

bulin content⁵. The suckled or the older calf sera, though suitable for the growth of cells, showed lower growth-stimulating activity.

The studies revealed no significant difference in the cow and buffalo calf sera. Unsuckled calf sera did not show gamma globulin bands (table 1), which is a special feature of foetal sera. There are reports that the quality of adult sera can be improved by careful removal of gamma-globulins⁶.

Table 1 shows the results of HI and NT tests. Due to the limited quantity of experimental sera, NT could not be performed using all the sera samples. The results indicate that some sera samples contained both haemagglutination inhibiting and neutralizing antibodies while others contain only HI antibodies. Batai is a virus of common occurrence in the cattles of Maharashtra.

Young calves B-10 and B-20 might have received the antibodies for WN and Batai viruses respectively, through the colostrum of the mother⁷. But the presence of antibodies for Batai virus in unsuckled newborn calves suggests that either these might have been derived from transfer of maternal antibodies to the foetus through placenta or due to the immunobiological response of the foetuses⁸. Viruses and mycoplasma have been isolated from the foetal bovine sera⁹. It is desirable to conduct specific tests for the antibodies before using sera for cell cultures employed for virological studies.

Compared to calf sera, unsuckled calf sera had better growth-promoting effect on cells and were least cytotoxic to cells studied. Some sera may contain neutralizing antibodies against viruses. It appears that unsuckled calf sera are a suitable substitutes for the foetal bovine sera.

The authors are thankful to the Commandant, Military Veterinary Services and to Maj. Rajawat Singh for their active interest and help in collecting the blood samples from the unsuckled calves from the Military Dairy Farm.

16 July 1986; Revised 25 October 1986

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AN INTERESTING NEW SPECIES OF *CYLINDROSPERMUM* KÜTZ: *C. ANABAENOIDES* SP NOV—A BLUE GREEN ALGA

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THE present alga was collected from a paddy field at Sirsi in Karnataka State in September 1984. Unialgal cultures were raised by repeated subculturing in soil-water biphasic media and the chief taxonomic features were studied.

Terminal heterocysts followed by large spores and absence of intercalary heterocysts is the characteristic feature of *Cylindrospermum* Kütz and intercalary spores as in the present alga are known in *Anabaena* Bory. Both these genera belong to the family Nostocaceae of Cyanophyta¹. However, since intercalary heterocysts are completely absent both in natural collections and in cultured specimens, the present alga cannot be included in *Anabaena*. The above form resembles *C. marchicum* Lemmermann² and *C. catenatum* Ralfs² in having a series of spores adjacent to terminal heterocyst but differs much from all the known species of *Cylindrospermum* in having intercalary spores. In view of the above distinctive characters, the present alga is identified as a new species and is designated as *C. anabaenoides* sp nov in view of its resemblance to *Anabaena* (figure 1).

Cylindrospermum anabaenoides sp nov

Thallus spreading, mucilagenous, blue green, filaments curved, loosely entangled in colourless

