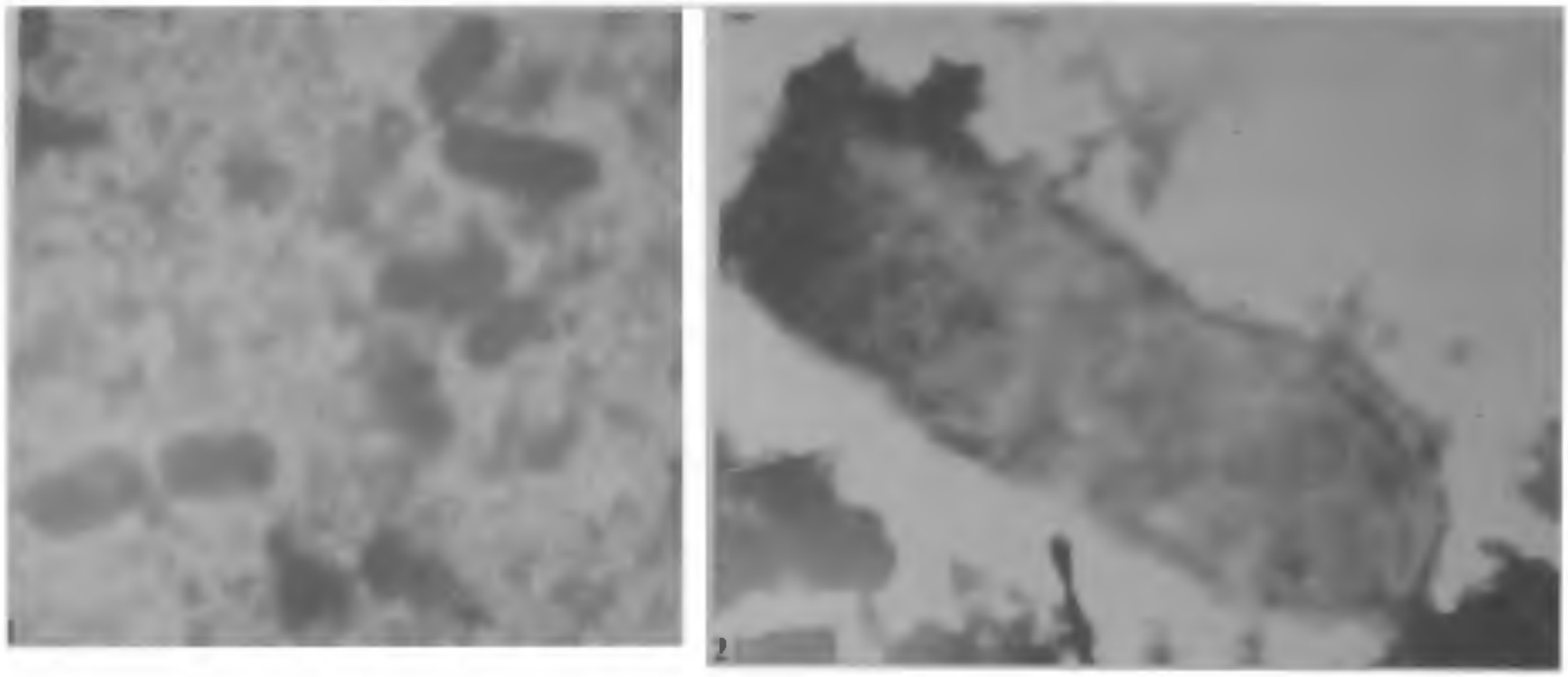

Figures 1 and 2. 1. Baculovirus particles (× 56,000) **2.** Single baculovirus particle (× 2,10,000)

(figures 1 and 2). The size of virus particles ranged from 194 to 286 × 83 to 143 nm (Av. 250 × 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.

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

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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)[4,5], 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

several years has reduced genetic variability in muga[12].

However, during a recent survey conducted in the Sibsagar district of Assam, yellow, blue and orange colour morphs were observed among the normal green muga silkworm population. Out of a total of 176 rearings observed, yellow larvae were noticed among 65 rearings. The ratio of yellow to green larvae varied from 1 : 50 to 1 : 1000. The orange and blue-coloured larvae were however found in only one rearing each. The ratio of orange and blue to green larvae was 1 : 6000 and 1 : 3000 respectively. The blue colour larvae are bigger in size (wt 18.5 g) than the normal green form (wt 12.5 g) which is in conformity with the earlier observations[11]. The orange colour larvae have a coating of white powdery substance on the body surface. Unlike the tubercles in green larvae, the tubercles of yellow larvae are white in colour. The colour of tubercles in green larvae changes during different instars, bluish in the second, purple in the third, brick red in the fourth and crimson red in the last instar.

The present observation on the occurrence of colour morphs clearly indicates that the muga silkworm has not yet reached the zenith of homozygosity and the *different colour forms still survive and are not extinct.* The colour forms other than green have lower survival rate. It is known that the allelic expression of colour in insects is largely due to alteration in extrinsic and/or intrinsic factors influencing pigment metabolism[1]. The density of population and the nutritional status are also known to influence and determine the expression of colour types in *Zeiraphera diniana*[13]. Similar processes might operate in the expression of colour polymorphism in muga silkworm. Further studies on the inheritance, genetic variability and selection process are in progress.

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ASSOCIATION OF NEMATODES IN BUNCHY TOP OF BANANA

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MUSA PARADISIACA has been reported to be attacked by root infecting nematodes; a number of them have been identified: *Radopholus, Helicotylenchus, Rotylenchus, Dolichodorus, Xiphinema, Longidorus, Meloidogne.*

Bunchy top was first observed from banana growing tracts of Australia; however it also occurs in Fiji, Egypt and Sri Lanka. The infection is presumed to be introduced into India through infected suckers of Musa brought to Kerala State from Sri Lanka in 1940. From Kerala the disease has now spread to Orissa, West Bengal, Bihar, Assam and Karnataka States. The early investigations favoured a virus association and the causal organism was named *bunchy top virus, banana virus*, or *musa virus*, and the vector was reported to be *Pentalonia nigronervosa* Coquerel. But particles of virus could not be detected and bunchy top disease remained one of the national diseases of India, of unknown etiology like root wilt of coconut, sandal spike, arecanut yellows and citrus die back.

Symptoms of the disease:

The suckers removed for transplanting from infected banana clumps and planted in new areas produce infected plants. The transmission of the organism is therefore presumed to be through suckers used for propagating the crop vegetatively. The plants developed from the infected suckers gave rise to short,