Dept. of Agronomy, M. ZAHIDUL HOQUE.
University of the Philippines
at Los Banos.
College, Laguna, Philippines. *May* 25, 1972.

1. Carson, R., *Silent Spring*, Houghton Mifflin, Co., Boston, 1962, p. 85, 208.
2. Martin, H., *Insecticide and Fungicide Handbook*, (3rd Ed.), Blackwell Scientific Pub., Oxford and Edinburgh, 1969, p. 387.
3. USDA., *Vegetable Gardening in the Caribbean Area. Agric.* Handbook No. 323, 1967, p. 98.
4. Auerbach, C., *Biol. Review of Cambridge Phil. Soc.*, 1949, 24, 355.

A SYNCHRONOUS FLOWERING MUTANT IN CELERY (*APIUM GRAVEOLENS* L.)

INDIAN celery (*Apium graveolens* L.) of commerce belonging to the family Umbellifereae is an annual grown for seed (fruit) while the European celery is biennial and cultivated for leaves used in flavouring soups and vegetables. An annual celery is also cultivated in St. Rome in France and oil from its seed is superior to that from the Indian celery. But, because of its relative cheapness (Adamson, 1971) Indian celery provides bulk of the seed to the world trade for distillation of essential oil used for manufacture of celery salts culinary sauces, oleoproteins and nerve tonic besides several other products. India's annual export for the seed during 1970–71 was valued at nearly 20 million rupees. The crop is largely cultivated in Amritsar and adjoining parts of Punjab, Haryana and in some areas of west Uttar Pradesh.

In view of the export potential of the crop, it was raised in 1970–71 at this station from the seed obtained from Amritsar for conducting agrobotanic investigations. During the crop season one plant was observed which showed striking synchronous flowering, *i.e.*, all umbels flowered in a shorter period than the normal plant where it was spread over a greater number of days. While it took 35–40 days for complete flowering in the normal plant, it was all over in about 3 weeks in the mutant.

The mutant was bagged for selfiing and the seed thus obtained when sown in 1971–72 gave plants true to the type. Aceto-carmine smears of pollen showed normal fertility. Comparative features of the mutant and the normal plants are given in Table I.

In normal celery non-synchronous flowering results in formation of umbels with un-uniform maturity. Earlier formed umbels mature first while later ones may still be flowering or may be in varying stages of development. Umbels in the mutant, on the other hand, are of uniform maturity because of its synchronous character. Due to shattering habit the differential maturity of umbels in the normal celery accounts for appreciable losses in fields at harvest. Such losses could be prevented if synchronomus flowering trait be transmitted to the normal celery. Although the mutant was observed to be late and low yielding its trait for synthronous flowering can be exploited to advantage with appropriate breeding methods.

TABLE I

Agro-botanical characteristics of the synchronous flowering mutant and the normal celery plant

Characters	Normal plant	Synchronous mutant
Stem colour ..	Green	Light green
Inflorescence		
(i) Unbellets ..	Pedicels of equal length	Pedicels of unequal length
(ii) Bracts ..	Lobes with dentitious margin	Entire margin
(iii) Petal colour	White	Pale white
Flowering:		
(i) Range (days)	35–40	20–22
(ii) Days from transplanting to first flowering	65	90
Seed size (1000-seed wt. mg)	351	290

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New Delhi, *July* 20, 1972. N. R. BHAGAT.

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1. Adamson, A. D., *The Markets for Certain Herbaceous Essential Oils, Tropical Products Institute Bull.* G. 54, London, 1971, p. 1.

TWO NEW SPECIES OF *PESTALOTIA* FROM INDIA

THE present paper deals with two new species of *Pestalotia*, viz., *P. pycnidiformis* and *P. buteae* isolated from dead twigs of *Psidium guajava* L. and leaf-spots of *Butea monosperma* Taub. respectively. Both the species are characterized by 4-celled conidia of which the two intermediate cells are coloured, while the apical and the basal cells are hyaline. Guba[3] in his monograph of *Monochaetia* and *Pestalotia* has placed such forms in the section *Quadriloculatae* of the genus *Pestalotia*, whereas Steyaert[4] has created the genus *Truncatella* to accommodate such forms. The authors have followed Gubas system of classification in the present paper, since these fungi have been reported to exhibit profound variations in the morphology of fruiting bodies and conidia[1,2].

Pestalotia pycnidiformis Sp. Nov.

