

THE PHYCOLOGICAL SOCIETY OF AMERICA

'Ipse super maria fundavit eum.' *Psalms*

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P. C. SILVA, Editor and Secretary

DR. PHIL. WILLI KRIEGER

IN MEMORIAM

Rolf Grönblad

Dr. Phil. Willi Krieger was born October 21, 1886. He was a teacher but applied himself to research in botany, especially to the study of fresh-water algae. He made several excursions in order to collect material for his researches, e.g., to Iceland, Romania, Caucasus, Finland, and Dalmatia. His graduation thesis was entitled, "Zur Biologie des Flussplanktons. Untersuchungen über das Potamoplankton des Havelgebietes," and was published in 1927. His scientific activity was interrupted for nearly four years by World War I. In 1945 he was headmaster of a school, and as such he was highly esteemed by teachers and pupils. At last, having retired, he was working in electron microscopy at the Institute for Micromorphology of the Max Planck Society. The results were published jointly by Dr. Krieger and Dr. Helmcke in several papers on the structure of the silicified cell wall of the diatoms as seen by means of the electron microscope.

The principal work by Dr. Krieger was the extensive treatment of desmids, "Die Desmidiaceen," in Rabenhorst's *Kryptogamen-Flora*. As is known, this valuable work remains unfinished, a fact very much to be regretted by all students of the desmids. Only the genera *Spirotaenia*, *Mesotaenium*, *Ancylo-nema*, *Roya*, *Cylindrocystis*, *Netrium*, *Penium*, *Closterium*, *Docidium*, *Pleuro-taenium*, *Triploceras*, *Ichthyocercus*, *Tetmemorus*, *Euastrum*, and *Micrasterias* were published.

All these personal data were kindly supplied by Mrs. Gertrud Krieger, and the list of publications at the end of this article was furnished by the late Dr. Krieger's son, Dr. Kurt Krieger. For this information I am very much obliged.

My first personal contact with Dr. Krieger took place at the turn of the year 1934-35, when we were invited together with Dr. Sven Thunmark by the grand old man of desmids, Dr. O. Borge, to spend a fortnight at his home in Stockholm. In this very hospitable home we had extensive and instructive discussions on various questions of phycology. It was here that I found Dr. Krieger a good and friendly man. From that time there developed a regular correspondence between us which continued until his death.

The second time I saw Dr. Krieger was in the summer of 1936, when he came to my home in Karis, Finland. After staying there only a few days, we set out for an excursion to northern Norway and Finnish Lapland. In the vicinity of Narvik in Norway and of Kilpisjärvi in Finland we made numerous

excursions collecting fresh-water algae. On these sometimes tiring trips Dr. Krieger's good humor never failed. He was also a very skilled photographer, and his photographs, especially of the peculiar and beautiful vegetation of this arctic-alpine area, are a source of continual pleasure to me.

It was the intention of Dr. Krieger last summer to come to Finland where we were to meet with our mutual friend Mr. A. M. Scott from New Orleans. There would have been an interesting program to talk over and I think this would have been profitable for all of us. Unfortunately there were difficulties in the way of Dr. Krieger's getting his visa, our meeting was put off, and finally came the news of his sudden death on July 15, 1954.

In his work on the desmids, his numerous smaller articles as well as the great Rabenhorst's Flora, Dr. Krieger proved himself a distinguished expert of this group of algae, having a thorough knowledge of the very extensive literature on it. This work is no compilation but rather an original and up-to-date comprehensive revision. In the treatment of the species there may, of course, be instances where one cannot thoroughly agree with the author. But I think there is no possibility of anyone writing such a book in a way that everyone would agree with all the arrangements. The older authors especially have made their diagnoses and drawings so obscure, sometimes so incorrect, that nowadays it is almost impossible to know what the original specimens really were. At any rate, there can be different opinions as to their identity. It is hoped that this magnum opus will be finished by someone else before the gigantic work set down in the notes of Dr. Krieger has become out-of-date. But this must be done very soon indeed.

The name of Dr. Krieger will be honored as long as people are working on the taxonomy of desmids.

