

Jan., 1952]

THE NAUTILUS

93

Almost a generation ago the following article appeared in:

The Nautilus, Vol. 65: 93-99, 1952.

The subject was an "old problem" then and it is somewhat "older" now. The article is being redistributed to emphasize the lack of respect and understanding among some "modern" systematists for the basic contributions made by A.E. Ortmann and Bryant Walker (assisted by H.A. Pilsbry). When in official lists one finds: Epioblasma for Dysnomia; Toxolasma for Carunculina; Crenodonta for Amblema; etc.--all cases clearly reviewed in 1922 (Ortmann, A.E. and Bryant Walker; Occ. Pap. Mus. Zool. Univ. Mich. No. 112: 1-75), it would seem logical to expect evidence to counter the judgments made in those matters by some of the most competent investigators in the field. For those familiar with the freshwater mussels involved such "dredging up" of old and long since buried names is no serious encumbrance. But for those in related fields, it tends to hurt the cause of systematics when old familiar names suddenly appear without justification for the changes on the part of those who make them. A similar situation was discussed by Leon J. Cole in an article (Science, 93: 289-93; 316-19, 1941) with the title "Each After His Kind." The implications for systematists are clearly stated and they are perhaps more important now than they were then. In brief, the cause of biology would best be served if the "50-year rule" would be applied and well authenticated names were reserved.

## AN OLD PROBLEM IN NAIAD NOMENCLATURE

By HENRY VAN DER SCHALIE

In 1942 Hans Modell published in the *Archiv für Molluskenkunde* a paper entitled: "Das natürliche System der Najaden." That article appeared during the Second World War and it was not till about two years ago that this work became available to me. The quotation of his closing paragraph presents a problem worthy of special consideration. Translated it reads:

"I am aware that it is impossible in this first draft to have arrived at the proper arrangement and I am pleased to look forward to corrections and improvements. It is otherwise regarding nomenclatorial problems especially as they concern the North American naiades where, since Simpson's subdivisions

did not suffice for these purposes, I had to go over completely to the coherent system of Frierson in order to be able to give a better picture. Thereby I had also to accept Frierson's concepts of Rafinesque's names in their entirety, although I know that these ideas are not shared by many North American investigators because Frierson's views are in part in opposition to the arrangements adopted by Ortmann, Pilsbry and Walker."

This statement brings to the fore an historic situation which it seems to me never has been generally appreciated by malacologists. In any reference to mussels a system of nomenclature must usually be adopted and the selection involves knowing what the available schemes are and what the relative merits of these arrangements may be.

The problem immediately arises: Why should we have the two systems referred to above by Modell? It is this situation which concerns us mainly and I shall do the best I can to give an honest and a fair appraisal of the historic conditions that led to the development of these two schools of thought.

As suggested by Modell the difficulties go back to Rafinesque. His work has caused trying nomenclatorial problems in Botany and Ichthyology, as well as in mollusks. Some interesting accounts are available to provide information about the life and travels of this naturalist. Perhaps the most popular memoir is David Starr Jordan's (1911) article, "An Eccentric Naturalist," in his *Science Sketches*. T. J. Fitzpatrick (1914) published a comprehensive account titled: "Rafinesque, A Sketch of his Life with Bibliography." In *Chronica Botanica* (Vol. 8, No. 2, 1944), the botanists made available a verbatim reprint of Rafinesque's own account entitled, "A Life of Travels." In a foreword to this reprint, E. D. Merrill of the Arnold Arboretum at Harvard has supplied some very interesting information concerning some of the special problems that relate to the man and his time. An unusually comprehensive work on the subject was printed in 1895 by a well-known conchologist, Robert Ellsworth Call, in "The Life and Writings of Rafinesque" which appeared as a Filson Club Publication and is not as readily available to students as it deserves to be.

Without entering into detail regarding the difficulties that existed in the early eighteen hundreds as they relate to the dissemination of information, much less to the special personality

traits that were characteristic of Rafinesque, there are a few problems that relate to Rafinesque's work which can not be ignored. David Starr Jordan (1911: 167) stated: ". . . And his failure seems due to two things: first, his lack of attention to details, a defect which has vitiated all of his work; and, second, his versatility, which led him to attempt work in every field of learning." Rafinesque is also said by Jordan (1911: 156) to have had "the ardor of the explorer without the patience of the investigator." E. D. Merrill in his foreword to the reprint of "Life of Travels" has summarized some of the problems which relate to Rafinesque's work in botany, as follows:

" . . . His conclusions in various fields were not always sound, and about every disparaging adjective in the English language has been applied to him by this or that author. And yet, Asa Gray, one of his severest critics, in reviewing his botanical work in 1841, the year of Rafinesque's death, states: 'It is indeed a subject of regret, that the courtesy that prevails among botanists of the present day (who are careful to adopt the names proposed by those who even suggest a genus) was not more usual with us some twenty years ago. Many of Rafinesque's names should have been adopted; some as a matter of courtesy, and others in accordance with strict rules.' "

