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'Ipse super maria fundavit eum.' Psalms.

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P. C. SILVA, Editor and Secretary

## Phycological Literature for 1954

Compiled by P. C. SILVA

The ensuing bibliography was assembled as a service to members of the Phycological Society. Although the intention was to include every paper published in 1954 that dealt wholly or partly with algae, no claim is made to completeness. The Editor will appreciate having his attention called to omissions. In all but a very few instances, the original literature has been consulted. Assignment of an article to one or another category (physiology, genetics, morphology, ecology, taxonomy, etc.) has in many instances been arbitrary. It was considered impracticable to make more than rudimentary use of cross references.

### PHYSIOLOGY AND BIOCHEMISTRY

(See also under ecology the following entries: Atkins, Beer, Biebl, Bringmann, Darragh and Stayner, Das, Dobrzanskaia, Fitzgerald and Skoog, Flaigg and Reid, Gotaas et al., Griffith, Hasle, Jackson and McFadden, Ryther and Vaccaro.)

———. Algal physiology and biochemistry. *Nature* 173(4401): 434-435. 6 Mr (Review of symposium of British Phycological Society held at University College, London, Jan. 1, 1954.)

AARONSON, S., AND E. RODRIGUEZ. (Abstr.) Fatty acids as substrates for *Ochromonas*. *J. Protozool.* 1(suppl.): 4. Au

ALGÉUS, S. Nitrogen heterotrophy of a green alga. *Proc. 7th Int. Bot. Congr.* 776. Ja (*Scenedesmus*)

ALLEN, M. B. Studies on a blue-green *Chlorella*. *Rapp. Comm. 8me Congr. Int. Bot.* 17: 41-42. J1

ALLISON, R. K., H. E. SKIPPER, M. R. REID, W. A. SHORT, AND G. L. HOGAN. Studies on the photosynthetic reaction. II. Sodium formate and urea feeding experiments with

*Nostoc muscorum*. *Pl. Physiol.* 29(2): 164-168. Mr

ARNOLD, W., AND J. B. DAVIDSON. The identity of the fluorescent and delayed light emission spectra in *Chlorella*. *J. Gen. Physiol.* 37(5): 677-684. 20 My

ARNON, D. I. Some recent advances in the study of essential micronutrients for green plants. *Rapp. Comm. 8me Congr. Int. Bot.* 11: 73-80. J1

AUBEL, E., AND M. N. THIANG. Influence du glucose sur la croissance de *Chlorella pyrenoidosa* en milieu synthétique. *C. R. Acad. Sc.* 239(8): 599-600. 23 Au

AUGIER, J. Biochimie et systématique chez les Rhodophycées. *Rapp. Comm. 8me Congr. Int. Bot.* 17: 30-32. J1

———. Sur la biochimie d'une Lémnécée nord-américaine, *Tuomeya fluviatilis*, Harvey. *C. R. Acad. Sc.* 239(1): 87-89. 5 J1

AUGIER, J., AND M. L. DU MÉRAC. Les sucres solubles des Rhodophycées. *C. R. Acad. Sc.* 238(3): 387-389. 18 Ja