A list of the papers on algae by Dr. Krieger follows:

1. Zur Biologie des Flussplanktons. Untersuchungen über das Potamoplankton des Havelgebietes. Pflanzenforschung 10. vi, 66 pp., 5 pls., 1 map, 47 graphs. 1927.
2. Die Gattung *Centronella* Voigt. Ber. Deutsch. Bot. Ges. 45(5): 281-290, pl. 5, map. 23 June 1927.
3. Zur Algenflora des Grossen Prüssnicksees. Verh. Bot. Ver. Prov. Brandenburg 70: 82-84. 1928.
4. Vegetationsstudien am Plötzendiebel bei Joachimathol (Uckermark). Ergebnisse der Durchforschung eines Naturschutzgebietes der Preussischen Forstverwaltung. Algologisch-monographische Untersuchungen über das Hochmoor am Diebelsee. Beitr. Naturdenkmalpflege 13: 235-300, 3 pls. 1929.
5. Algenassoziationen von den Azoren und Kamerun. Hedwigia 70. (1/2): 140-156, pls. 4-6. March 1930.
6. Untersuchungen über Plankton-Chrysoomonaden. Die Gattungen *Mallomonas* und *Dinobryon* in monographischer Bearbeitung. Bot. Arch. 29 (3/4): 257-329, 63 figs. 1930.
7. Die Desmidiaceen der Deutschen Limnologischen Sunda-Expedition. Arch.

- Hydrobiol. Suppl. 11: 129-230, pls. 3-26, 2 tables, 18 suppl. tables, 1 graph. 1932.
8. Die Algen des Naturschutzgebietes Schildow. Das Naturschutzgebiet Schildow, Teil 2: 55-84. 1933.
9. (R. Kolkwitz & W. Krieger) Zur Oekologie der Pflanzenwelt, insbesondere der Algen, des Vulkans Pangerango in West-Java. Ber. Deutsch. Bot. Ges. 54(2): 65-91, pls. 9-12, 1 text-fig. 26 March 1936.
10. J. Insam & W. Krieger) Zur Verbreitung der Gattung *Cosmarium* in Südtirol. Hedwigia 76(3): 95-113, pls. 1-6. 5 Aug. 1936.
11. Süswasser-algen aus Spitzbergen (Conjugatae und Chlorophyceae). Ber. Deutsch. Bot. Ges. 56(2): 55-72, pls. 1-2. 24 March 1938.
12. (R. W. Kolbe & W. Krieger) Süswasser-algen aus Mesopotamien und Kurdistan. *Ibid.* 60(6/7): 336-355, pl. 3, 1 text-fig. 19 Oct. 1942.
13. Süswasser-algen aus Griechenland. *Ibid.* 61: 250-270, 49 figs. 1943.
14. Desmidiaceen aus der montanen Region Südost-Brasilien. *Ibid.* 63: 36-43, 35 figs. 1950.
15. (J. G. Helmcke & W. Krieger) Feinbau von Diatomeenschalen in Einzeldarstellungen. 2. Die Gattung *Achnanthes* Bory. Zeitschr. Wiss. Mikroskopie 60 (3/4): 197-202, 11 figs. May 1951.
16. (J. G. Helmcke & W. Krieger) Demonstration einiger raumrichtiger Rekonstruktionszeichnungen von Diatomeenschalen. Verh. Deutsch. Zool. Ges. 1951: 438-443, 4 figs. 1952.
17. (J. G. Helmcke & W. Krieger) Feinbau der Kieselschalen der Diatomee *Cyclotella comta* (Ehrbg.) Kütz. Ber. Deutsch. Bot. Ges. 65(3): 70-72, pl. 2, 1 text-fig. 30 April 1952.
18. (J. G. Helmcke & W. Krieger) Neue Erkenntnisse über den Schalenbau der Diatomeen. Naturwiss. 39: 146-149, 17 figs. 1952.
19. (J. G. Helmcke & W. Krieger) Kieselalgen in Elektronenmikroskop. Kosmos 48: 405-410. 1952.
20. (J. G. Helmcke & W. Krieger) Feinbau der Diatomeenschalen in Einzeldarstellungen. 3. Die Gattung *Melosira* Ag. Zeitschr. Wiss. Mikroskopie 61(2): 83-92, 30 figs. Aug. 1952.
21. (J. G. Helmcke & W. Krieger) Elektronenmikroskopische Untersuchungen über den Kammerbau der Diatomeenmembran. Ber. Deutsch. Bot. Ges. 64: (27)-(29), pl. (1). 25 Sept. 1952.
22. (J. G. Helmcke & W. Krieger) Diatomeenschalen im elektronenmikroskopischen Bild. Bild und Forschung. Abt. Biologie. Berlin-Wilmersdorf. I Teil. 1953. II Teil. 1954.
23. Die Desmidiaceen Europas mit Berücksichtigung der aussereuropäischen Arten. In Rabenhorst, L., Kryptogamen-Flora von Deutschland, Oesterreich und der Schweiz 13 (Abt. 1). Teil I: Lief. 1: 1-223, pls. 1-8, 33 figs. 1933. Lief. 2: 225-375, pls. 9-36. 1935. Lief. 3: 377-536, pls. 37-72 1937. Lief. 4: 537-712, pls. 73-96. 1937. Teil II: Lief. 1: 1-117, pls. 97-142. 1939.

