identify the native species that make up approximately 80% of the Canadian fauna. Even the reliable identification of some alien species will not be easy to accomplish, as comparison to native species is sometimes required.

Second, high quality images of representative species for each included genera are available only for slugs and those snails with shell diameters generally greater than 1 cm. All of the smaller taxa are represented by rather crude line drawings (at least in comparison to the magnificent slug figures), apparently lifted whole from Forsyth's *Land Snails of British Columbia.* This is highly unfortunate, as these small species make up approximately two-thirds of the Canadian terrestrial gastropod fauna, and typically well more than 90% of the individuals from any given site. Given the availability of hardware and software to allow fully focused full-color visible light microscopic images of tiny shells, and the presence of a superb biological illustrator among the authors, it is unfortunate to see the most common size class of Canadian land snails be given such short shrift.

Third, the generic level taxonomic keys do not appear to reliably allow for accurate assignment of individuals to the genus level. My expertise is in the pupillid land snails, and I found the keys to not work well for this group. For instance, some Canadian *Vertigo* species that lack apertural lamella/denticles (e.g. *V.* aff. *genesi*, *V. modesta ultima*) are forced in the key to the genus *Columella*. Also, albino *Vertigo* individuals (common within some *V. modesta* populations) will be forced into the genus *Gastrocopta*. The most common *Pupilla* from the Canadian arctic (*P. aff. pratensis*) is forced into the genus *Columella* because it does not possess a thickened callus in the aperture.

Lastly, I am concerned about the nomenclature used. It seems clear that the authors have chosen to follow the *Check-list of the Non-marine Molluscan Species of Northern, Atlantic and Central Europe* (CLECOM) by Faulkner et al. (2001) without considering whether these names are appropriate. As has been pointed out by Davis (2004) and Cameron et al. (2006), the CLECOM project is highly controversial, even in Europe. Among the most difficult issues in this checklist are the lack of justification for name revisions and the propensity for the CLECOM authors to be unrepentant splitters at genus and species levels. As a result, the taxonomic principles of Shileyko (1978, 1984), far from universally accepted even in Europe, are used without reservation in this field guide. This same approach is used on North American endemic groups that fall outside of the CLECOM region. It is thus common for the generic (and sometimes trivial names for a given taxon) to be altered from the recent literature, even when the integrity of that taxon itself is not questioned. As a case in point, consider the use of *Mediaappendix* to replace the genus name *Catinella*. No rationale for this change is given; no references are cited to defend this change. The elevation of this subgenus to genus level has never, from what I can ascertain, been used by any other North American workers in the group, including John Burch, the dean of succinead studies. For readers to know that the *Mediaappendix vermeta* of this guide is equivalent to *Catinella vermeta* or *Catinella avara* of other modern treatments would require considerable skill. I fear that as with CLECOM, many of the generic level changes in this guide may ultimately be found to be whimsical and based on short-lived phylogenetic hypotheses as recent DNA sequence data shows for "*Nearctula"* which turns out to simply be a rather typical "*Vertigo*". Changing names to reflect or promote the newest taxonomic "fad" generates unnecessary confusion and potential misinformation. This does the user a great disservice.

Given these limitations, I cannot recommend this book as an identification guide to Canadian land snails. However, where it does shine is as a treatment for introduced slugs. These species have only been cursorily treated in previous monographs, leaving most investigators to peruse Michael Kerney and Robert Cameron's *A Field Guide to the Land Snails of Britain and Northwest Europe* in an attempt to identify these invasive species. The color plates by Aleta Karlstad of the exotic slugs of Canada are stunning, and the keys to the genus *Arion* provide the user with an excellent resource in correctly identifying these species. As a result, it may be worthwhile for those interested in Canadian terrestrial gastropods to buy this book to simply serve as an invasive slug guide.

The fact that this publication does not in fact serve as a usable field guide for the Canadian terrestrial gastropod fauna is disappointing. Mollusks rank only behind arthropods in their contribution to global diversity. And, of the mollusks, terrestrial gastropod species (e.g., land snails and slugs) make a surprisingly large portion, with their estimated 40 000 species representing up to one-third of all known mollusks. Land snails are found from tropical forests to the arctic tundra, from deserts to peatlands, and from natural to urban jungles. Almost every yard, roadside verge, and forest will support at least some species, many with singularly beautiful shells. And yet, this group of species remains surprisingly unknown in North America.

There is no lack of resources available to allow identification of birds, mammals, reptiles, amphibians, fish, trees, grasses, wildflowers, butterflies, and etc. to the species (and often sub-species) level. And, at least partially as a result, there are legions of people who have taken an interest in these planetary neighbours, and may even speak out now and again when human actions threaten them. Kerney and Cameron's western European guide has been issued in English, French, and German versions. The fact that amateur land snail enthusiasts are more frequent 'across the pond' is due I am sure in part to the fact that this field guide exists. This has helped our European counterparts to be able to make local, national, and regional governments responsive to the plight of land snails. For instance, conservation groups held up construction of the A34 Newbury Bypass in Berkshire, England for almost three years due in part to the presence of the 3 mm tall *Vertigo moulinsiana* along the proposed right-of-way. I doubt this could have happened without the existence of Kerney and Cameron.

But, none of this can be said for North America, where terrestrial gastropods remain almost unknown to naturalists. I would be surprised if much more than 100 people across the continent could identify even half of their regional fauna. The general public remains almost completely ignorant of even the existence of these organisms. And, as long as they remain unknown and unappreciated, they will be given no consideration in terms of policy decisions. There is a crying need for more publications to make this diverse and interesting group accessible to a larger segment of our society, and I look forward to the day that this is ultimately done for the entirety of the Canadian fauna.

Literature Cited

Cameron, R. A. D., B. M. Pokryszko, A. Riedel, and **A. Wiktor.** 2006. Checklists, systematics and the CLECOM initiative: an alternative view from Europe. Malacologia. 49: 225-230.

Davis, G. M. 2004. Species check-lists: death or revival of the Nouvelle École? *Malacologia*. 46: 227-231.

Falkner, G., R. A. Bank, and **T. von Proschwitz.** 2001. Check-list of the non-marine molluscan species-group taxa of the states of northern, Atlantic and central Europe (CLECOM I). Heldia 4:1-76.

Shileyko, A. A. 1978. Nazemnye mollyuski nadsemeystva Helicoidea. Fauna SSSR. Mollyuski, III. 384 pages..

Shileyko, A. A. 1984. Nazemnye mollyuski podotryada Pupillina fauny SSSR (Gastropoda, Pulmonata, Geophila). Fauna SSSR. Mollyuski, III. 399 pages.

JEFFREY C. NEKOLA

Department of Biology, University of New Mexico, Albuquerque, New Mexico 87131 USA