

PLANS FOR A CHECKLIST OF NORTH AMERICAN MOLLUSCA

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Checklists of genera and species on a continent-wide basis are valuable reference works for the study of any phylum. So far, no such list has been compiled for the Mollusca due, apparently to three kinds of difficulties:

- 1) Disagreement on the validity of taxa and on the proper name to be applied to each one.
- 2) The volume of literature to be combed for records and the small number of accurate partial lists either for small areas or systematic groups.
- 3) The cost of printing such a checklist by standard methods and of making the checklist available to individual workers in the field, particularly the beginners, who need it most.

An attempt was made some years ago, before World War II, to prepare such a checklist by creating a checklist committee of the American Malacological Union. The checklist committee stimulated many worthy efforts, for example, the late Calvin Goodrich's numerous papers on the Pleuroceridae. Unfortunately, World War II broke out just as the committee began its work and it passed quietly out of existence, mainly because most of its members were engaged in more pressing activities. The writer's contribution to the project took the form of a Catalogue of the Recent Mollusca of Canada (1953, Nat. Mus. Canada, Bull. 129). Since World War II several local lists have appeared as well as monographic treatment of some groups, for example Pilsbry's Land Mollusca of North America North of Mexico, F. C. Baker's Molluscan Family Planorbidae, and others.

The writer wonders if the time has come for a revival of the Checklist project, under AMU auspices or otherwise, and what chances of success such an undertaking would have. Certainly the need for it exists, as the writer knows through his work on Pleistocene Mollusca. Expressions of opinion on this matter would be welcome.

With regard to the difficulties outlined above, the following considerations may point to at least partial solution of some of them.

TAXONOMIC PROBLEMS. -- In spite of apparent difficulty, this is probably the most easily overcome of the troubles facing a checklist compiler. The solution proposed is to design the format of the checklist in such a way as to show various alternatives under a most favored form, if there is one, and to present dissenting opinions succinctly and fairly within the framework of that form. For species and varieties, subspecies, or forms, the procedure would be to list under a particular genus all those claimed to be valid by specialists in the field and to indicate for each contested unit the reasons for acceptance or rejection followed by the initials of the authorities concerned. As an alternative, a series of numbered notes in appropriate places could be used to explain dissenting

opinions. Such notes could be placed either just after the taxa in question or as explanatory notes at the end of the treatment of the genus if one note should apply to a number of species or trinomials.

In the writer's opinion there is considerable value in listing even trivial local forms of little taxonomic value as they are a measure of the variability of a species in isolated populations. This does not mean that they must be recognized as subspecies or varieties; they need be listed only as forms of a recognized species, following to a certain extent the practice of Pilsbry with respect to land snails.

For genera, the procedure might be more difficult. For example, many writers still use the generic classification of the Lymnaeidae proposed by Baker in his 1911 monograph and modified in his 1928 work on the freshwater Mollusca of Wisconsin, whereas others recognize only one genus in North America, i. e. Lymnaea, following Colton and Hubendick. Should it be impossible to reconcile these two schools of thought, might not some system be devised which would be satisfactory to both schools? For example, one of the two indicated in Table 1, depending on which plan can be justified on cogent arguments and number of adoptions.

TABLE 1. TWO METHODS FOR ARRANGEMENT OF LYMNAEIDAE

Genus <u>Lymnaea</u>	Genus <u>Lymnaea</u>
Subgenus <u>Lymnaea</u> sensu stricto	Genus <u>Pseudosuccinea</u> ¹
Subgenus <u>Pseudosuccinea</u> ¹	Genus <u>Bulimnea</u>
Subgenus <u>Bulimnea</u>	Genus <u>Fossaria</u> ¹
Subgenus <u>Fossaria</u>	Genus <u>Stagnicola</u> ¹
Subgenus <u>Stagnicola</u>	

¹ Considered as a synonym of Lymnaea s. s. by XYZ, LMN, and others, but treated as a distinct genus by FCB, DEF, etc.

VOLUME OF LITERATURE. — The difficulty here is not one of scientific decision or of personal opinion but of time and effort required for the orderly examination of the literature, the gathering of records from Museums and personal collections, and the labor of arranging them in readily available form for incorporation into a North American checklist. During the preparation of his Canadian Catalogue, the writer developed various methods to simplify the work which proved valuable in the preparation of his Pleistocene Mollusca of Ohio (nearing completion). It seems that widening the scope of these methods to include all of North America by adding to the records already available would be practicable. The writer also believes that the goodwill and co-operation of North American malacologists could be enlisted and that various museums would make their records available for such an undertaking.