- . Recherches préliminaires sur le chimisme glucidique de *Codium dichotomum* (Huds.) Setchell. Bull. Lab. Marit. Dinard 40: 25-27. 15 N
- BAILEY, J. M., AND A. C. NEISH. Starch synthesis in *Chlorella vulgaris*. Can. J. Biochem. Physiol. 32(4): 452-464. J1
- BAKER, H., E. RODRIGUEZ, S. AARONSON, AND S. H. HUTNER. (Abstr.) Additional nutrients required for growth of *Ochromonas* at 37°. J. Protozool. 1(suppl.): 4. Au
- BANNISTER, T. T. Energy transfer between chromophore and protein in phyocyanin. Arch. Biochem. Biophys. 49(1): 222-233. Mr
- BASLAVSKAYA, S. S., AND T. E. KISLYAKOVA. [The action of nitrogen and phosphorus on photosynthesis of *Scenedesmus quadricauda*.] Akad. Nauk SSSR Dok. 98(4): 669-672. 1 O
- BEAN, R. C., AND W. Z. HASSID. Assimilation of C<sup>14</sup>-labeled carbon dioxide by a photosynthesizing red alga, *Irideae laminarioides*. Fed. Proc. 13(1,1): 179-180. Mr
- BENNETT, M. C., AND Sir Eric RIDDEAL. Membrane behaviour in *Nitella*. Proc. Roy. Soc. Biol. Sc. 142(909): 483-496. 27 S
- BENSON, A. A. Photosynthesis: first reactions. J. Chem. Educ. 31: 484-487. S (incl. *Scenedesmus*)
- BERTRAND, D. Recherches sur le lithium chez les cryptogames. Bull. Soc. Chim. Biol. 36(6/7): 907-909. 27 J1 (incl. algae, but no names given)
- BISHOP, C. T., G. A. ADAMS, AND E. O. HUGHES. A polysaccharide from the blue-green alga, *Anabaena cylindrica*. Can. J. Chem. 32(11): 999-1004. N
- BLAAUW-JANSEN, G. Chlorophyllide, the probable precursor of a growth inhibitor. Nature 174(4424): 312-313. 14 Au (incl. *Chlorella*)
- BLACK, W. A. P. Constituents of the marine algae. Ann. Repts. Progr. Chem. 50: 322-335.
- . Concentration gradients and their significance in *Laminaria saccharina* (L.) Lamour. J. Mar. Biol. Assoc. U.K. 33(1): 49-60. F
- . The seasonal variation in the combined L-fucose content of the common British Laminariaceae and Fucaeae. J. Se. Food Agr. 5(9): 445-448. S
- BLACK, W. A. P., AND E. T. DEWAR. The properties of the algal chemicals. II. Some derivatives of laminarin. J. Se. Food Agr. 5(4): 176-183. Ap (*Laminaria cloustonii*)
- BLINKS, L. R. The photosynthetic function of pigments other than chlorophyll. Ann. Rev. Pl. Physiol. 5: 93-114.
- . The role of accessory pigments in photosynthesis. In Fry and Peel, Autotrophic micro-organisms, pp. 224-246.
- BLINKS, L. R., F. HAXO, AND C. YOCUM. Photosynthetic action spectra of marine algae. Proc. 7th Int. Bot. Congr. 745-746. Ja
- BOGEN, H. J. Zellphysiologie und Protoplastmatik. Fortschr. Bot. 16: 258-268. (review, incl. algae)
- BRADLEY, D. F., AND M. CALVIN. The effect of thioctic acid on the quantum efficiency of the Hill reaction. Arch. Biochem. Biophys. 53(1): 99-118. N (*Scenedesmus*, *Chlorella*).
- BRASLAVSKA, O. P., AND V. L. CHERKAS'KII. [*Euglena geniculata* cultures in dark and in light.] Bot. Zhurn. Akad. Nauk Ukrain. 11(2): 55-62.
- BRECKHEIMER-BEYRICH, H. Weitere Erkenntnisse über die Wirkung zentrifugaler Kräfte auf das Protoplasma von *Nitella flexilis*. Ber. Deutsch. Bot. Ges. 67(3): 86-92. 29 Ap
- BROWN, A. H., AND G. C. WEBSTER. The influence of light on the rate of respiration of the blue-green alga *Anabaena*. Am. J. Bot. 40(10): 753-758. 21 Ja
- BROWN, F. A., Jr., M. I. SANDEEN, AND H. M. WEBB. (Abstr.) Solar and lunar rhythms of O<sub>2</sub>-consumption in the seaweed, *Fucus*. Biol. Bull. 107(2): 306, O
- BRUCKER, W. Beiträge zur Kenntnis der Phototaxis grüner Schwärmzellen. I. Die Licht empfindlichkeit von *Lepococinis texta* und ihre Abhängigkeit

