

RHODOPHYTA

GIGARTINACEAE

GRACILARIACEAE

CHOLESTEROL IN *IRIDAEA LAMINARIOIDES* AND *GRACILARIA VERRUCOSA**

P. HENRIQUEZ, R. TRUCCO and M. SILVA

Laboratorio de Química de Productos Naturales, Departamento de Botánica, Universidad de Concepción, Chile

and

P. G. SAMMES

Chemistry Department, Imperial College, London SW7 2AY

(Received 24 September 1971)

Plants. (a) *Iridaea laminarioides* Bory. (b) *Gracilaria verrucosa*. (Hudson) Papenfuss. *Source.* (a) Concepción Bay; (b) San Vicente Bay, Chile. *Uses.* Sources of agar and carragens. *Previous work.* Cholesterol has been detected in many red algae.¹ A phytochemical examination of *Gracilaria* has been mentioned,² but cholesterol was not reported.

Present work. Dried, powdered algae (200 g) were separately refluxed with ethanolic KOH (15%, w/v) for 90 min, affording an acid and a neutral fraction. The neutral fractions were extracted with benzene to yield a dark product (1 g for *Iridaea* and 2.5 g for *Gracilaria*). These dark products were purified by column chromatography on silica gel and several crystallizations from ethanol yielded cholesterol (37 mg, 0.0185%, in *Iridaea*, and 50 mg, 0.0315%, in *Gracilaria*).

The material obtained had all the correct physical properties of cholesterol and was identical by comparison with an authentic sample [m.m.p., TLC co-chromatography, and comparison of absorption curve (325–700 nm), after reaction with the Burchard–Liebermann reagent for 35 min].¹

Acknowledgements—We thank the Fund for Overseas Research Grants and Education, New York, for providing us with evaporation equipment, and to Mr. Dong Ho Kim for the botanical determinations.

* This work was supported by the Organization of the American States (Grant PMC-8/1), and in part by funds from the "Algas Marinas Industrializables del Litoral Chileno" scheme, between the University of Concepción and the Instituto de Fomento Pesquero, Chile.

¹ G. F. GIBBONS, L. J. GOAD and T. W. GOODWIN, *Phytochem.* **6**, 677 (1967).

² K. C. GÜVEN, A. BORA and G. SUNAM, *Phytochem.* **9**, 1893 (1970).

Key Word Index—*Iridaea laminarioides*; *Gracilaria verrucosa*; Rhodophyta; cholesterol.