24. (W. Krieger & A. M. Scott) Einige Desmidiaceen aus Peru. In preparation, 1955.

THE EIGHTH INTERNATIONAL BOTANICAL CONGRESS

P. C. SILVA

The Eighth International Botanical Congress was held in Paris July 2-14, 1954, preceded and followed by excursions in France, Morocco, Algeria, Tunisia, Senegal, Mauritania, French Guinea, and Ivory Coast. A Post-Congress convened at Nice July 22-26. Nearly 3,000 persons registered at the Sorbonne, representing some 55 countries, including the U.S.S.R., Bulgaria, Czechoslovakia, Hungary, and Poland.

The Congress was organized into 27 sections, many with subsections. For the first time a section was devoted exclusively to phycology. Its organizers, Professors Jean Feldmann and Pierre Bourrelly, assisted by Dr. and Mme F. Magne and Mme G. Feldmann, deserve the highest praise. Professor W. R. Taylor, president of the section, was aided by eleven vice-presidents, six of whom presided. Eighteen sessions were held in the Grand Amphithéâtre of the Institut de Chimie, during which more than 110 papers were given (or read by title). Papers were grouped into the following categories: morphology and reproduction of Chlorophyceae; general classification of Chlorophyceae; morphology and classification of Rhodophyceae, Cyanophyceae, Phaeophyceae, and Chrysophyceae; life-cycles; skeletal structure and classification of coccolithophores and diatoms; ecology and geographical distribution of fresh-water and aerial algae; ecology and geographical distribution of marine algae; biochemistry; physiology; cytology; phytoplankton. Abstracts were published in advance and distributed to registrants in a series of volumes; those of phycological papers (Section 17) constituted a volume of 192 pages.

The phycological sessions were well attended, the largest audience numbering 85. The official photograph of the section encompassed 103 persons. Members of the Phycological Society who presented papers were P. Bourrelly, E. Burrows, V. J. Chapman, T. Christensen, T. V. Desikachary, K. M. Drew, H. S. Forest, J. H. Johnson, T. Levring, R. A. Lewin, C. S. Nielsen, G. F. Papenfuss, H. T. Powell, L. Provasoli, P. C. Silva, and W. R. Taylor. In addition, the following members contributed papers which were read by title: M. B. Allen, J. L. Blum, J. Brunel, E. Y. Dawson, W. E. Isaac, M. O. P. Ivengar, E. Pringsheim, A. M. Scott, S. Segawa, L. H. Tiffany, and L. A. Whitford.

Fresh-water phycological excursions were organized by Professor Bourrelly, one before the Congress centering in Clermont-Ferrand (Auvergne) and one after the Congress centering in Aix-les-Bains (Savoie). Marine phycological excursions were organized by Professor Feldmann, one before the Congress with headquarters at Laboratoire Arago, Banyuls-sur-Mer (Roussillon) and one after the Congress at Roscoff (Brittany). Judging from personal experience and reports of others, the excursions were very successful.

The Section on Nomenclature met during the four days preceding the Con-

gress proper under the capable guidance of Jacques Rousseau. The following changes in the International Code of Botanical Nomenclature may prove of interest to members of the Society:

ARTICLE 26. The Rules of priority, formerly applicable to names of taxa of ordinal rank and below, now apply only to names of taxa of the rank of family and below.