- von der Vorbelichtung und vom Kohlensäuregehalt des Mediums. Arch. Protistenk. 99(4): 294-327. 24 F
- BRUCKMAYER-BERKENBUSCH, II. Die Beeinflussung der Auxosporienbildung von *Melosira nummuloides* durch Ausseufaktoren. Arch. Protistenk. 100(2): 183-211. 30 O
- BURSTRÖM, H. Mineralstoffwechsel. Fortschr. Bot. 16: 269-291. (review, incl. algae)
- CALLAME, B., AND J. DEBYSER. Observations sur les mouvements des Diatomées à la surface des sédiments marins de la zone intercotidale. Vie et Milieu 5(2): 243-249.
- CATCH, J. R. Carbon<sup>14</sup> amino acids from *Chlorella*. Proc. 2nd Radioisotope Conf. Oxford 1: 258-261.
- CHAVE, K. E. Aspects of the biogeochemistry of magnesium. I. Calcareous marine organisms. J. Geol. 62(3): 266-283. My (algae on p. 281)
- CHODAT, F., AND A. BAGDIANTZ. Effets de la thiourée sur la réduction des nitrates et la photosynthèse d'une algue verte. Rapp. Comm. 8me Congr. Int. Bot. 11: 13-15. J1
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- COLLANDER, R. The permeability of *Nitella* cells to non-electrolytes. Physiol. Pl. 7(3): 420-445.
- COOKE, S. L., Jr. (Abstr.) A polarographic study of respiration in a blue-green alga. Virginia J. Sc. 5(4): 265. S
- CORBETT, J. J. (Abstr.) Formation of thiamine by *Chilomonas paramecium*. J. Protozool. 1(suppl.): 12. Au
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- . Les acides citrique et malique des algues marines. Rapp. Comm. 8me Congr. Int. Bot. 11: 40-41. J1
- CRÉAC'H, P. V., AND J. BARAUD. L'acide ascorbique total dans les algues marines. C. R. Soc. Biol. 148(1/2): 105-107. Ja
- DAILY, W. A., AND J. M. MCGUIRE. Preservation of some algal cultures by lyophilization. Butler Univ. Bot. Stud. 11: 139-143. 30 N
- DAO, S. Action de l'acide indol acétique sur l'*Acetabularia mediterranea* Lamour. en culture. C. R. Acad. Sc. 238(24): 2340-2341. 14 Je
- . Essais de forçage des cystes de l'*Acetabularia mediterranea*, Lamour. Rapp. Comm. 8me Congr. Int. Bot. 17: 48. J1
- . Comportement de l'*Acetabularia mediterranea* Lamour. en culture. Étude de sa croissance. Rev. Gén. Bot. 61(728): 573-606. O
- DILLER, V. M., AND H. J. KERSTEN. Turbidimetric determination of dry weight of algae. Pl. Physiol. 29(5): 492. S (*Chlorella*)
- DILLON, T. The polysaccharides of the red algae. Rapp. Comm. 8me Congr. Int. Bot. 17: 29-30. J1
- DOUIN, R. Nutrition azotée et nutrition carbonée des *Anabaena* endophytes des Cycadacées. Ann. Univ. Lyon, Sc. Nat. Sect. C, 8: 57-70.
- . Pigments des *Anabaena* endophytes des Cycas. C. R. Acad. Sc. 239(1): 76-78. 5 J1
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- . Cobalamin requirement in Chrysophyceae. Nature 174(4428): 520-521. 11 S
- DUCOFF, H. S. (Abstr.) Enhancement of radiosensitivity by interference with certain phases of metabolism. J. Protozool. 1(suppl.): 4. Au (*Chilomonas*)
- DUNCAN, W. A. M., D. J. MANNERS, AND A. G. ROSS. Observations on the carbohydrase activity of certain seaweed extracts. Biochem. J. 57(3): xviii. J1
- DUYSENS, L. N. M. Reversible changes in the absorption spectrum of *Chlorella* upon irradiation. Science 120(3113): 353-354. 27 Au
