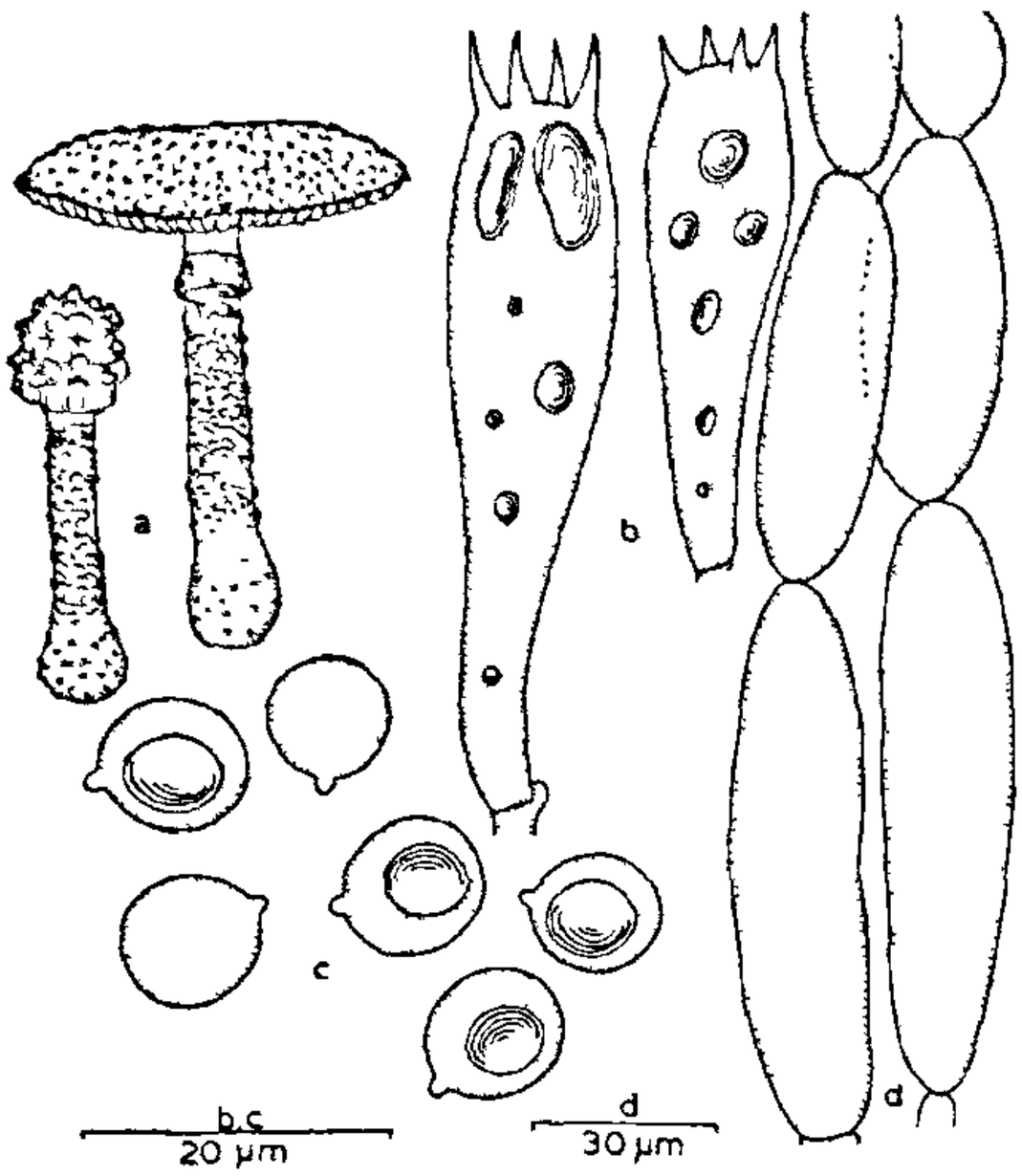

Figure 1a–d. a. Habit (×1/4); **b.** basidia; **c.** basidiospores; **d.** elements of the pileus scale.

with age, floccose squamulose, dry; margin nonstriate, often incised and with detachable floccons. Lamellae free, white to pastel yellow (3A4), broad, crowded, with lamellulae of 3 lengths. Stipe central, 8–20 × 0.7–2 cm, cylindrical with clavate base, solid, concolorous with pileus surface, floccose squamulose beneath the annulus, glabrous above; annulus superior, hanging, almost persistant. Spore print white. Basidiospores globose to subglobose, 8–10 × 8–9 μm, Q = 1–1.1, hyaline, amyloid, thin-walled, with refractive guttules. Basidia clavate, 30–50 × 10–13 μm, often with basal clamps, tetrasporic; sterigmata 3–5 μm long. Cystidia absent. Gill trama bilateral, hyphae 2–8 μm in diameter. Context 0.5–1 cm thick, white, hyphae 3–15 μm in diameter. Pileus surface an epicutis, hyphae 3–10 μm in diameter. Velar squamules consisting of broad elongate, fusoid, detersile elements, 75–200 × 10–27 μm, pigmented.