The same disregard for Rafinesque's work as just indicated in the field of botany also existed in conchology. Rafinesque himself was bitter about this lack of regard for his work and in his "Continuation of a Monograph of the Bivalve Shells of the Ohio River" in 1831 (as reproduced by Binney and Tryon in 1864, p. 71) he states:

"Since 1820, several American Conchologists have attempted to notice, describe, or figure these shells; Barnes, in 1823, Lea, Say, and Eaton, later still. They had a fine field before them, in elucidating them by good figures, and describing the new kinds; but led astray, by various motives, they have neglected to verify, or properly notice my previous labors, *although they were known to them*. Mr. Say, is, above all, inexcusable. I had respectfully noticed, in 1820, his previous labors; but he has never mentioned mine, and knows so little of the animals of these shells, as to have mistaken their mouth for their tail, and their anterior for the posterior part of the shells!"

It should be understood, then, that even after the appearance of Simpson's "Synopsis" in 1900 and his "Catalogue" in 1914,

there was still considerable uncertainty in the nomenclature of our North American mussels. For the next few years following the appearance of the Simpson "Catalogue" three of the most active naiad workers felt that the time had come to straighten out the confusion in the naiad names. Much of the early work along this line was done by correspondence among them and the letters of A. E. Ortmann, Bryant Walker, and L. S. Frierson on these nomenclatorial problems are all available in our Museum of Zoology. Their letters show that at first these men tried to work together so as to consider all of the arguments in each case and then to resolve their differences in an effort to come to a fair and sound conclusion. It soon became evident that L. S. Frierson was assuming the role of a champion and he became so obstinate that Ortmann and Walker decided to carry on their work without Frierson. The arrangement at that time was that each case would be carefully reviewed by both of them and when they had differences the several arguments pro and con would be submitted to Pilsbry who would act as a judge to make a decision that would be final.

In a letter to Bryant Walker from A. E. Ortmann, dated April 19, 1920, there are the following statements:

"Pilsbry has sent to me, last week, a bundle of Frierson's Objections etc., telling me that he has sent the same to you. He has asked me to send my comments on these to you, and that you may add your own, and send both to him.

"I do not think it worth while to go again into detail. In the cases of *Anodonta ohioensis*, *U. crassidens (dombeyana)*, *U. cor*, *U. irroratus*, *Lemiox rimosus*, *Toxolasma lividus*, and *U. giganteus*, Frierson's arguments are not new to us. Indeed, *we have considered them*, and it is of no use for Frierson to repeat his arguments again and again.

"Only in one case, that of *U. teres*, I agree with Frierson, while you disagree. But we have concluded to leave the decision with Pilsbry, and if I can do so, and you can do so, I do not see why Frierson can *not!* Nothing could be fairer than that.

"Moreover, last Saturday I received a letter from Frierson in which he tells me not to mind him at all. And in a previous letter he hinted at the possibility, that, if we do not come around and approve his views he will act just as he pleases. Under these conditions, also, it is not worth while to spend any more time on him.

"Frierson seems to be offended that we do not accept *all* his

dicta as gospel-truth. He entirely forgets that we have accepted quite a few of his suggestions, published and unpublished, and he apparently does not see that our way of treating the subject is the only candid and scientific one. We want to be fair to all parties concerned, not only to Rafinesque, and we have no bias against anybody, none against Lea, and none against Frierson."

It is clear from this letter that it became impossible to continue to work with Frierson as a party to the revision of the Rafinesque names. But, the work among Ortmann, Walker and Pilsbry continued. Anyone who will take the trouble to see the voluminous correspondence, a revelation of the hours of time and patient work expended by these men, can not help but be impressed by the value of their contributions. Also, we must stress that seldom has there been a group better able to handle such problems. The scientific ability through patient study both in the field and laboratory of A. E. Ortmann, the legal background of Bryant Walker and his preeminence in the study of mussels, plus the unusually sound judgment of H. A. Pilsbry, combines to bring to bear experience and knowledge which few can question.

The considered judgments and the basic information resulting from several years of painstaking work were published by A. E. Ortmann and Bryant Walker in 1922 as an Occasional Paper (112) of the Museum of Zoology in the University of Michigan under the title: "On the Nomenclature of Certain North American Naiades." In the introduction these authors clearly stated the nature of the problem and their way of resolving special difficulties in an unbiased and legal way.

In 1927, just five years later, L. S. Frierson published his own version of a system which to him represented the proper way to resolve these same questions. His publication was privately printed under the title: "A Classified and Annotated List of North American Naiades." This booklet carefully avoids any mention of the work of Ortmann and Walker. I have been able to find only one reference to their work in a statement which fails even to cite the source of the quotation (see page 18 under *Anodonta (Lastena) ohioensis* Rafinesque). Another unfortunate aspect of this work is the lack of any references.

