

Professor Ralph I. Smith: A Tribute to his
Manuals of Marine Invertebrates and
to his Academic Progeny

by

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Ralph Ingram Smith retired as Professor of Zoölogy at the University of California at Berkeley at the end of the spring 1987 semester, 41 years after his arrival on that campus in 1946. Professor Smith also stepped down in 1987 from 23 years as Secretary of the California Malacozoological Society (C.M.S.), a post he had held since 1964, when this journal was in its sixth volume. Dr. Smith has also served on the Editorial Board of *The Veliger* since 1960. His retirement from Berkeley and from the C.M.S. permits us to celebrate two of his major contributions to invertebrate zoology, including malacology: his many years of scholarly research, writing, and editorial labors, and the heritage he has created in his many students.

Professor Smith's many contributions to comparative physiology are well known internationally. Less well known, perhaps, is that Professor Smith has punctuated his long scholarly career of research and teaching with the production of two of the major guides to the marine invertebrates of the United States—the "Light's Manual" of the Pacific coast, and the "Woods Hole Manual" of the Atlantic coast.

At the time of Dr. Smith's arrival in Berkeley, Professor S. F. Light was proceeding slowly with revisions on his "syllabus"—the "Laboratory and Field Text in Invertebrate Zoology." In 1949, two years after Light's death, Ralph, along with Frank Pitelka, Frances Weesner, and Donald Abbott, began organizing the many specialists to

prepare chapters for the Second Edition of Light's syllabus. Ralph worked on the syllabus in the summers at Hopkins Marine Station, at Pacific Grove, and by 1952 he was able to write to Mrs. Mary H. Light, "after several years of work and numerous delays we expect to send to press next month a complete revision of Dr. Light's 'Laboratory and Field Text.'" Throughout the production, Ralph's great concern was that the book be *affordable* to students, a concern he voiced to Mary Light in correspondence in May 1953; 19 years later, in May 1971, Ralph was to write to Grant Barnes of the University of California Press, relative to the Third Edition, "I hope a new edition can be kept within the means of students." Ralph saw no point in producing a book that was too expensive for students to buy. The "Intertidal Invertebrates of the Central California Coast"—the final title of the book—appeared in 1954, at a cost of \$5.00.

The book was well received and soon widely recognized as a major compendium. We find, threaded throughout this Second Edition, Ralph's special sense of humor. An example will suffice:

In the late 1940s an intertidal rock near Hopkins Marine Station with a peculiarly prominent proboscis-like projection became locally known as "Snadrock." "Snadrock" became a popular, albeit somewhat mysterious local figure, whose name would appear on blackboards at HMS. If we examine with a hand lens the fine (but anonymous) drawing in "Light's Manual" of a living scaphopod, *Dentalium*, we find carefully written as part of the mud ripple, apparently as a sort of artist's signature, the word "Snadrock," a name that also appears on a bookspine in a chapter head block. It is not until the Third Edition of the Manual (1975) that the caption for this drawing reveals that it was "sketched by R. I. Smith."

Only five years were to pass before Ralph, restless again to put pen to paper to organize the unorganized, began work on the now-famous "Woods Hole Manual." On the eve of New Year's Eve 1962, Ralph wrote to Dr. Melbourne Carriker that there should be a guide to the invertebrates around Wood Hole to bridge the gap between the systematist and the "ordinary biologist." Ralph explained that in the winter of 1959–1960 he "threw together existing material" on such keys and checklists of the marine invertebrates of Woods Hole as had been casually accumulated over the years at MBL, and "the results were mimeographed and issued for use in the invertebrate course." Ralph continues, "although it was my expressed hope that there would follow additions and revisions, I am mainly of the opinion that the result was a rather dull thud followed by a long near-silence." Mel Carriker seized

upon the opportunity to invite Ralph to return to Woods Hole for the summer of 1963, as part of the Systematics-Ecology Program, to carry on the project and to organize the many contributors. Ralph did come to MBL that summer, and Dr. Carriker recalls that Ralph spent the summer "bending elbows and pounding on heads—it was a pleasure having him there."

