Figure 3. Initiation of disease lesion at 11°C.

to be negative to MLA test. Further, the cultures showed positive result to aesculine hydrolysis test as revealed from the production of brown colour[5]. The positive *A. hydrophila* cultures were then finally tested for slide agglutination with standard antiserum $AH_4(2)$ and found to be positive for the agglutination reaction.

The *A. hydrophila* cultures were then inoculated into closed-wall plastic baskets and incubated at different temperatures ranging from 28 to 10°C as indicated above for 48 h at each incubation temperature. After each incubation, the pH as well as colony counts (Table 3 and Figure 2) were checked; a decreasing trend in pH and an increasing trend in colony count were found. Surprisingly, at 11°C, the fish developed a reddish small circular lesion near the caudal fin (Table 3 and Figure 3).

The formation of a diseased lesion under experimental set-up seems to be due to the initiation of disease (notably EUS) in fishes through their interaction with bacteria, the environment and possibly viruses.

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Synedra ulna (Nitzsch) Ehrenberg: A new generic record in Schirmacher Oasis, Antarctica

The first systematic exploration of the Polar water of Antarctica was conducted by Englishman James Cook who circumnavigated Antarctica twice between 1772 and 1775. After that a number of expeditions were made to explore the diversity of marine coastal vertebrates and phytoplankton. Several workers studied distribution and taxonomical evaluation of algal flora of different places of Antarctic ice continent[1–7]. Since then about 700 algal taxa that have been reported from the Antarctic continent and off-shore islands became known to us from literature[8]. The first Indian expedition was launched to Antarctica in December 1981, with the participation of scientists from different organizations to study the algal flora of Schirmacher Oasis[9–12]. A total of 209 taxa of algae belonging to different classes have so far been reported from the Schirmacher Oasis and its surrounding area. Out of these, 10 genera belong to Bacillariophyceae[12].

Schirmacher Oasis (70°44′21″–70°46′04″S to 11°26′03″–11°49′54″E) is a group of low-lying hills, essentially a snow and ice-free high polar rock desert in the Eastern Dronning Maud Land, East Antarctica. It is 70 km away from Prince Astrid Coast. The Oasis oriented in east–west direction, lies between two types of large ice bodies, viz. glacier in the south and ice shelf at the north of the Oasis. It covers an area of about 34 km^2. The altitudes lie between the local zero level and 228 m with an average of 100 m. During the polar summer the ice melts and water flows in the form of streams often adding water to the lakes. The climate is relatively mild in the low altitude with air temperature over the glacier ice between –7.7 and +10.2°C during mid-summer (December 2003–January 2004) when melted water is abundant.

During the XXIII Indian Scientific Expedition to Antarctica in 2003–2004, the author collected 112 water samples from different lakes of Schirmacher Oasis, East Antarctica to study the diatom flora. Algae growths are abundant and readily visible on the surface of the rocks, boulders, weathered soils and

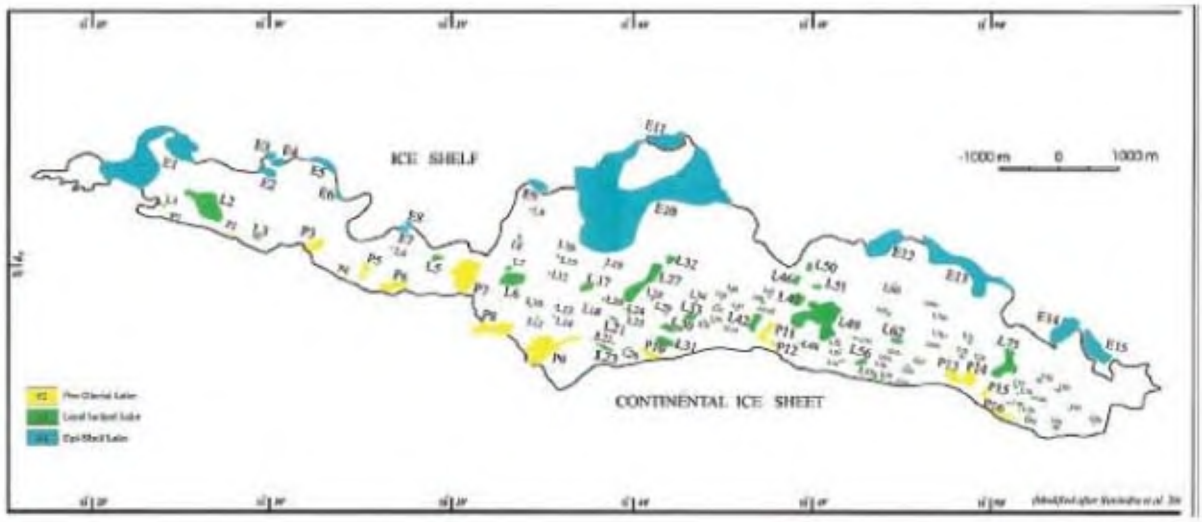

Figure 1. Map of Schirmacher Oasis, Antarctica.

Figure 2. View of lake in Schirmacher Oasis, Antarctica.

Figure 3. *Synedra ulna* (Nitzsch) Ehrenberg 1836. Magnification 100 ×.

Table 1. Diversity of diatoms in Schirmacher Oasis, Antarctica

Lake type*	Total no. of lakes	No. of samples collected	Genera identified
Land locked lake	33	77	*Achnanthes* *Fragilaria* *Synedra*** *Gomphonema* *Diadesmis* *Navicula* *Pinnularia* *Stauroneis* *Hantzschia* *Nitzschia*
Pro-Glacial lake	10	18	*Achnanthes* *Fragilaria* *Navicula* *Pinnularia* *Hantzschia* *Nitzschia*
Epi-Shelf lake	11	17	*Navicula* *Pinnularia* *Hantzschia* *Nitzschia*

*Locations as per the map given in Figure 1.
**New genera from Schirmacher Oasis.

moss carpets. The pH range of lake waters varied from 6.1 to 9.5. The lakes explored are indicated in Table 1 corresponding to the area given in Figure 1. The panoramic view of lake, from which samples were collected, is presented in Figure 2. Collected samples were observed using a microscope (Olympus CX 41) and taxonomic identification was done using recent references available in the literature[12–14]. A total of 18 diatom species present in water samples collected from the various ecological niches of Schirmacher Oasis were identified (Table 1). Among these genera, the percentage of occurrence of each genus was as follows, Navicula – 23%, Pinnularia – 19%, Hantzschia – 15%, Achnanthes – 11%, Fragilaria – 9%, Nitzschia – 9%, Gamphonema – 5%, Diadesmis – 4%, Stauroneis – 4% and Synedra – 1%. The critical observation revealed presence of *Synedra ulna* (Nitzsch) Ehrenbuerg 1836 (Figure 3), which was hitherto unreported from Antarctica region[15,16]. This species can be distinguished from other species of *Synedra* (Fragilariaceae), in having solitary valves, linear and much elongated, gradually attenuated to the rostrate ends; pseudo-raphe distinct, narrow, widening towards center; quadrangular central area having small lineate, transverse, parallel throughout the valve. Valve length varied from 170 to 175 µm ($n = 170–175 \times 10^3$), breadth measurement was between 6–7 µm ($n = 6–7 \times 10^3$) and 11 striae are located in 10 µm distance. This genus has been recorded for the first time from Schirmacher Oasis, East Antarctica. All the collected samples were deposited in Botanical Survey of India, Andaman and Nicobar Circle, Port Blair for further reference.

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