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- FAGER, E. W. Phosphoglyceric acid formation by carbon dioxide fixation in plant extracts. *Biochem. J.* 57(2): 264-272. *Je (Scenedesmus)*
- FINK, H., I. SCHLIE, AND E. HEROLD. Über die Eiweißqualität einzelliger Grünalgen und ihre Beziehung zur alimentären Lebernekrose der Ratte. Ein Beitrag zur mikrobiellen Eiweiß- und Fettsynthese. XI. Naturwissenschaften 41(7): 169. *Ap (Scenedesmus)*
- FOGG, G. E., AND D. M. COLLYER. The accumulation of fats as a characteristic of certain classes of algae. *Rapp. Comm. Sme Congr. Int. Bot.* 17: 28. *Jl*
- FOGG, G. E., AND M. WOLFE. The nitrogen metabolism of the blue-green algae (Myxophyceae). *In* Fry and Peel, *Autotrophic micro-organisms*, pp. 99-125.
- FÖRSTER, H., AND L. WIESE. Untersuchungen zur Kopulationsfähigkeit von *Chlamydomonas eugametos*. *Zeitschr. Naturf.* 9b(7): 470-471. *Jl* (foreword by Max Hartmann)
- . Gamowwirkungen bei *Chlamydomonas eugametos*. *Ibid.* 9b(8): 548-550. *Au*
- FOWDEN, L. A comparison of the compositions of some algal proteins. *Ann. Bot. n.s.* 18(71): 257-266. *Jl*
- ✓ FREDERICK, J. F. Preliminary studies on the synthesis of polysaccharides in the algae. V. Kinetics of polysaccharide formation in extracts of *Oscillatoria princeps*. *Physiol. Pl.* 7(1): 182-189.
- FRENCH, C. S., AND V. M. KOSKI. The fluorescence spectra and photochemical activity of chloroplast pigments. *Proc. 7th Int. Bot. Congr.* 741-742. *Ja* (incl. phycoobilins)
- FRENKEL, A. W., AND R. A. LEWIN. Photoreduction by *Chlamydomonas*. *Am. J. Bot.* 41(7): 586-589. 27 *Jl*
- FREY-WYSSLING, A., AND H. STECHER. Über den Feibau des *Nostoc-Schleimes*. *Zeitschr. Zellf.* 39(5): 515-519.
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- FUKUDA, Y., T. TERAKAWA, AND Y. TERASAKI. Comparative study of thiamine content between phyto- and zoo-plankton. *J. Sc. Hiroshima Univ. ser. B, div. 2 (Bot.)* 6(3): 177-186. *Mf*
- GAEVSKAIA, N. S. [New species for mass cultures of protozooid algae, *Lagerheimia ciliata* (Lagerh.) Chodat.] *Moskov. Obsheh. Isp. Prir. Otd. Biol.* 59: 83-84. *Ja/F*
- GAFFRON, H. Mechanism of photosynthesis. *In* Fry and Peel, *Autotrophic micro-organisms*, pp. 152-185.
- GERLOFF, G. C., AND F. SKOOG. Cell contents of nitrogen and phosphorus as a measure of their availability for growth of *Microcystis aeruginosa*. *Ecology* 35(3): 348-353. *Jl*
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- GIORDANO, C. L'azione del desossiribonucleinato di potassio sul protoplasma di *Spirogyra*. *Ricerche microchirurgiche. Atti Accad. Sc. Torino, Cl. Sc. Fis. Mat. Nat.* 88: 298-317.
- . *Ricerche microchirurgiche. II. L'azione dei cloruri di Fe, Cu, Co, Mn sulle strutture protoplasmatiche di Spirogyra neglecta* (Hass.) Kg., ed in particolare sui nuclei isolati. *Allionia* 2(11): 33.
- . Microinjections de desoxyribonucleinate de K dans les cellules de *Spirogyra*. *Rapp. Comm. Sme Congr. Int. Bot.* 9: 104-106. *Jl*
- GOODWIN, T. W. Some observations on carotenoid synthesis by the alga *Chlorella vulgaris*. *Experientia* 10(5): 213-214. 15 *My*