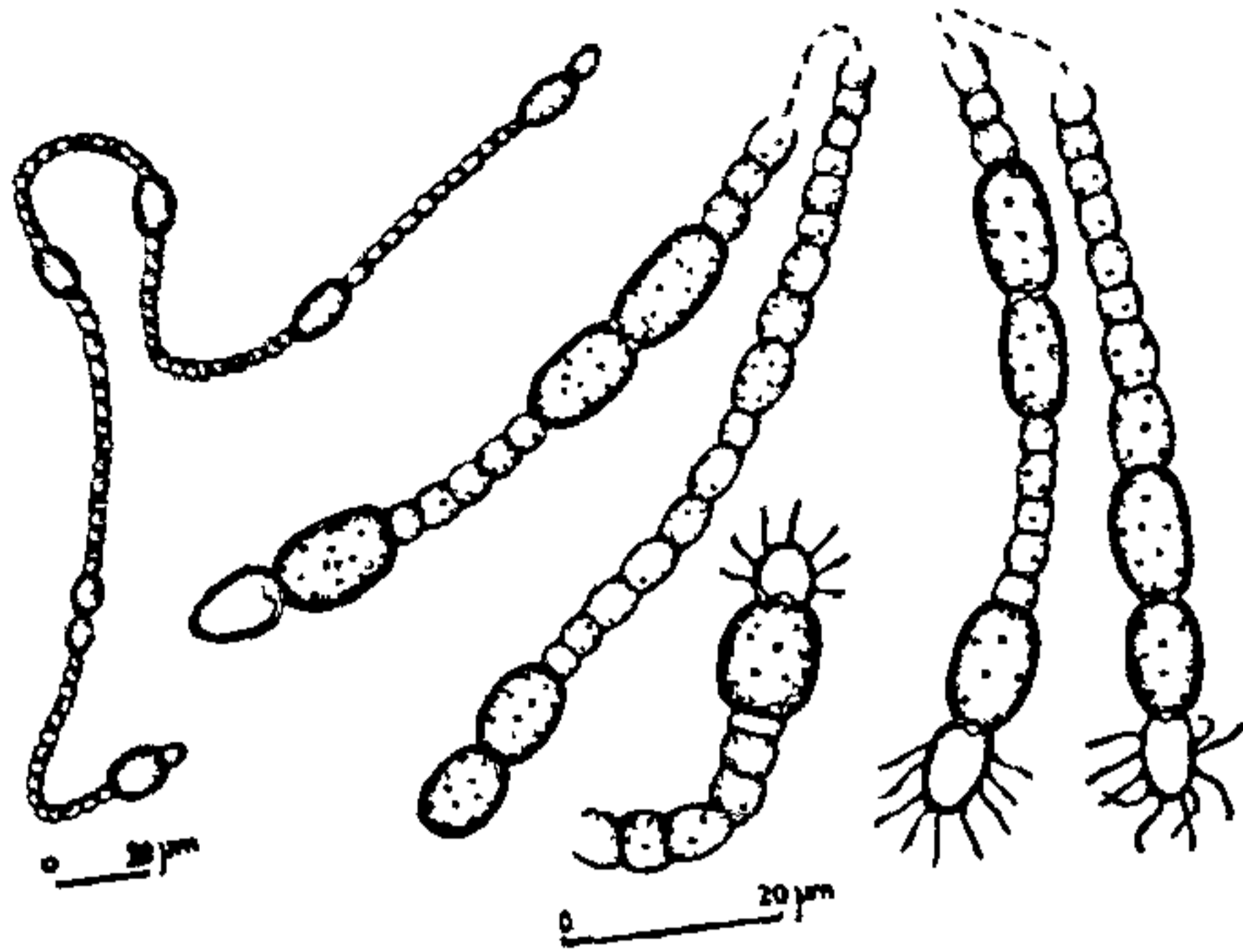


Figure 1. *Cylandrospermum anabaenoides* Bongale et Singh sp nov showing intercalary spores and elongate bacteria attached to heterocysts.

mucilage, cells cylindrical, slightly constricted at cross walls, 4–4.5 μm broad, 4.5–6 μm long, heterocysts at both ends or at one end, ellipsoidal, 4–6 μm broad, 5–7.5 μm long, akinetes oval to compressed cylindrical, 6–7.5 μm broad, 8–9 μm long, formed in series of up to four spores adjacent to terminal heterocyst and/or between the filament separated by vegetative cells, episporium smooth.

Habitat: In waterlogged paddy field at Sirsi in Karnataka State.

Type specimen: Type specimen (KUDB/SRS/84-3A)

preserved in Algal Laboratory of Karnatak University, Dharwad.

Cylandrospermum anabaenoides sp nov

Thallus patens, mucilaginosus, caeruleo-viridis, filamenta curvata, laxa implicata in mucilagine sine colore, cellulae cylindricae ad dissepimenta paululum constricta, 4.0 ad 4.5 μm lat., 4.5 ad 6.0 μm long.; heterocystae ad ambas extremitates vel ad una extremitatem, ellipsoideae, 4 ad 6 μm lat., 5.0 ad 7.5 μm long.; akineta ovalia ad compressa cylindrica, 6.0 ad 7.5 μm lat., 8 ad 9 μm long., usque ad 4 sporas iuxta heterocystes terminales seriatim ordinatas, et/aut intra filamentum a se cellulis vegetativis seiuncta; epispora levi.

Habitatus: Ager oxyrae undissimus in loco Sirsi in Karnataka dicto.

Specimen typicum (KUDB/SRS/84-3A): In Laboratorio pro Algis Universitatis Karnatak, conservatum.

We are thankful to the UGC, New Delhi for financial assistance, and to Prof. (Mrs) Hannah Croasdale, USA for latin diagnosis. Our thanks are also due to Prof. T. V. Desikachary, Madras for critically going through the drawings.

15 April 1986; Revised 19 November 1986

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