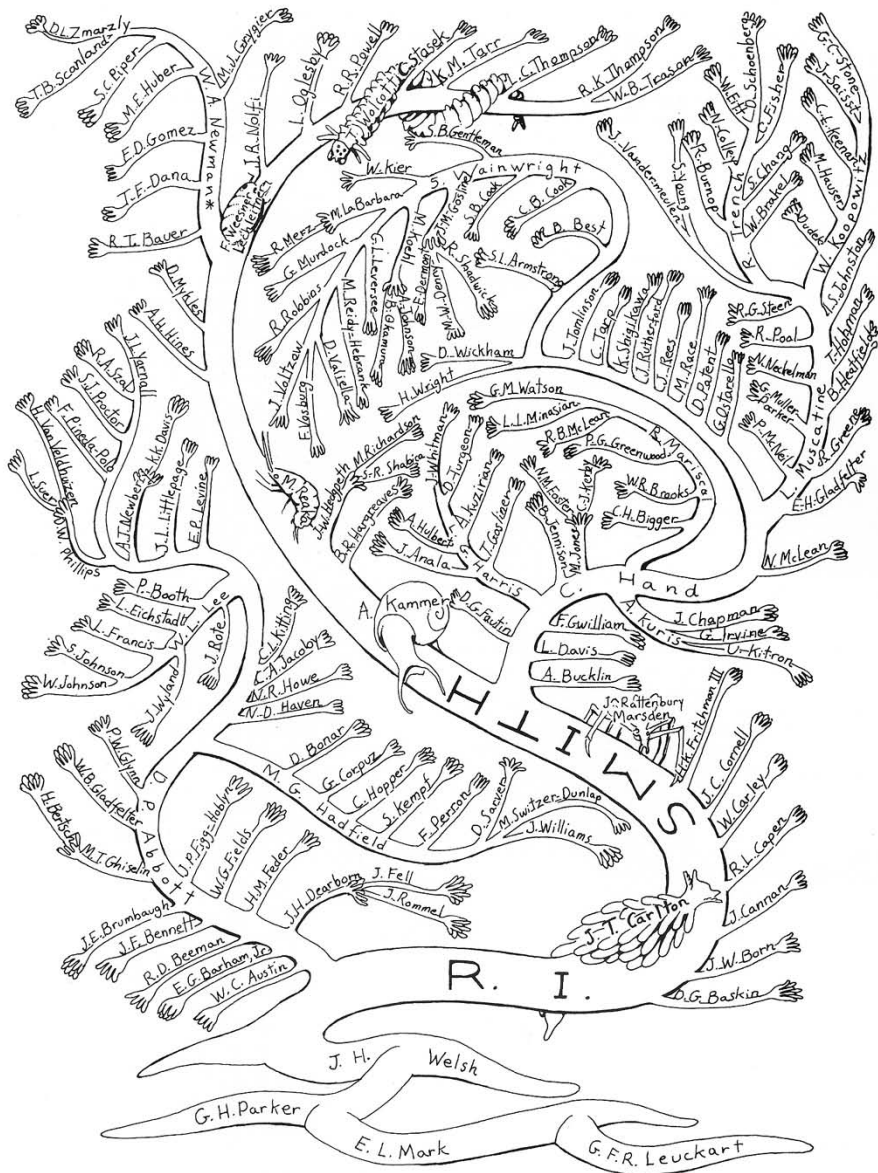
Ralph returned to Berkeley, pursued the work tirelessly, and by spring 1964 the book was off to the printers—the first formal review of the marine fauna of Woods Hole since 1912. The "Woods Hole Manual"—Smith's Manual—is still the *vade mecum* in the summer courses at MBL; nothing has yet replaced it.

Seven years passed. Then in March 1971 Grant Barnes, of the University of California, called Ralph concerning the possibility of putting together a new edition of "Light's Manual." Ralph wrote that day "I presume it will be quite a bit of work . . . though surely not so long as the five years it took last time." A mere 72 working hours after Barnes and Professor Smith met in May to discuss details, Ralph began to send out the first letters to authors of the 1954 edition and to new contributors. The first author submitted his chapter on barnacles in July 1971, but Ralph was eventually to cajole more than 40 authors for three years, writing letters to each one, "hoping" Ralph said, "to give each one the impression that he is the only one who hasn't yet sent in his contribution."

Innumerable taxonomic complexities arise in such a work, of which Ralph sought to be a guide through the labyrinth but not the designer of the puzzle. In the spring of 1974, knowing of Ralph's now three year struggle with endless changes of names and changes of opinions, Eugene Kozloff of the University of Washington wrote to Ralph referring to him as "one of you systematists." Ralph wrote back: "I can hardly take that lying down! I am not a systematist by any stretch of the imagination, which is one reason why I work on things like the Light Manual. If I were a systematist, I would be getting everyone confused instead of trying to clarify matters, but just because I end up getting everyone confused does not of itself make me a systematist." As the manuscripts came in Ralph would not lose a moment in copy-editing, taking on matters ranging from the proper rendition of women's hyphenated maiden-married names, to whether "intertidal" was a noun, to the elimination of the umlaut over the second "ö" of "zoöid" and "zoölogy." In responding to an inquiry from one erudite contributor on the latter question, Ralph wrote: "In respect to umlauts: I realize that modern zoölogists do not spell zoölogy with an ö, and I will try to cooperate with you in deleting them."