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- GULLARD, R. R. L. (Abstr.) A vacuole-less variant of *Chlamydomonas moewusii*, requiring a high osmotic pressure for survival. *J. Protozool.* 1 (suppl.): 10. Au
- GUPTA, A. B. (Abstr.) The enzymes of Myxophyceae. *Proc. Indian Sc. Congr.* 40(3): 66.
- HAENEL, H. Auswertung des Euglenatestes (Nachweis von Vitamin B<sub>12</sub>) mit Hilfe von Ultraschall. *Naturwissenschaften* 41(6): 143-144. Mf
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- HANDKE, H. II. Quantitative Untersuchungen über die alkohollöslichen Pigmente bei Cyanophyceen. *Wiss. Zeitschr. Univ. Halle, Math.-Nat.* 4 (1): 89-93. 15 N
- HARDER, R., AND W. KOCH. Über die Plastidenfarbstoffe von *Pedinomonas* (Protochloridales). *Arch. Mikrobiol.* 21(1): 1-3.
- HASHIMOTO, Y. Vitamin B<sub>12</sub> in marine and freshwater algae. *J. Vitaminol.* 1: 49-54.
- HASHIMOTO, Y., AND T. SATO. Animal protein factor (APF) and vitamin B<sub>12</sub> in marine products. III. Seaweeds (part 2) and others. *Bull. Jap. Soc. Sc. Fish.* 19(10): 987-990. (*Codium*, *Chlorella*)
- HAUG, A., AND A. JENSEN. Seasonal variations in the chemical composition of *Alaria esculenta*, *Laminaria saccharina*, *Laminaria hyperborea* and *Laminaria digitata* from northern Norway. *Norsk Inst. Tang-Tareforskning Rept. no. 4.* 14 pp.
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- HELMICK, R. W. A study of the separation of pigments of *Euglena* 9 by chromatographic adsorption techniques and a determination of their absorption spectra. *Proc. Iowa Acad. Sc.* 60: 645-655. F
- HILMBAUER, K. Zellphysiologische Studien an Euglenaceen, besonders an *Trachelomonas*. *Protoplasma* 43(3): 190-227. (also *Phacus*, *Lepocinclis*)
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- HÖFLER, K., AND D. DÜVEL. Helgoländer Algen im Fluoreszenzmikroskop. *Ber. Deutsch. Bot. Ges.* 67(1): 2-10. 25 F
- HOLM-HANSEN, O., G. C. GERLOFF, AND F. SKOOG. Cobalt as an essential element for blue-green algae. *Physiol. Pl.* 7(4): 665-675.
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- HORIÉ, K. Permeability of the cell membrane of *Hydrodictyon reticulatum*. *Cytologia* 19(2/3): 117-129. O
- HORWITZ, J. Some effects of deuterium oxide on the quinone Hill reaction of *Chlorella pyrenoidosa* Chick. *Pl. Physiol.* 29(3): 215-219. My
- HUTCHINS, J. O., AND B. PODOLSKY. The effect of nitrogen mustards on cell division in *Chilomonas paramecium* and *Saccharomyces cerevisiae*. *J. Cell. Comp. Physiol.* 43(2): 205-228. Ap
- INGALLS, A. G. The amateur scientist [I. C. G. Cooper]: about cultivating algae from the soil. . . . *Sc. Am.* 191(6): 108-111. D
- IWASAKI, H., AND C. MATSUDAIRA. Studies on cultural grounds of a laver, *Porphyra tenera* Kjellman in Matsukawa-Ura Inlet. I. Environmental characteristics effecting upon nitrogen and phosphorus contents of laver. *Bull. Jap. Soc. Sc. Fish.* 20(2): 112-119. II. Potential productivity. *Ibid.* 20(5): 380-385.

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- . Photosynthese von *Chara*-Beständen bei geringem Kohlensäure- und Bicarbonatgehalt des Wassers. *Ibid.* 43(5): 446-460.
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- . Sex in unicellular algae. In Weirich et al., Sex in microorganisms, pp. 100-133.
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## MORPHOLOGY (INCLUDING CYTOLOGY AND LIFE HISTORIES)

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2. 8. 85





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