ARTICLE 44. The requirement of a Latin diagnosis to effect valid publication of names of new taxa has been postponed in the case of algae to some date in the future (approximately one year after publication of the Paris Code.) It is regrettable that certain monographic work published or in preparation since 1935 will suffer nomenclaturally from this postponement, but the overall effect was thought beneficial. It is hoped that a similar situation suggesting further postponement of the requirement of a Latin diagnosis will be avoided in the future by full cooperation of all phycologists.

ARTICLE 44 bis. In the future names of new taxa of recent plants will be considered validly published only when the type is indicated.

ARTICLE 45. In the future names of new taxa of algae of specific or lower rank will not be considered validly published unless accompanied by one or more illustrations showing the distinctive morphological features, if such exist, or by a reference to a previously and effectively published illustration. This rule was passed at the instigation of the British Phycological Society. While adequate illustration is good taxonomic practice, it would seem that this provision will be difficult to enforce and might increase nomenclatural instability.

The special committee for nomenclature of algae recommended adoption of the following *nomina generica conservanda proposita*: *Agarum*, *Aphanochaete*, *Aphanothece*, *Areschougia*, *Ascophyllum*, *Chaetomorpha*, *Chondria*, *Chordaria*, *Cladophora*, *Cladophoropsis*, *Cryptopleura*, *Dictyota*, *Dudresnaya*, *Enteromorpha*, *Erythrotrichia*, *Gastroclonium*, *Gelidium*, *Gloeocapsa*, *Gongrosira*, *Halimeda*, *Helminthocladia*, *Helminthora*, *Heterosiphonia*, *Hydrurus*, *Iridaea*, *Laurencia*, *Lenormandia*, *Leptochaete*, *Martensia*, *Microchaete*, *Microrospora*, *Nodularia*, *Padina*, *Petalonia*, *Phacelocarpus*, *Pleonosporium*, *Plumaria*, *Polyneura*, *Prionitis*, *Ptilota*, *Sargassum*, *Sirogonium*, *Struvea*, *Trentepohlia*, *Trichodesmium*, *Urospora*, *Zonaria*.

A new committee for nomenclature of algae, combining the former committees for algae and diatoms, was constituted as follows: P. Bourrelly, T. Braarud, M. S. Doty, J. Feldmann, R. Grönblad, T. Levring, S. Lund, J. W. G. Lund, G. F. Papenfuss, R. Patrick, R. Ross, P. C. Silva (Secretary), H. Skuja, W. R. Taylor, and Y. Yamada.

The Ninth International Botanical Congress will convene at Montreal in 1959.

Review

Imahori, Kozo. 1954. Ecology, phytogeography, and taxonomy of the Japanese Charophyta. Kanazawa, Japan. vii + 234 pp., 41 pls., 66 text-figs. [English and Japanese.] Available through Maruzen Co., Ltd., 6 Tori 2-tyome,

Nihonbasi, Tyuoku, Tokyo, Japan. \$5.00.

Despite his disastrous loss of specimens and manuscripts at Hiroshima, Dr. Imahori has reconstructed the results of his long study of Japanese Charophyta into an unusually complete and usable monograph. The first forty-five pages contain general information and will be found valuable due to the new data and interpretations contained therein. The major portion of the text is devoted to the taxonomic treatment. For each taxon, the author has provided a synonymy, a list of references, a description, the Japanese name, habitat notes, Japanese localities, the general distribution, and an indication of the type specimen. Illustrations for each entity include a full-page plate, a distributional map, and occasional text-figures. A glossary provides English-Japanese and Japanese-English equivalents of technical terms.

A total of fifty-six species are treated, including one of *Tolypella*, eight of *Chara*, and forty-seven of *Nitella*. Of these, fourteen species of *Nitella* and the *Tolypella* are either new or recently described by the author. Several varieties are newly described.

From a taxonomic point of view, one wonders at the preponderance of species of *Nitella*. It appears that the treatment is less conservative for this genus than for the other two genera. The museum at which the type specimens are deposited is not indicated, and it is hoped that they will be made available for study. It is important to note that the type specimens are here indicated for a number of species described earlier for which types had not been cited.

Dr. Imahori's "Japanese Charophyta" is certainly an important contribution to Asiatic floristics and will be a milestone for workers in the Charophyta. As a volume, it is well printed and bound, beautifully illustrated, and arranged in a scholarly manner; and as such, it is one to be admired. — R. D. Wood.

