Figures 1 and 2. 1. Mature conidia (×450). (Arrow shows the longitudinal hyaline band on the flat surface of conidium), and **2.** Vertical section of the conidioma (×75).

Habit: On dead *Bambusa arundinacea*, collected at Dam site, Silent Valley, Kerala, 6-12-1978, G. Sekar, Herb. MUBL. No. 2921.

Hino and Katumoto[3] briefly redescribed and illustrated the species, and Nag Raj[4] provided accurate details of conidiogenesis. The species was earlier reported on stems of *Phyllostachys nigra* var. *henosis Phyllostachys* sp. and *Shibataea kumasaca* from Japan and USSR. In the present study it is reported for the first time on *Bambusa arundinacea* from India.

The author is grateful to Dr B. C. Sutton, Head of Taxonomic and Identification Services, C.A.B. International Mycological Institute, Kew, UK for confirming the identification of the fungus.

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ASPERGILLUS TERREUS THOM. — A NEW RECORD AS FISH PATHOGEN

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ASPERGILLUS TERREUS Thom. has been isolated from stored grains[1], some Egyptian cotton varieties[2], birds[3,4], nails and skins[5], and many other living organisms. The present study is the first report of isolation of this fungus from haemorrhagic ulceratic patches of *Channa gachua* collected from a place in Chakia (North Bihar) where sugar factory's effluents are disposed off.

The infected fish showed dull grey-white fungoid patches over the body. Haemorrhagic ulceratic patches were observed on the gill and skin (figure 1). Fungus growth was seen on microscopic examination of gill and skin scraps stained with cotton blue. Small pieces of infected gill and skin, after crushing with glass rod in a watch glass containing water was centrifuged at 5000 r.p.m. for 3 min. The supernatant

Figure 1.

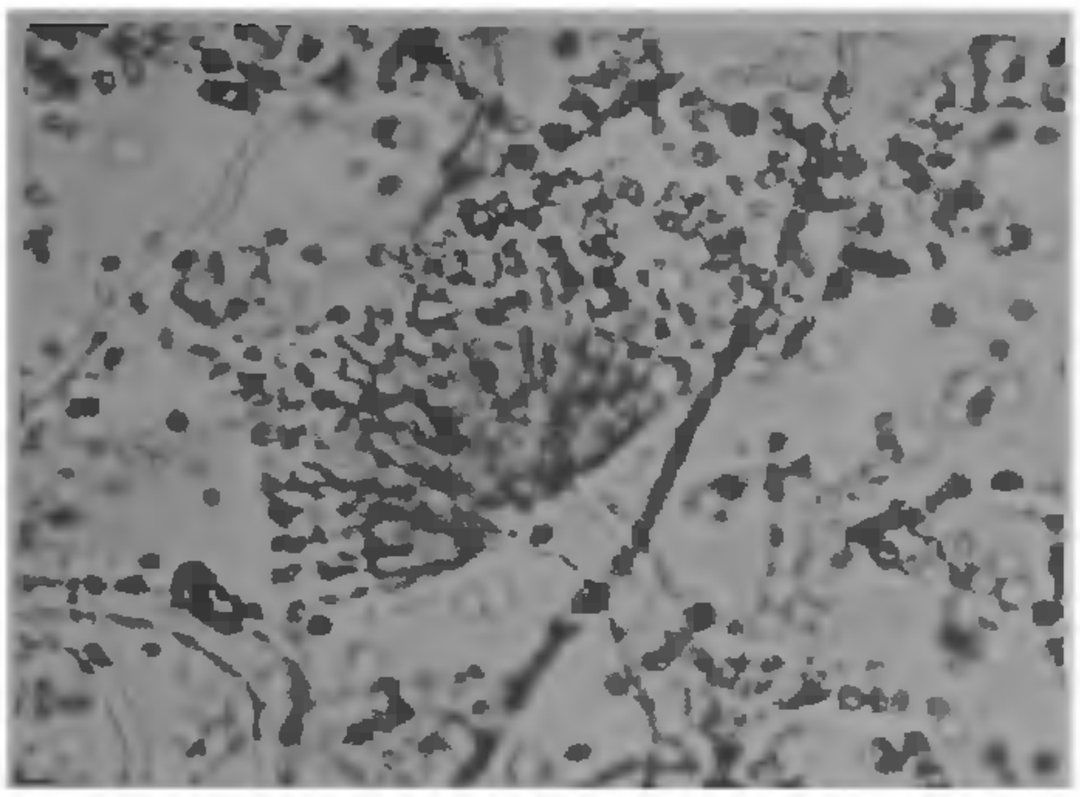

Figure 2.

was subsequently centrifuged in 2% formalin solution. The supernatant thus obtained was further centrifuged in distilled water to remove traces of formalin and then transferred to Sabouraud's agar medium.

Fungal colonies having distinct radial growth and velvety appearance were observed within 5 days of incubation at 24–26°C. The colony attained a diameter of 4.2 cm in 10 days. Conidial heads were long, columnar, compact and of uniform diameter throughout their length. It was 37 μ in diameter and 350 μ in length at maturity. Conidiophores were flexuous, smooth, colourless 210 μ by 5 μ, uniform in diameter throughout, vesicles hemispherical, dome-like, 12 μ in diameter, conidia globose, smooth, 2.2 μ in diameter (figure 2).

The fungus was identified as *A. terreus* Thom. whose identity was confirmed by CMI.

To confirm the pathogenicity of the fungus, fresh and healthy fishes of *C. gachua*, *Heteropneustes fossilis* and *Clarius batrachus* were injured artificially on some areas of the body and inoculated with the fungus. Fungal growth was observed within the 28–40 h in the injured fishes and they died of infection producing dermal ulceration within 5–11 days (table 1).

Table 1 *Inoculation in fishes and pathogenicity*

Fish	No of fishes inoculated	Mycosis evident within hours	Death occurred within days
C. batrachus	10	32–36 h	5–9
H. fossilis	12	28–30 h	6–11
C. gachua	14	34–40 h	7–10

The association of *A. terreus* Thom., nevertheless, is an addition to the long list of fungi like *Penicillum*, *Fusarium*, Mucor, etc.

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SEX ASSOCIATION IN THE DOUBLE COCOONS OF MUGA SILKWORM, *ANTHERAEA ASSAMA* Ww.

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DOUBLE cocoon is a single cocoon formed by two larvae. Though one pupa per cocoon is the regular phenomenon, two pupae per cocoon is not uncommon in sericigenous insects. The silk taken from double cocoon (dubion silk) is known for its durability. Formation of double cocoon is rare in muga silkworm. Like mulberry and tasar silkworm, the frequency of occurrence of double cocoon in muga silkworm is also low. The sex association in double cocoons of muga silkworm *Antheraea assama* Ww. reveals that female and female (F–F) associations occur more frequently than either the male and female (M–F) or the male and male (M–M) combination.

Double cocoon and their sex association in *Bombyx mori* L. have been studied earlier[1–4]. The sex association of double cocoons of *Antheraea mylitta* Drury has earlier been reported[5,6]. However, literature of double cocoons and their sex association in muga silkworm is scanty. Talukder[7]