

dark-brown, smooth, paler towards the apex, upto 465  $\mu\text{m}$  long, 1.6-1.7  $\mu\text{m}$  thick, branching system complex, often closely anastomosing and difficult to tease apart. Conidiogenous cells phialides, monophialidic, produced in whorls around the conidiophore at regular intervals on the branched or unbranched collar hyphae, discrete, lateral, lageniform or subulate, subhyaline to pale-brown, measure 7.1-14.3  $\times$  2.1-3.6  $\mu\text{m}$ . Conidia aggregated in slimy masses, acrogenous, endogenous, colourless to subhyaline, subglobose to oval, smooth, 0-septate, 2.1-3.2  $\times$  1.5-1.8  $\mu\text{m}$ .

On account of its short phialides and subglobose to oval conidia, the species has been further identified as *G. caesium* Nees ex Pers var. *subglobosum* W. Gams and Holubova-Jechova<sup>3</sup>.

The fungus was collected on dead leaves of *Mangifera indica* L. from Pakhal forest, on 19-9-1978. Culture on PDA deposited at CMI as IMI 225780.

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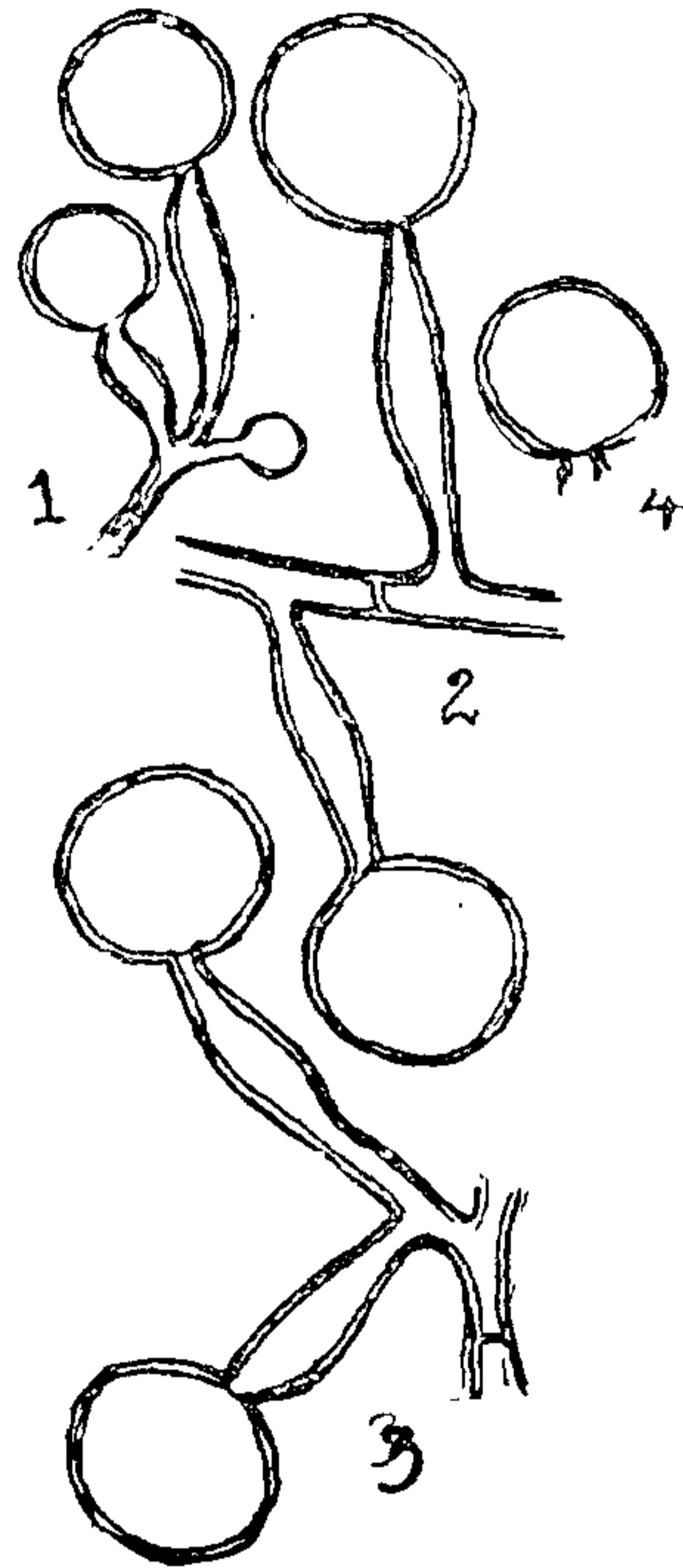
#### A NEW THERMOPHILIC VARIETY OF *HUMICOLA GRISEA* VAR. *INDICA*

DURING studies on Hyphomycetes olive green colonies with slow growth were observed at 24°C. These colonies after being transferred to 45°C showed good growth. Critical taxonomic studies of this fungus revealed that it belonged to *H. grisea* Traar<sup>3</sup>. However, it differed from the type variety and also *H. grisea* var. *thermoidea* Cooney and Emerson<sup>1</sup> in certain characters as shown in Table I and hence a new variety is proposed to accommodate it.