Necrology

We note with deep regret the death of Prof. Dr. Herbert Beger of Berlin-Zehlendorf, Germany, on March 12, 1955, at the age of sixty-six years. He will be remembered by phycologists for his papers on the ecology and taxonomy of subaerial and terrestrial algae and for his studies on iron bacteria. Prof. Beger joined the Phycological Society soon after its founding and always wrote enthusiastically about the organization and of its possibilities. We extend our sympathy to the family of the late Prof. Beger.

New Members

ABBOTT, ROBINSON S: Bot. Dept. Cornell Univ. Ithaca, N.Y. GR.S. FW-M (ecol. econ. tax. correlation between *Anopheles* breeding ponds and species of attached algae in S. W. Georgia).

ALLEN, M(ARJORY) ANN: Bot. Dept. Indiana Univ. Bloomington, Ind. GR.S. FW (cult. cyt. gen. morph. phys. cytology of *Spirogyra*). XR-cultures.

ALMODOVAR, LUIS R.: Box 1382, Florida State Univ. Tallahassee, Fla. GR.S. FW-M (cult. cyt. ecol. econ. tax. Cyanophyta of Puerto Rico).

APIKIAN, GIR: Adept Mercantile Trading Co. 61, Rue de Provins, Casablanca, French Morocco. I. M. (econ.). XR.

BURSA, ADAM: Bot. Dept. McGill Univ. Montreal, P. Q. Res. Fellow. M (cult. cyt. ecol. econ. limnol. morph. tax. productivity measurements, plankton). XC, R, plankton samples.

CONOVER, JOHN TOWNSEND: U.S. Fish & Wildlife Service, Woods Hole, Mass. GR.S. Applied Biologist. M (cult. cyt. ecol. limnol. morph. plankton, seasonal periodicity, estuarine ecol.). XC,R, plankton samples, limnological techniques.

EARLE, SYLVIA A.: Bot. Dept. Florida State Univ. Tallahassee, Fla. GR.S. M-FW (ecol. econ. limnol. tax. algae of Florida). XC-R.

FITZGERALD, GEORGE P: Bot. Dept. Univ. Wisconsin, Madison 6, Wisc. Res. Associate. FW (cult. ecol. limnol. phys. plankton; nutrition and control of Cyanophyta, algal pigments). XR.

FREESE, LEONARD R.: Biol. Dept. Univ. Houston, Houston, Tex. T. FW-M (tax. diatoms). XR, plankton samples.

HERNDON, WALTER R. JR.: Biol. Dept. Middle Tennessee State Coll. Murfreesboro, Tenn. T. FW (cult. morph. soil algae). XR-cultures.

HOMMERSAND, MAX HOYT: Bot. Dept. Univ. Calif. Berkeley 4, Calif. GR.S. M (morph. phys. tax. Rhodophyta).

KINGSBURY, JOHN M: Bot. Dept. Cornell Univ. Ithaca, N.Y. T. FW-M (phys. Cyanophyta).

LEVY, CARL C.: 239 Upson Lane, University Heights, New Brunswick, N.J. GR.S. Phys. nutrition. XR-cultures.

LUTHER, HANS: Bot. Inst. Univ. Helsingfors, Unionsgatan 44, Helsingfors, Finland. T. FW-M (ecol. tax.). XC-R.

OLSON, THEODORE A.: School of Public Health Lab. 123 Psych. Bldg. Univ. Minnesota, Minneapolis 14, Minn. T. FW (ecol. plankton, algal blooms, toxic plankton). XR.

REIMER, CHARLES W: 2341 Cedar Lane, Holmes, Penn. I. FW (ecol. plankton, tax. diatoms).

REIST, RICHARD TRENT: 812B Maple Lane, Michigan State Coll. East Lansing, Mich. GR-S. Plankton, water supplies. XR.

SAUNDERS, ALISON BEATRIX: Bot. Dept. Univ. Calif. Berkeley 4, Calif. GR.S. M (morph. histology of Laminariales).

WAERN, MATS: Växtbiologiska Inst. Uppsala Univ. Uppsala, Sweden. T. FW-M (ecol. tax.). XC-R.

ZEHNDER, ALFONS: National Research Council, Division of Applied Biology, Ottawa, Canada. Res. Fellow. FW (cult. phys. planktonic Cyanophyta). XR.

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