(II)

A NEW CANKER DISEASE OF *MACHILUS BOMBYCINA*

Machilus bombycina King. ex Hook. (Family Lauraceae) is a medium size tree and forms extensive forests in Sibsagar District of Assam in Brahmaputra Valley. It is a principal species on which Muga silk worm (*Antheraea assama* West.) is raised in the North-eastern region of India. It is confined to Brahmaputra Valley of Assam, East Garo Hills and West Garo Hills districts of Meghalaya; West Khasi Hills, Mokochung, Wokha and Kohima districts of Nagaland; Tamelong of Manipur; Aizawal of Mizoram and Debang Valley, Lohit, Changlang and Papumpare of Arunachal Pradesh (Singh and Mishra, 2003).

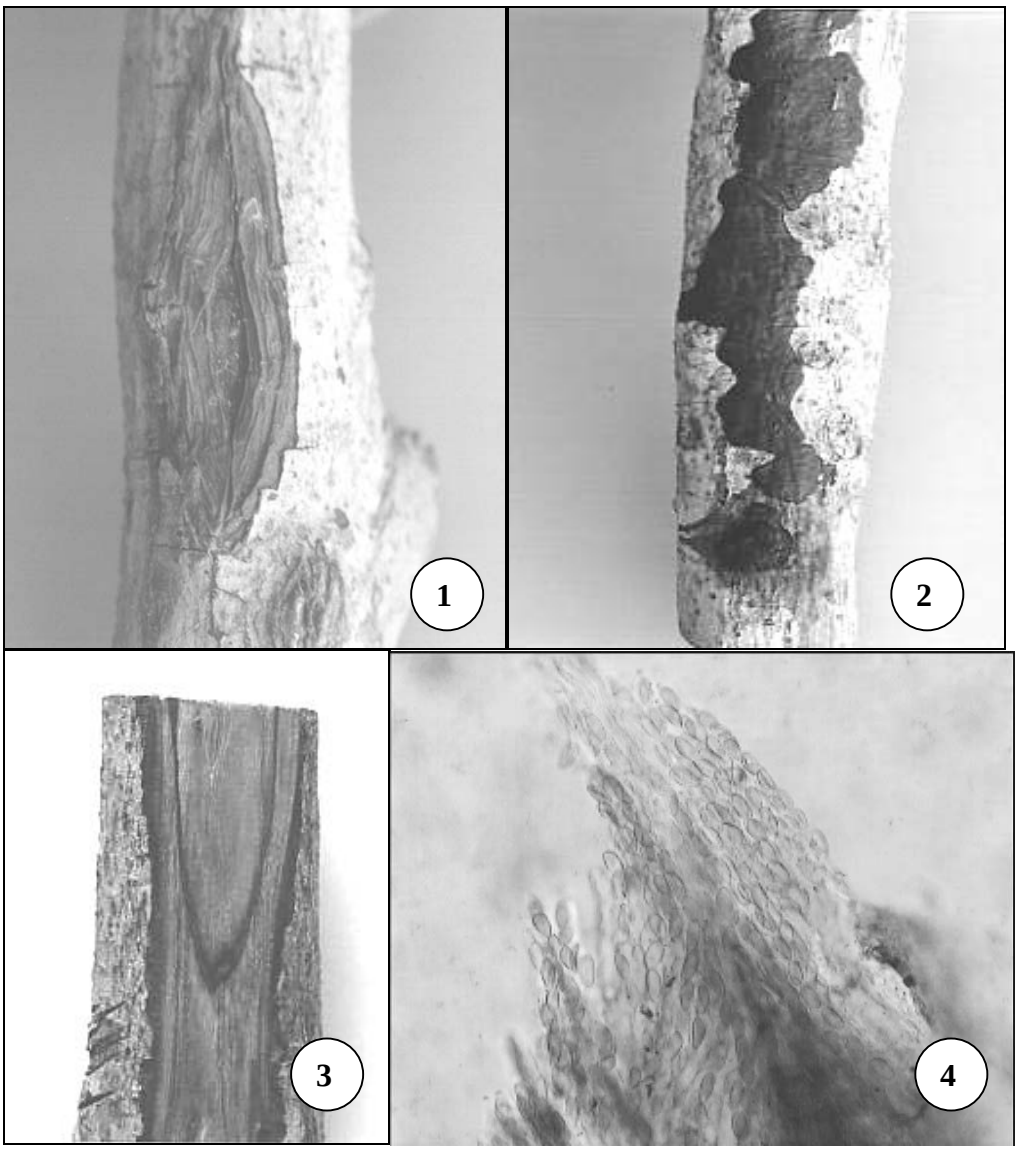
The trees cultivated in the campus of Regional Muga Research Station at Boko, Kamrup in Assam as host for rearing of muga silk worm were found attacked by a stem canker disease showing large split cankers (Fig. 1) on the bark along with the fruit body of the fungus (Fig. 2). The wood also showed discolouration in the sapwood beneath the bark exhibiting typical zone lines accompanied by yellowish decay (Fig. 3). Die-back and mortality in the affected trees was noticed due to the disease.

The fungus has been identified as *Biscogniauxia mediterranea* (de Not.) Kunze (syn. *Hypoxylon mediterraneum* de Not.). The fruit bodies of the fungus appeared on the bark as black stroma giving a charred appearance to the bark. Stromata applanate to slightly convex, broadly ellipsoid to elongate, 13-80 mm long x 5-18 mm broad x 1-1.2 mm thick; surface dull black to shiny black, carbonaceous, with a dark brown to blackish outer layer long persisting at margin; margin effused to infrequently conspicuously raised, black and carbonaceous; tissue beneath perithecia 0.2-0.5 mm thick, of whitened host tisue; a dark brown pulverulent layer 1-2 mm thick present between the base of the stromata and the surface of underlying wood. Perithecia obovoid to tubular, 0.2-0.3 mm diam x 0.6-0.8 mm high. Ostioles coarsely papillate, black. Asci short-stipitate, with apical ring discoid, amyloid. Ascospores dark brown, ellipsoid with narrowly rounded ends, 14-19 x 7-9 m, with straight germ slit spore-length (Fig. 4).

Biscogniauxia mediterranea is characterized by applanate black stromata with coarsely papillate ostioles and large ellipsoid ascospores with a straight germ slit on one side. *Biscogniauxia mediterranea* is reported from Africa, Central America, Europe, U.S.A. and Russia (González and Rogers, 1993; Ju *et al.*, 1998) and is not host-specific. *B. mediterranea* causing canker in *M. bombycina* is a new disease record for India.

Bakshi (1963) has reported that the fungus attacks the trees weakened due to other causes, starts out as a parasite and ends up with stroma developing on the dead wood. The present case also conforms

Figs. 1-4



1. Canker caused by *B. mediterranea* in *M. bombycina*. 2. Fruit body of *B. mediterranea*. 3. Discolouration in wood in canker region. 4. Ascospores of *B. mediterranea*

to the similar trend where the host plant, *Machilus bombycina* might have weakened due to regular leaf harvesting required for feeding muga silkworms and subsequently the attack by *B. mediterranea* has resulted. Gradual thinning is reported to cause increased infection in the trees (Sinclair *et al*., 1987)

Muga silk sector has proved non-productive due to the lack of systematic plantation of food plants (Suryanarayana and Singh, 2003). The host plants dominated forests are being depleted continuously due to various reasons (Krishna Rao *et al.,* 2003). Any pressure due to diseases on the already depleting hosts will put additional burden on muga silk sector, which is already under threat.

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