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CHAETOMIUM JABALPURENSE, A NEW FUNGUS FROM SOIL

DURING the course of studies on fungal succession in the soil of grazed grassland of Jabalpur, M.P., India, a hitherto unknown species of *Chaetomium* was isolated and is herewith described.

Perithecia superficial, olive-brown to almost black, densely clothed with dark olive brown hairs, globose to subglobose with more or less rounded base, $154.7-304.5 \times 150.3-297.2 \mu$, ostiolate attached firmly to the substratum by a few yellowish-brown rhizoids. Terminal hairs forming a dense head at the top of perithecium, brownish-black at the base, gradually becoming lighter in colour towards the apex, always unbranched, uniformly thick, 3.2μ wide with rounded tips, apparently unseptate, coarsely roughened with minute projections, below straight or nearly so, becoming coiled anticlockwise into 6-10 regular close spirals above, coils extending above the spore mass. Lateral hairs dark olive-brown, straight below anticlockwise spirally coiled into 1-6 spirals above, apparently aseptate, minutely roughened, $3.2-3.6 \mu$ wide. Asci clavate, hyaline, thin walled, evanescent, eight spored, $31.0-46.5 \times 9.3-12.5 \mu$ (spore bearing part $21.7-24.8 \mu$ in length). Ascospores irregularly biserial in the asci, dark olivaceous brown, fusiform-elliptical to rhombo-ellipsoidal, $8.7-12.4 \times 5.3-6.2 \mu$, narrowly rounded at one end or both ends, frequently produced in cirrhi.

The present isolate resembles closely to *Chaetomium spiralotrichum* Lodha¹ in having spirally coiled terminal and lateral hairs and the shape of perithecia, but differs in that the terminal and lateral hairs are always unbranched and anticlockwise coiled. The ascospores are typically fusiform to rhombo-ellipsoid as against ellipsoid ascospores found in *C. spiralotrichum*. It also resembles *Chaetomium gelasinosporum* Aue and Müller² in the

nature of terminal hairs, but distinctly differs in having spirally coiled lateral hairs and larger perithecia, asci and ascospores which are also of different shapes.

In view of these differences, the present isolate is described as a new species and named *Chaetomium jabalpurensense* after the place of occurrence.