Figure 1

The Ph.D.logenetic tree of Professor Ralph Ingram Smith. W. A. Newman (asterisked) is shown as a joint student of Ralph Smith and Cadet Hand. Six close academic associates are shown as epifauna along the main axis.



The manuscript for the book was submitted to the University of California Press in August 1973, and there followed a long year of waiting. The U.C. Press worked diligently, copy-editing and inserting hundreds of commas (that Ralph patiently removed) and touching up negatives with an artist's eye (once causing Ralph to respond "one very small animal was removed entirely—apparently mistaken for a dirt spot"). Ralph left for sabbatical to Denmark in July 1974. The matter of indexing fell to co-editor James Carlton and several colleagues. Professor Smith read the final index copy in Denmark, noting that he didn't mind "mermaid" being indexed, but "Snadrock" had to go. The Third Edition appeared in March 1975 and was the first edition actually to bear the title "Light's Manual." The gestation period had been four years.

It should be noted that Professor Smith receives no royalties from any of these books. The proceeds from the sale of "Light's Manual" go into a fund that will underwrite part of the production costs of the Fourth Edition. For his efforts for the Third Edition, Ralph received five copies of the book.

While Professor Smith's editorial productions have been impressive, equally so are the number and quality of students he has produced. As a tribute to Professor Smith's role as teacher and professor, we assembled a "Ph.D.logenetic tree" (as Ralph calls it), in the form of a colonial hydroid, with stoloniferous roots and epibiota (Figure 1). This tree was presented to Dr. Smith upon his academic retirement.

There are 176 scientists on Professor Smith's polypoid tree. Dr. Smith earned the Ph.D. in 1942 from Harvard University under John Henry Welsh, with whom he wrote *Laboratory Exercises in Invertebrate Physiology*, later revised with Ann Kammer. Welsh's own academic lineage included the American zoologist George Howard Parker, and Parker's mentor, Edward Laurens Mark, both of Harvard, and the German zoologist Georg Friedrich Rudolf Leuckart (from whom Mark earned his doctorate at Leipzig).

Professor Smith produced 22 doctoral students in his career at Berkeley. Four of these students have had students themselves, producing (as of this writing) 58 additional doctoral students. These academic grandchildren, in

turn, have produced 68 more students. The latter have been the progenitors of a *fourth* generation of 18 students, for a subtotal of 144 students that Ralph calls "secondary productivity." Of the grand total of 166 students, more than a half-dozen have specialized in mollusks as the basis for their research, and all have published in *The Veliger!* (a tradition seeded by Ralph himself: *Veliger*, Vol. 1, No. 3, pp. 14–16). Also shown are six close associates, as epibiota, all of whom were strongly influenced as students or colleagues by Professor Smith.

It may be particularly noted that much of this "secondary productivity" of Professor Smith's academic doctoral descendants was based in the laboratories of Professor Cadet Hand of the University of California at Berkeley (who retired in 1985), and of the late Professor Donald P. Abbott of Stanford University (an account of whose career appears in *Veliger*, Vol. 29, No. 2, pp. 138–141, 1986). Together, they and their students have produced 134 zoologists. Both Professors Hand and Abbott long served on *The Veliger* Editorial Board, also becoming members in 1960. Along with Dr. Smith, Professor Hand also stepped down in 1987 from the C.M.S. Executive Board, of which he had served as President since its inception in 1964.

Ralph Smith has been a scholarly inspiration to more than four generations of undergraduate, graduate, and postdoctoral students in North America and Europe, students who have looked and continue to look to him for clear, precise, and logical thinking and interpretation. As one of his long-term colleagues has noted, Professor Smith is a "Practical Zoologist. First Class."

Acknowledgments

We thank Richard Eakin (University of California, Berkeley), Judy Thompson (Hopkins Marine Station), and Frances M. Okimoto (Pacific Biomedical Research Center, University of Hawaii), who provided us with the names of most of Smith's, Abbott's, and Hadfield's students, respectively. William Newman, Leonard Muscatine, and Mimi Koehl helped materially with other details as well. Shirley McArdeell lettered an early draft of the tree.