Pycnidia ostiolata, rostellata, brunnea, 121–176 μ in diam. ; conidia 4-cellularia, elliptica ad fusiformia, 16·0–21·0 × 5·4–6·8 μ ; duae intermediae callulae lacte-olivaceae, 13·5–16·0 μ ; cellula apicalis hyalina, brevis, hemisphericalis ; setulae plerumque 3 raro 2, 16·0–29·7 μ in longitudine ; hyalina basal cellula conica, terminans in pedicellum ; pedicellum 8·0–21·6 μ.

Culture depositum apud C.M.I., Kew, IMI 162236. Coll. J.U.M.L. 133.

Pycnidia ostiolate, short beaked, brown, 121–176 μ in diam. conidia 4-celled, elliptical to fusiform, 16·0–21·0 × 5·4–6·8 μ (Fig. 1); two intermediate cells light-olivaceous, 13·5–16·0 μ ; apical hyaline cell short, hemispherical ; setulae usually 3 rarely 2, 16·0–29·7 μ in length ; basal hyaline cell conic, terminating into a pedicel ; pedicel 8·0–21·6 μ.

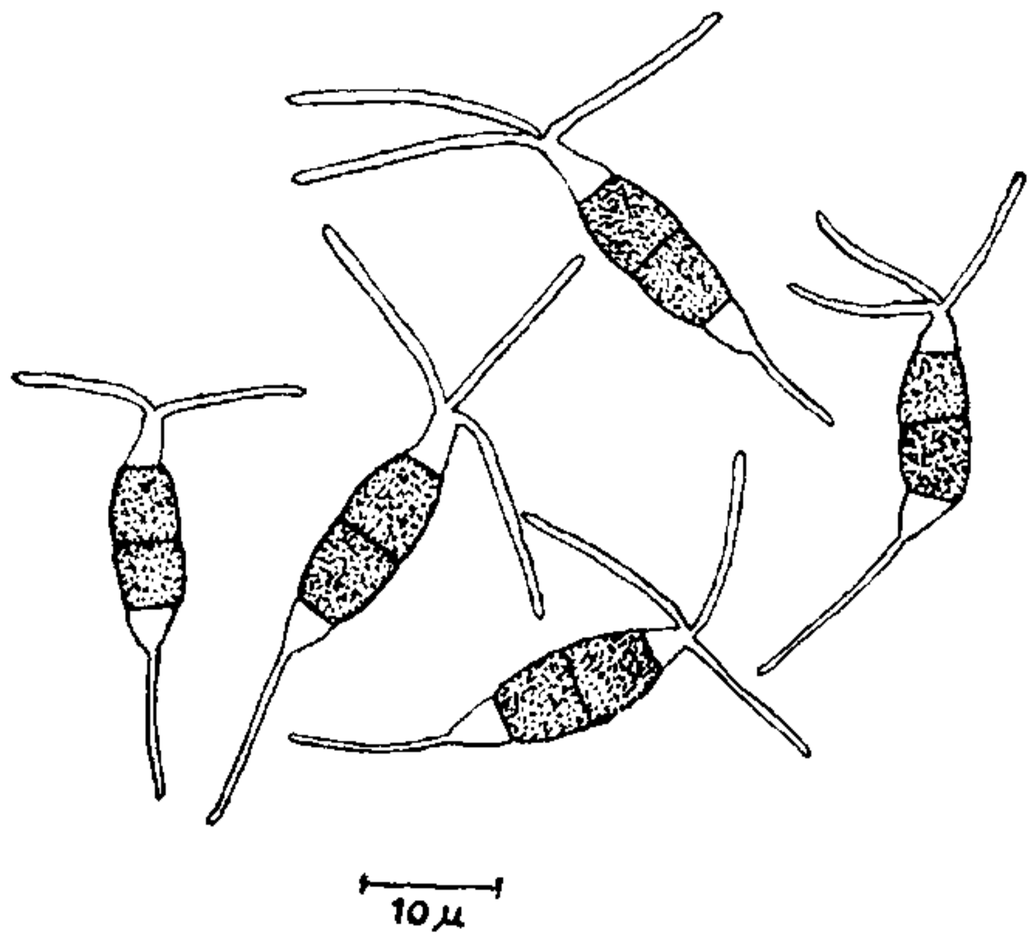

FIG. 1. Camera lucida drawing of conidia of *P. pycnidiformis*.

Culture deposited with C.M.I., Kew, IMI 162236. Coll. J.U.M.L. 133.

Distinguishing characters :

1. Fruiting pustule a true pycnidial structure.
2. Conidial dimensions ranging from 16·0–21·0 × 5·4–6·8 μ.
3. Setulae usually 3 rarely 2 and unbranched.