That Frierson was biased and wished to be a champion for Rafinesque is quite obvious from statements in the introduction

to his paper. There are several such clear indications but perhaps one quotation will suffice to dispel any uncertainty in this matter. After an historic review to indicate that Say, Barnes and Lea redescribed species which should have been credited to Rafinesque, Frierson (1927: 7) stated:

"But in quite a different spirit was Rafinesque's work treated by Lea. The latter published in 1836 a *Synopsis of the Naiades*, which was afterwards immensely enlarged in editions of 1852 and 1870. In these works Rafinesque was practically ignored as an author of species. This procedure, Lea undertook to justify on the plea that Rafinesque's descriptions were incapable of identification with any degree of certitude. He broadly hinted that the names credited to Rafinesque by Conrad, Say, and others, were arrived at by 'guessing'; and quoted sundry writers to the effect that, in their opinion, Rafinesque's mind was 'diseased,' and still worse, that he was 'in the habit of describing' imaginary objects. Lea lived for many years, was wealthy, and was enabled to publish sumptuously illustrated works, and accumulated an immense collection, left by him to the Smithsonian Institute. On the contrary, Rafinesque died in abject poverty, and left no one to champion his cause (*not, however, unchampioned altogether*), and his work has become practically unread, and his names buried in oblivion. Notwithstanding the immense debt owing to Dr. Lea by conchologists of all time, yet the time has arrived when personal reasons must be abandoned, and justice be rendered for Science's sake. . . ."

From these statements it would seem very unfair and contemptible to ignore the other fellow's work. Yet, Mr. Frierson, after criticising Lea and others for ignoring Rafinesque's work, had no hesitance in completely overlooking the careful paper by Ortmann and Walker which deals directly with the same subject to which he subsequently directed his attention! From Frierson's own statements it appears quite unlikely that he could be unbiased and render "justice" in these cases of disputed names. Also, it is of interest to find a statement by S. S. Haldeman quoted by T. J. Fitzpatrick (1911: 48) indicating that Rafinesque was not entirely without blame for the attitude shown toward him by his contemporaries, as follows:

"His greatest fault as a naturalist was not so much, perhaps, the shortness and resulting obscurity of his characters, as his passion for 'new species,' and the recklessness with which he proposed them, without sufficiently examining the works of his

predecessors. The author who pursues such a course, treats his fellow-laborers with disrespect, and prevents his works from being as much consulted as they may deserve; for there is nothing to compel other authors to wade through unsatisfactory descriptions, which must, in many instances, be referred to established species."

If, in the foregoing account, some of the facts that relate to this problem in the solution of resolving the arguments that relate to disputed names of mussels have been brought to the attention of interested students, the purpose of these remarks will have been attained. It seems to me we need not decide which system to adopt on any grounds other than the relative merits of work contained in the papers published to clarify these issues. The adoption of the Frierson system by Modell and others would seem much more worthwhile if those authors would produce evidence to indicate in which ways we can improve the arrangement given us by Ortmann, Walker and Pilsbry.

#### REFERENCES

- BINNEY, WM. G., AND G. W. TRYON, JR. 1864. *The Complete Writings of Constantine Smaltz Rafinesque, on Recent and Fossil Conchology*. New York: Bailliere Bros., pp. 1-96, 3 plates.
- CALL, RICHARD ELLSWORTH. 1895. *The Life and Writings of Rafinesque*. Filson Club Publication No. 10. Louisville, Ky.: John P. Morton and Co., pp. i-ix, 1-227.
- FITZPATRICK, T. J. 1911. *Rafinesque. A Sketch of His Life with Bibliography*. Des Moines: Historical Dept. of Iowa, 241 pp.
- FRIERSON, L. S. 1927. *A Classified and Annotated Check List of the North American Naiades*. Baylor University Press, pp. 1-111.
- JORDAN, DAVID STARR. 1911. *Science Sketches (Fourth Edition)*. "An Eccentric Naturalist." Chicago: A. C. McClurg and Co., pp. 153-169.
- ORTMANN, A. E., AND BRYANT WALKER. 1922. *On the Nomenclature of Certain North American Naiades*. *Occ. Pap. Mus. Zool., Univ. Mich.*, 112: 1-75.
- RAFINESQUE, C. S. 1836. *A Life of Travels*. (A verbatim reprint of the original and only edition.) Foreword by E. D. Merrill. *Chronica Botanica*, Vol. 8, No. 2, 1944: 292-360.
- VANATTA, E. G. 1916. *Rafinesque's Types of Unio*. *Proc. Acad. Nat. Sci., Philad.*, Vol. 67: 549-559.