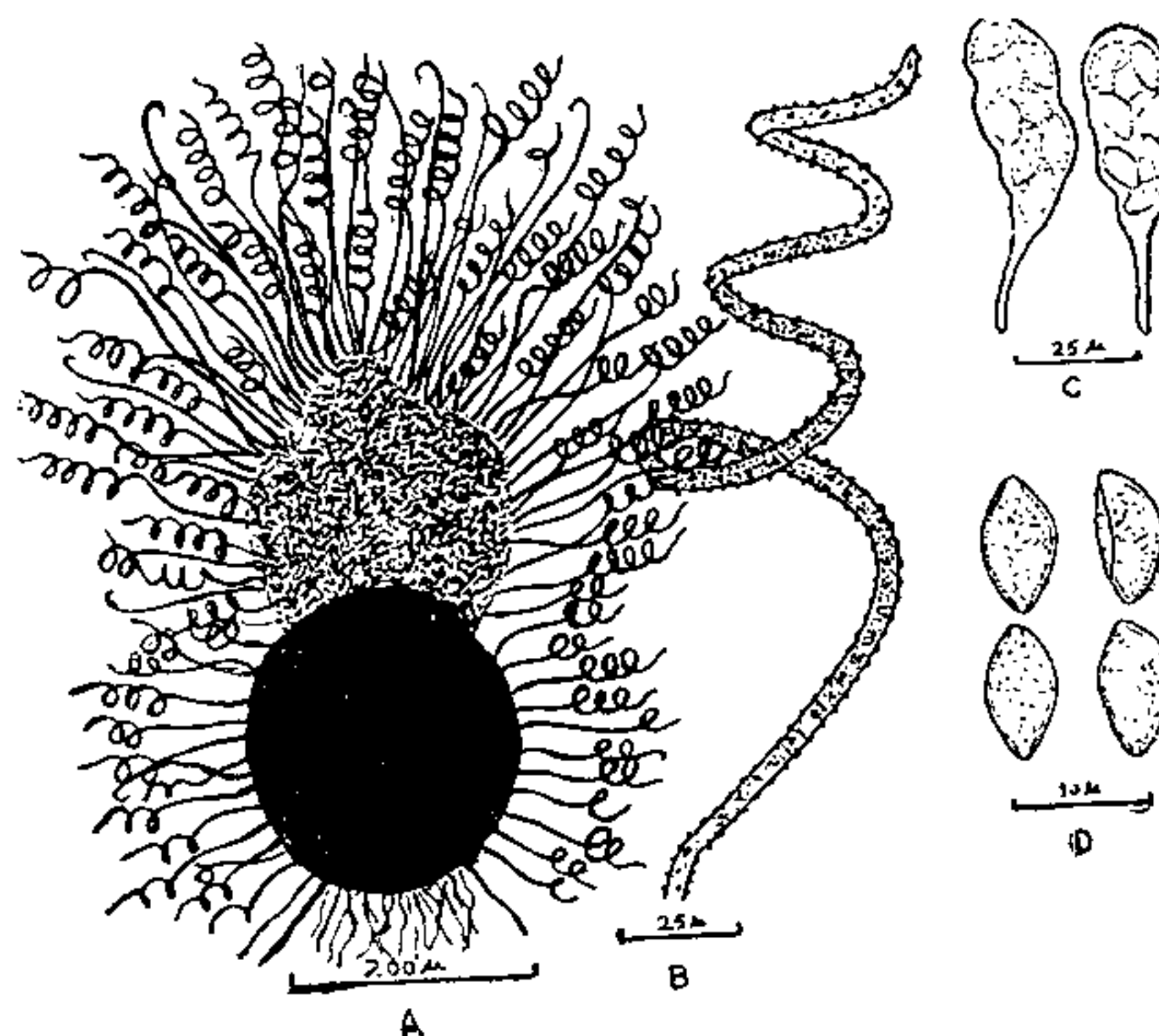


FIG. 1. *Chaetomium jabalpurensense* sp. nov. A, Perithecium; B, Upper portion of terminal hair; C, Asci; D, Ascospores.

Chaetomium jabalpurensense Tiwari, Agrawal and Lodh sp. nov.

Peritheciis superficialibus, olivaceo-brunneis vel prope nigris, globosis vel sub-globosis, $154.7-304.5 \times 150.3-297.2 \mu$, ostiolatis; ad substratum cum rhizoidii pallide luteobrunneis leviter affixis. Capillus terminalibus brunneo-nigris inferne, pallidiores in ultima, non-ramosis, 3.2μ latis; apicibus rotundatis, inhonspique septatis; manifeste minute granuloso incrustatis, basi rectis, spiraliter curvatis in apicis, spiris 6-10 anticlock typus, extensi ultra sporarum massum. Capillus lateralibus fusce olivaceo-brunneis, inferne recti, in ultima spiraliter curvatis, spiris 1-6 anticlock typus, apparenter aseptatis, leviter asperis, basi latis $3.2-3.6 \mu$. Asci clavatis, octosporis hyalinis, stipitatis, evanescentibus, $31.0-46.5 \times 9.3-12.5 \mu$ (parte sporas fereute longa $21.7-24.8 \mu$). Ascosporis inaequate biserialis, fusce olivaceo-brunneis, fusiforme ellipsoides vel rhombo-ellipsoides, $8.7-12.4 \times 5.3-6.2 \mu$, anguste rotundatus ad utroque apicis, saepae cirrhos prolatis.

Typus lectus in solo, Jabalpur, M.P., India. Cultura typica postea in C.M.I., Kew, Surrey, England, No. IMI, 157256.

Colonies on potato-dextrose and potato-malt-cellulose agar media growing rapidly at 28°C ,

attaining a diameter of 48 mm. in 7 days. Aerial mycelium dull grey, thin, showing saltation zones. Reverse citrus yellow. Perithecia appear late towards margin; they are irregularly scattered and are formed singly or in clusters.

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CHROMOSOME NUMBER IN SOME SPECIES OF *LAGERSTROEMIA*

THE species of the genus *Lagerstroemia* Linn. (family Lythraceae) on account of their prolificity of beautiful flowers are very popular ornamental trees and shrubs and form an important part of tropical-subtropical landscape. A systematic programme of breeding new types has been started at the National Botanic Gardens, Lucknow. In view of the contradictory chromosome numbers (Darlington and Wylie¹, 1955; Bolkhovskikh *et al.*² 1969) reported for 4 species out of the 30 reported in the genus, as a first step, critical chromosome number determinations have been made and the results are reported in this communication. Studies were based on male meiosis following the usual aceto-carminic squash method.