PRINTING COSTS. — Judging by the size and cost of the Canadian Catalogue, a North American checklist of similar scope would require a volume, or several volumes, totaling between 1,000 or 1,500 pages, at a total cost per set of about \$20.00. Such an estimate, having regard to current printing costs, is probably conservative, both as to size and cost. This would probably mean that the checklist would be available only in large libraries and in the private library of individual workers with some means. Yet it is obvious that those who need such a checklist most are the beginners in the field who generally cannot afford such expenditures. The writer vividly remembers his indebtedness to the Library of the Geological Survey of Canada in the days when he began to study mollusks and the plight of his colleagues who were not fortunate enough to have access to such a fine library. Every effort should be made to render the checklist available to the beginners in our field by keeping its cost as low as possible. Such a powerful tool for the searching of literature

and for the evaluation of current opinion on the classification, distribution, ecology, and anatomy of the Mollusca should be easily available to every malacologist. Moreover, it will prove to be a stimulus for continued work in malacology — how many promising malacologists have we lost because they became disgusted with lack of organization in the field?

If some institution with ample funds could be induced to print the checklist and to sell it at cost, or even at a slight loss, the problem of printing costs would disappear. The likelihood of this is very slight and it should not be allowed to prevent us from making plans for publication of a checklist. Other processes besides conventional printing can be used and a typewritten checklist could be as useful as a handsomely printed volume. Once the copy is assembled for the checklist, it should be made available, regardless of the method used. For this purpose, mimeographing or multilith printing should be considered, in spite of the obvious disadvantage of less pleasing appearance.

SUGGESTED PROCEDURE. — Judging from previous experience with the Canadian Catalogue, a North American Checklist could be most advantageously prepared in three steps:

1. Preparation of areal checklists (by states, provinces, territories, or smaller areas, e. g. well studied localities or islands, even counties) by a small committee aided by volunteer workers in special fields.
2. Circulation of areal checklists to persons or groups interested, with a request for criticisms, suggested additions, and deletions.
3. Assembling of the North American Checklist from the areal checklists, first on distribution maps for each species or form, then in written form.

This procedure appears to permit the greatest possible flexibility in preparation by providing for co-operation on any scale and on the basis of interests. For example, a worker interested only in Alaskan Mollusca would have special information at his disposal from the literature, his own collections, and Museum collections, dealing with the species found in his own area. Such a person would undoubtedly want to co-operate to the extent of checking the list for Alaska and perhaps for adjoining areas but would have little interest in the checklist for, say, Mexico. On the other hand, a specialist in Naiades, Sphaeriidae, or Pleuroceridae might be willing to review and comment on the part of each areal check-list dealing with his special group. Still further, a Museum curator would want to check each list for the species represented in his Museum, in particular the types. Each of these co-workers might be too busy to serve on the committee for preparing areal checklists, looking after their circulation, and assembling the data into a final North American Checklist.

FORMAT OF AREAL CHECKLISTS. — Because of their preliminary nature, areal checklists should be kept as simple as possible, should be prepared on a uniform plan, and should be so arranged as to be readily consulted, without the aid of an index. Past experience suggests that they should be divided into parts corresponding to major divisions of the Mollusca but not too numerous as to defeat search for a particular item. In preparing the Canadian list, the following divisions were found to be most practical:

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| 1. Naiades | 6. Amphineura |
| 2. Sphaeriidae | 7. Marine Pelecypods |
| 3. Freshwater Pulmonates | 8. Scaphopoda |
| 4. Freshwater Operculates | 9. Marine Gastropoda |
| 5. Land Gastropoda | 10. Cephalopoda |

The preliminary areal checklists (see next paper in this number, pp. 23 et seq. for a sample) should consist simply of lists of species, alphabetically arranged under genera, the genera alphabetically arranged under the numbered divisions shown above. For each species, the generic, specific, and author's name, and date of description are given, followed by abbreviated reference to an authority. The abbreviations in each case are explained in the references cited for each list. Each item is numbered for convenience in reference and co-workers can then refer to items by area and number (e. g., Ohio 253). Policy for inclusion of species is as liberal as possible; doubtful records are included but with notations, "doubtful for the state," "implied by presence in neighboring areas," "a synonym of ----, fide ----" followed by an abbreviated reference to the authority cited.

WHERE TO BEGIN. — Several checklists or compendia of marine Mollusca have already appeared, all of them in need of revision and addition but none so seriously out of date as to require immediate attention. Likewise, the land snails of North America have been recently revised by Pilsbry, for species living north of Mexico, and by H. B. Baker, Pilsbry, and others for Mexico, Central America, and the West Indies. The field appearing to need most pressing attention seems to be that of freshwater Mollusca and it is proposed to begin work by preparing checklists of Naiades, Sphaeriidae, and freshwater Gastropoda. On the other hand, the literature of land snails is so closely related to that of freshwater groups that the land snails might as well be included in areal lists. The Ohio list is presented in the next paper as a sample of an areal checklist and others are now either completed or in preparation.

Readers of STERKIANA are asked to communicate with the writer concerning this particular list and to offer comments on additions and deletions. Volunteer collaborators for other states or areas are asked to communicate with the writer; all contributions to the preparation of the areal checklists will be acknowledged as the lists appear in STERKIANA and in the final checklist if and when it is published.