Pestalotia buteae Sp. Nov.

Pustulae fructiferae typice acervularis, continens conidia numerosa, producta super brevia conidiophora ; conidia 4-cellularia ; elliptica ad fusiformia, 13·5–18·9 × 3·0–5·4 μ in statura, leviter constricta apud septa ; duae cellulae intermediae fuligineae, opacae, hyalina apicalis cellula occulta vel inconspicua *cum* 2–3 setulis ; setulae simplices vel aliquando ramosae, 10·8–13·5 μ in longitudinae, oriundae supra cellulam superam coloratam ; basalis hyalina cellula conica ad cylindricam ; pedicellus deciduosus.

Culture depositum apud Mycology and Plant Pathology Laboratory, Botany Department, University of Jodhpur, Jodhpur, Coll. J.U.M.L. 120.

Fruiting pustules typically acervular, containing numerous conidia, produced on short conidiophores ; conidia 4-celled, elliptical to fusiform, 13·5–18·9 × 3·0–5·4 μ in size, slightly constricted at the septa (Fig. 2) ; two intermediate cells fuliginous, opaque,

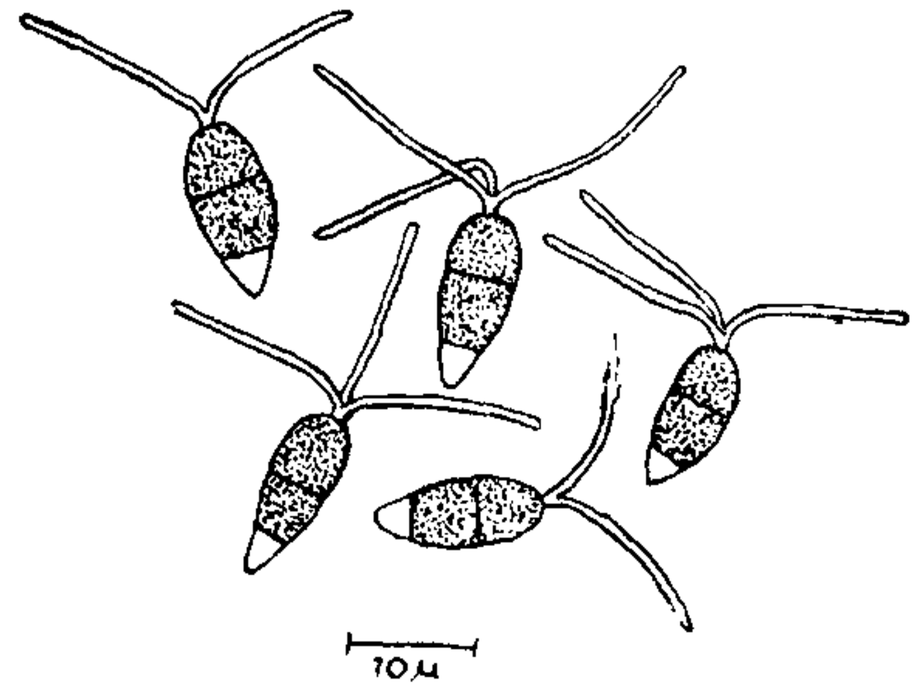

FIG. 2. Camera lucida drawing of conidia of *P. buteae*.

apical hyaline cell hidden or inconspicuous with 2 to 3 setulae ; setulae simple or sometimes branched, 10·8–13·5 μ in length, originating above the upper coloured cell ; basal hyaline cell conic to cylindtic ; pedicel deciduous.

Culture deposited with Mycology and Plant Pathology Laboratory, Botany Department, University of Jodhpur, Jodhpur. Coll. J.U.M.L. 120.

Distinguishing characters :

1. Fruiting pustule a typical acervular structure.
2. Conidial dimensions ranging from 13·5–18–9 × 3·0–5·4 μ.
3. Apical hyaline cell hidden or indistinct.
4. Setulae two to three and sometimes branched.

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D. K. PUROHIT.
N. L. VYAS.

1. Bilgrami, K. S. and Purohit, D. K., *Proc. Nat. Acad. Sci. India*, 1968, **38**, 181.
2. Dube, H. C. and Bilgrami, K. S., *Mycopath. et Mycol. Appl.*, 1966, **29**, 33.
3. Guba, E. F., *Monograph of Monochaetia and Pestalotia*, Harvard University Press, Mass., U.S.A., 1961.
4. Steyaert, R. L., *Bull. Jard. Bot. Etat, Brux.*, 1949, **19**, 285.