*Humicola grisea* Traan, var. *indica* A. Subrahm, var. nov. (Figs. 1-4)

Colonies in agar on YpSs at 45°C prostratae 90 mm diametro in decem diebus. Sine pigmento diffusibili; reverse coloniae nigrovirens ad nigrum. Mycelium glabrum, septatum 1.5-2.0  $\mu\text{m}$  latae; aleuriophorae 0-septate, simplices 11.0-16.5  $\times$  1.1-2.0  $\mu\text{m}$ ; aleurio-

spores sub-brunneae sphaericae, glabrum 7.7-11.0  $\times$  7.7-11.0  $\mu\text{m}$ .



FIGS. 1-4. *Humicola grisea* var. *indica*. Fig. 1. Part of hypha showing mature and immature aleuriospores (600 $\times$ ). Fig. 2. Part of hypha with mature aleuriospores (1000 $\times$ ). Fig. 3. Part of hypha showing branched aleuriophore bearing aleuriospores (1000 $\times$ ). Fig. 4. Mature aleuriospore (600 $\times$ ).

*Humicola grisea* Traan, var. *indica* A. Subrahm, var. nov. (Figs. 1-4)

Colonies at 45°C on YpSs agar moderately growing, prostrate, zonate, 90 mm in ten days, olive green to blue green, turns bluish gray with the maturation of spores. Margin thin and hyaline; diffusible pigment none; reverse colony zonate greenish black to black; sporulation abundant. At 60°C growth moderate, olive green to buff, reach 55 mm in ten days; margin white; diffusible pigment none; reverse colony zonate, black in the middle with creamy margin; sporulation abundant.

Mycelium smooth, septate, branched 1.5-2.0  $\mu\text{m}$  in diam., hyaline to pale brown; aleuriophores short, lateral or terminal, opposite or alternate, slightly

TABLE I  
Comparative characters of *H. grisea*, *H. grisea* var. *thermoidea* and *H. grisea* var. *indica*

Isolate	Colony	Aleuriohores	Spores	Temperature °C		
				Max.	Opt.	Min.
<i>H. grisea</i> var. <i>thermoidea</i>	Gray to dull black	Unbranched septate	Aleuriospores dark brown, smooth, globose 8-16 μm, oval-pyriform, 12-16 × 8-12 μm. wall thick. Always bear distinct apiculus. Phialospores absent <sup>1</sup> .	56	38-46	24
<i>H. grisea</i> var. <i>indica</i>	Olive green to bluish gray	Rarely branched 11.0-16.5 × 1.1-2.0 μm	Aleuriospores pale brown, smooth, always globose without an apiculus, 7.7-11.0 × 7.7-11.0 μm wall 1 μm thick. Phialospores absent.	60	45-50	24
<i>H. grisea</i>	White to dark gray	Subcylindrical or dilated upwards	Aleuriospores globose, yellow brown, thick walled 9-16 μm. Phialospores occasionally present in some strains <sup>2-5</sup> .	30	20-25	5

swollen in the middle, smooth, unbranched, rarely branched 11.0-16.5 × 1.1-2.0 μm terminally bear a single aleuriospore. Aleuriospores pale brown, brown in mass, smooth, one celled, with 1 μm thick wall, apiculus absent, generally carry a small attachment piece 7.7-11.0 × 7.7-11.0 μm.

Habitat: Isolated as Laboratory contaminant.

Date of isolation: 25-3-1979

HACC No. 92 AS

Temperature relations: It grows from 24°-60° C with an optimum range of 45°-50° C.

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### SULPHYDRYLS AND SURVIVAL OF SUBAERIAL BLUE-GREEN ALGAE

BLUE-GREEN algae form predominant subaerial flora of the tropics occurring in various habitats. Surfaces of buildings coated with cement or lime or structures covered with asbestos cement sheets are quickly colonised by blue-green algae after a couple of monsoon rains. The usual forms that occur on building terraces at Banaras are tuft forming *Tolypothrix*, *Scytonema* intermixed with *Phormidium* and crust forming *Gloeocapsa* generally mixed with *Myxosarcina*, while *Porphyrosiphon* is very common on soil surface and bark of mango and other plants. It is noteworthy that none of these algae forms akinetes or spores but continue their existence from season to season. During mid-summer months the temperature of terrace goes to upto 60-65°C, this coupled with high light intensity and extreme dryness makes it most inhospitable to any algae. However, the subaerial algae survive the severe conditions for about three months and resume their growth after the onset of monsoons.

During our studies we found that algal crusts collected from the hot terraces (60-65° C) are intensely stained after treatment with 2,3,5-triphenyl-tetrazolium chloride (TTC) for SH groups<sup>1</sup>, within 15-30 min. Similar reaction is also obtained with