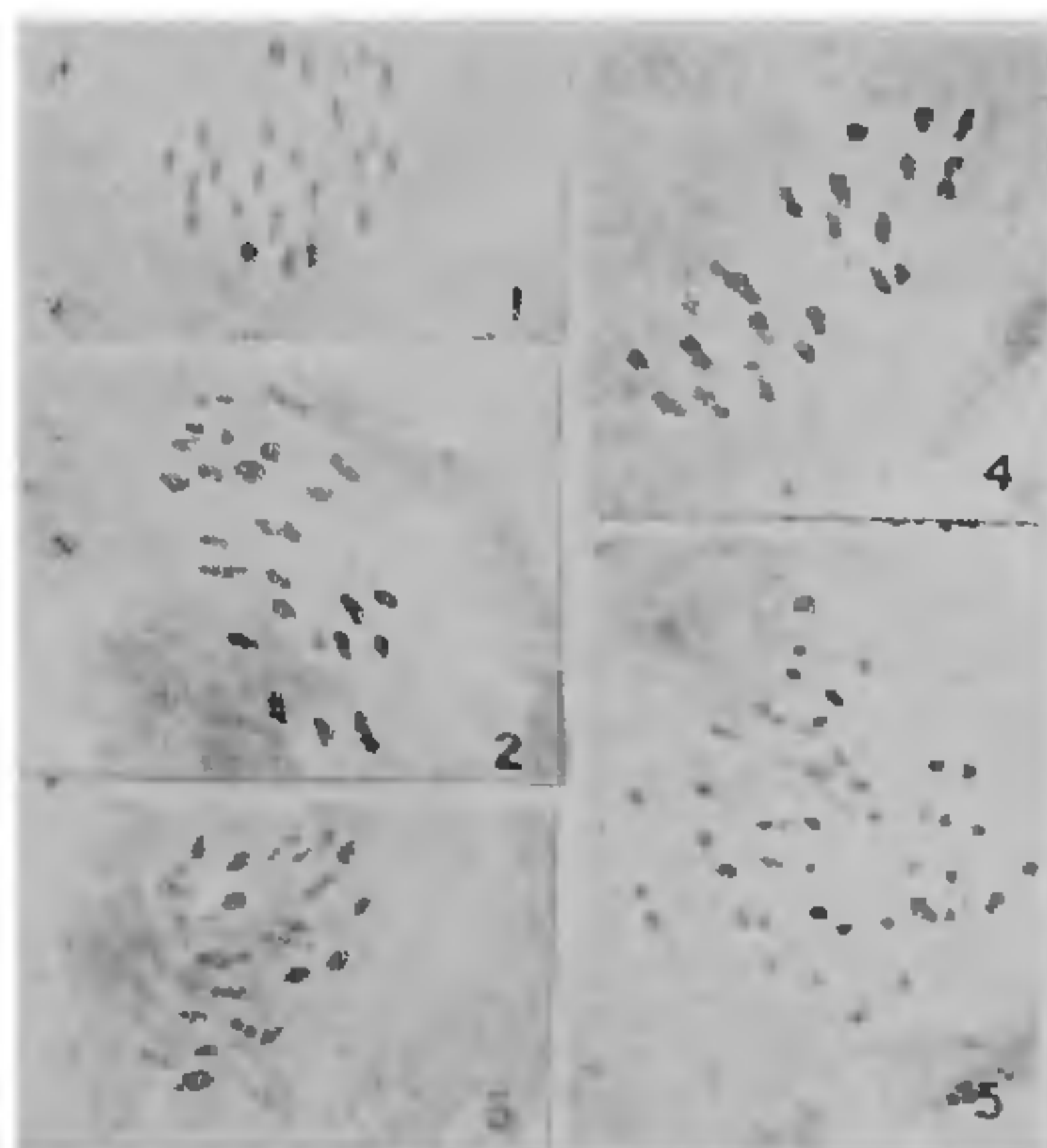
The present work together with earlier one on the genus is summarised in Table I.

At metaphase I in the pollen mother cells in all the species 24 bivalents could be clearly counted (Figs. 1-4). The genus appears to be characterised by small chromosomes. Anaphase I and further course of meiosis in the species is regular resulting in normal pollen fertility. The chromosome number in the species *L. parviflora* Roxb. and *L. thorelli* Gagnep has been reported for the first time.

Unlike that in the species, the meiotic behaviour of the hybrid *L. × lancesteri* Hort. is abnormal as at metaphase I, an average of 2.04 II + 43.52 I was observed. (Fig. 5; Table I). Anaphase I is highly irregular with a number of univalents lagging or showing precocious disjunction. The presence of an average of only 2.04 II and the high frequency of univalents (43.52) indicates that the two genomes involved in

TABLE I
 Chromosome number reports in *Lagerstroemia*

Taxon	n	2n	Pollen fertility (%)	Reference
<i>L. flosreginae</i> Retz.	..	44	..	Tjic, 1948
	..	48	..	Nanda, 1962
	24	..	89.5	Present author
<i>L. parviflora</i> Roxb.	24	..	66.1	Present author
<i>L. thorelli</i> Gagnep.	24	..	81.45	Present author
<i>L. indica</i> Linn.	..	50	..	Bowden, 1945
	24	..	87.1	Present author
<i>L. × lancesteri</i> Hort.	..	44, 46, 48, 64	..	Guha, 1975
		2.04 II	Nil	Present author
		+43.92 I	..	
<i>L. floribunda</i> Jack.	..	48	..	Nanda, 1962
<i>L. speciosa</i> Pers.	..	50	..	Bowden, 1945



FIGS. 1-5. Figs. 1-4. Metaphase I 24 II *L. flosreginae* Retz., *L. parviflora* Roxb., *L. thorelli* Gagnep, and *L. indica* Linn. respectively. Fig. 5. Metaphase I 2 II + 43 I *L. × lancesteri* Hort. (All × 1500).

the origin of the hybrid are cytogenetically well differentiated. The hybrid has been reported to have evolved through interspecific hybridization between *L. matthewsii* Matthews. (Syn. *L. eavesii* Eaves.) and *L. indica* var. *caudata* Linn. (Anonymous¹, 1959).