The pathogen was isolated from infected flower buds on potato dextrose agar (PDA) and later purified by single conidial transfer. On PDA the colonies were effuse and brown to black in colour. Conidiophores arise in small groups of 3–8, are simple, smooth, straight to flexuous, often bent at several points, dark brown, bearing solitary conidia. The conidiophores measure 70–122.5 (93.25) × 3.75–7.5 (5) μ in size. Conidia are solitary, simple, smooth, clavate to ellipsoidal, some obovoid or pyriform in shape, middle cell distinctly bent, dark brown with 2–3 transverse septa. The end cells are paler than other cells. In most of the conidia the middle septa are more thick and darker. Conidia measure 25–35 (29.75) × 12.5–16.25 (13.75) μ in size.

Pathogenicity tests were carried out by atomising conidial suspension on young buds and freshly opened flowers of cv. "Friendship". Typical symptoms developed after 5–7 days of inoculation. Reisolation from induced lesions established identity with the original isolate. Control plants remained healthy. Morphology and other diagnostic characters indicated identity of the pathogen with Curvularia eragrostidis (P. Henn.) J. A. Meyer, to which it is referred. Subculture of the fungus has been deposited at the Commonwealth Mycological Institute, Kew, England under I.M.I. No. 271156.

The only species of Curvularia reported so far on gladioli is Curvularia trifolii var. gladioli Parmelee and Luttrell, which was first described by Magie1 and subsequently by Parmelee2,3 from Canada and later from India4. This species causes leaf spot, blossom blight and corn rot. However, the present species is distinct from the former in morphology and other diagnostic characters and also in its preferential affinity to parasitise only flowers. Parasitism of Curvularia eragrostidis on gladioli has been hitherto unreported from India or elsewhere and therefore constitutes the first record.

The authors are grateful to the Director, CMI, England for identification of the fungus and the Director, Indian Institute of Horticultural Research, Bangalore for necessary facilities.

11 October 1983


BACULOVIRUS—A NEW PATHOGEN OF MANGO NUT WEEVIL, STERNOCHETUS MANGIFERAE (FABRICIUS) (COLEOPTERA: CURCULIONIDAE)

R. P. SHUKLA, P. L. TANDON and S. J. SINGH

Indian Institute of Horticultural Research, Hessaraghatta, Bangalore 560 089, India.

The Nut weevil, Sternochetus mangiferae (Fabricius) is a destructive pest of mango and is distributed widely in tropical countries of the world. In India, the nut weevil is serious throughout southern and eastern parts of the country. Studies conducted in Karnataka on the extent of damage revealed that the fruit damage ranged between 42 to 93% in different mango cultivars. The pest is one of the major constraints in the export of mango fruits.

During 1982–83, the survey studies conducted on natural enemies of S. mangiferae revealed the presence of diseased grubs in infested mango fruits. The infected grubs initially exhibited the symptoms of loss of appetite and sluggishness. Later, the integument turned brown, fragile and the body became flaccid. The grubs died inside the stone. The haemolymph of the diseased grubs turned turbid and milky in colour. Zelazny2 reported similar symptoms in baculovirus-infected grubs of Oruictus rhinoceros from Philippines and Indonesia.

As the grubs were suspected to be virus-infected, further studies were carried out on isolation, purification and identification of virus under electron microscope. Several infected grubs were macerated in 0.05 M phosphate buffer (pH 7.2) in a blender for 5 min and filtered through double muslin cloth. The filtrate was centrifuged at 10,000 g for 15 min and the supernatant was retained. The clarified sap was then mixed with 6% polyethylene glycol (6000 molecular weight) and shaken for 30 min and then centrifuged in a refrigerated high speed centrifuge at 30,000 g for 1 hr. The supernatant was discarded and the pellet was dissolved in 0.05 M phosphate buffer. The virus was further purified by differential ultracentrifugation at 1,50,000 g for 2 hr. The pellet was dispersed in 0.05 M phosphate buffer (pH 7.2) and again centrifuged at 7,000 g for 10 min. The supernatant was collected for electron microscopy. The purified virus suspension was sprayed on formvar coated copper grid and examined in JEM 100-S (JEOL) model transmission electron microscope. The rod-shaped particles of baculovirus were observed in the electron microscope.
(figures 1 and 2). The size of virus particles ranged from 194 to 286 x 83 to 143 nm (Av. 250 x 122.4 nm). The pathogenicity was also tested by injecting virus suspension in healthy larvae. Inoculated larvae exhibited symptoms as described earlier. Similar description of virus particle in coconut beetle, Oryctes rhinoceros was reported from Malaysia\(^3\).

A perusal of literature revealed that the occurrence of baculovirus on S. mangiferae is the first record in the world. The findings of this study have opened the new possibility of management of this pest through baculovirus.

The authors are grateful to Dr K. L. Chadha, for necessary facilities.

30 December 1983


**COLOUR POLYMORPHISM IN MUGA SILKWORM, ANTHERAEA ASSAMA WESTWOOD (LEPIDOPTERA: SATURNIIDAE)**

K. THANGAVELU, A. K. BHAGOWATI and A. K. CHAKRABORTY

Regional Muga Research Station, Central Silk Board, Murza 781 123, India.

COLOUR polymorphism in insects is a well-known phenomenon\(^1\). Some of the colour morphs are reported to be genetical\(^2\)–\(^5\) and hormonal\(^6\). The great diversity of colour in lepidopteran larvae has been successfully used as a criterion for genetical studies\(^2\)–\(^5\), \(^7\)–\(^9\). The larvae of all the four important sericigenous lepidoptera viz mulberry silkworm (Bombyx mori L.)\(^6\), tasar (Antheraea mylitta Drury)\(^6,5\), eri (Philosamia ricini Hutt.)\(^2,10\), and muga (Antheraea assama Westwood)\(^11\) have been reported to show distinct colour types. In the latter species, A. assama four distinct colour types viz green, yellow, blue and bright orange were earlier recorded and except the green form the other colour morphs were subsequently reported to be extinct\(^11\). There is no further information on the occurrence of these colour morphs again. The extinction of colour variants and non-occurrence of distinct morpho types and races have led to the opinion that the muga silkworm population has already reached the peak level of homozygosity and does not further contribute to the selection process and the continued inbreeding over