EUDARLUCA CARACIS—A HYPERPARASITIC FUNGUS ON *UREDO SISSOO*

M. NARAYANA BHAT, R. K. HEGDE and P. C. HIREMATH
Department of Plant Pathology, University of Agricultural Sciences, Dharwad 580 005, India.

DURING the collection of phytopathogenic fungi on forest plants, the authors have come across a hyperparasite on the uredosori of *Uredo sissoo* an incitant of a rust on *Dalbergia sissoo* Roub.

Black, shiny, globose to sub-globose pycnidia appeared on uredinia either solitary or in groups and measured 60–90.6 × 30–39.2 μm. Conidia were hyaline, smooth, ellipsoid to fusoid, uniseptate and measured 11–15.3 × 4.2–5.9 μm.

Based on the morphological characters the fungus was identified as *Eudarluca caracis* (Fr.) Eriks., and the identity was confirmed by CMI, Kew, England and the specimen has been deposited at CMI, England (# IMI.315785).

E. caracis has been reported on *Puccinia kuchnii* (Krueg.) Butler[1] and *Maravalia achora* (Syd.) Arth and Cumm[2]. from India. However, it has not been so far observed on *Uredo sissoo*. Hence, the present finding constitutes a new record from India.

Thanks are due to Dr Mordue, CMI, Kew, England, for confirming the identity of the fungus.

16 May 1988

1. Dube, U. P., Charaya, M. U. and Shobha Tyagi., *Natl. Acad. Sci. Lett.*, 1978, **1**, 387.
2. Rama Reddy, M. A., Puri, Y. N., Sujan Singh and Pandy, P. C., *Indian Phytopathol.*, 1975, **28**, 41.

ANTIBACTERIAL ACTIVITY OF *NITZSCHIA OBTUSA*

S. MANIVASAHAM, R. SELVARAJ,.
A. PURUSHOTHAMAN and A. SUBRAMANIAN
Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai 608 502, India.

Marine diatoms have been shown as potential source of antibiotics[1]. Nothing is known about antibacterial activity of diatoms common in Indian seas. The diatom *Nitzschia obtusa* was unialgally cultured in laboratory conditions and the solvent extracts of the algal powder were tested against gram-positive and gram-negative bacteria.

Table 1 *Antibacterial activity of Nitzschia obtusa*

	Width of inhibition zone (mm)				
Test bacteria	A	B	C	D	E
Bacillus subtilis	8	8	7	9	8
Staphylococcus aureus	7	8	7	7	8
Streptococcus faecalis	6	8	9	9	7
Escherichia coli	6	7	7	7	7
Klebsiella pneumoniae	7	8	7	8	7
Proteus vulgaris	7	8	8	8	8
Salmonella typhi	7	8	8	7	8
Shigella flexneri	9	8	8	8	6
Vibrio cholerae	8	8	7	7	8

A, acetone; B, chloroform; C, chloroform methanol; D, methanol water; E, water.

N. obtusa was collected from the mouth of the Vellar Estuary (11° 29′ N; 79° 46′ E). F/2 medium of Guillard[2] was used for culture. The culture was maintained in 25% salinity at 25°C under 12 h illumination of 4000 lux. Dried powder of *N. obtusa* (3.84×10^7 cells) was used for extraction in sequence: 1. acetone, 2. chloroform, 3. chloroform-methanol (1:1), 4. methanol-water (4:1), 5. glass distilled water[3]. The algal extracts were tested against various bacteria (table 1) by paper disk method. Five mm dia filterpaper disks impregnated with 0.05 ml of extract were used. The diameter of the inhibition zone was measured after 24 h incubation at 37°C. The mean values of triplicate experiments are given in table 1.

Both organic solvents and aqueous extracts inhibited all the test bacteria. Studies on isolation and characterization of specific antibiotic substances from marine diatoms are emerging.

Identification of lipophilic and hydrophilic bioactive constituents from *N. obtusa* merits further investigation.

The authors thank ICMR, New Delhi, for financial assistance.

25 May 1988

1. Baslow, M. H., *Marine pharmacology*, Robert E. Kriger Publishing Co., New York, 1977, p. 52.
2. Guillard, R. L., In: *Culture of marine invertebrate animals*, (eds) W. C. Smith and M. H. Chasley, Plenum, New York, 1975, p. 29.
3. Duff, D. C. B., Bruce, D. L. and Antia, N. J., *Can. J. Microbiol*, 1966, **12**, 877.