On ground, gregarious, in Maduravoyal Field Laboratory, University of Madras, Tamil Nadu, 8-8-1983, Herb. MUBL No.2927.

On ground, in group, A.C. College Campus, Tamil Nadu, 13-10-1986, Herb. MUBL No. 2928.

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ELECTROPHORETIC STUDIES ON SEED PROTEIN PROFILES OF DIPLOID AND AUTO-TETRAPLOID GREEN-GRAM (*VIGNA RADIATA* (L.) WILCZEK)

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SEED protein electrophoresis is now used as an additional tool for assessing the species relationships and for supplementing the evidence obtained through comparative morphology, breeding experiments and cytogenetic analysis of interspecific hybrids[1]. In various groups of plants the seed protein profile obtained by electrophoresis is highly stable and species specific. Electrophoretic studies on different species of legume seeds indicate that relative proportion of different storage proteins varied considerably in different species[2]. Hitherto there have been no studies on the seed protein electrophoretic patterns of diploid and tetraploid cultivars of *Vigna radiata* and the present paper describes the same.

The tetraploid used in the present study was obtained from 0.3% colchicine-treated population of green-gram cultivar Pusa 105. Seed proteins were extracted in 2 ml of 0.5% SDS and 1 mM Tris (1:1) and incubated for 30 min at 70°C. This mixture was used as protein sample. Electrophoresis was performed according to the method of Weber and Osborn[3]. The gels were stained with 0.125% Coomassie brilliant blue (R 250) and destained with 7% acetic acid. The migration velocity of an electrophoretic band is expressed as R_f value. The gels were scanned on a gel scanner (Schimadzu-UV 240) at 630 nm.

The diploid and tetraploid showed bands with an R_f of 0.8, 1.3, 1.8, 2.7, 2.9, 3.1, 3.5, 3.6, 4.3, 4.7, 5, 5.3, 5.5, 5.7 and 6.1. In general both the diploid and tetraploid exhibited similar banding pattern (similarity index value = 92.86)[4] except a distinct band

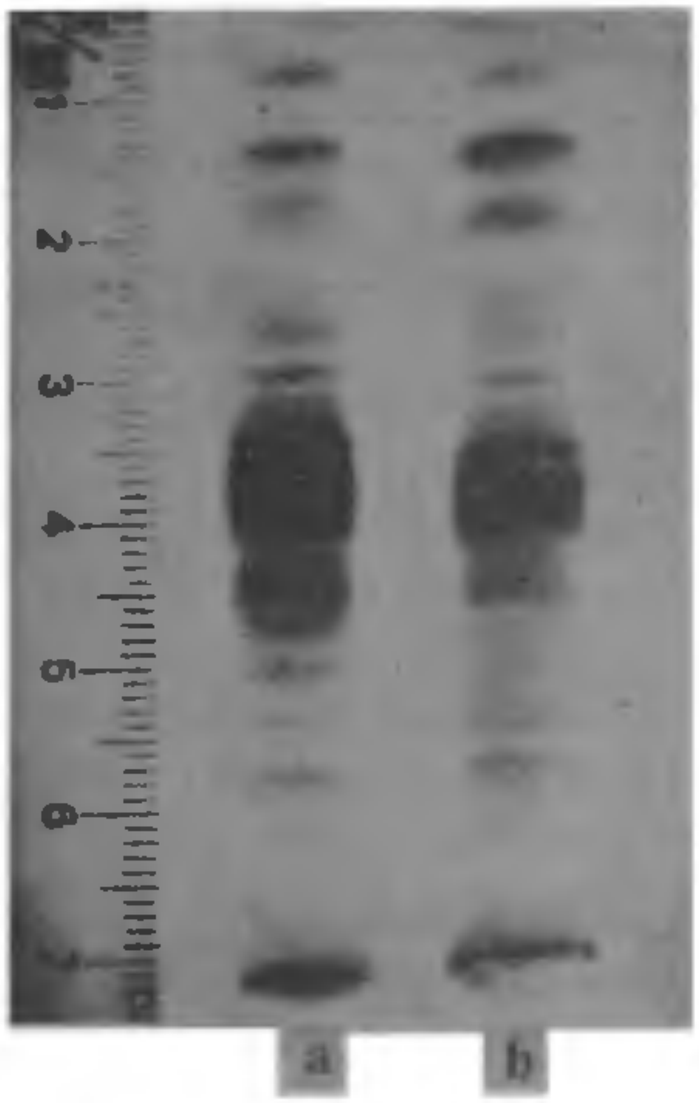

Figure 1. Electrophoretic pattern of (a) diploid and (b) tetraploid green-gram.

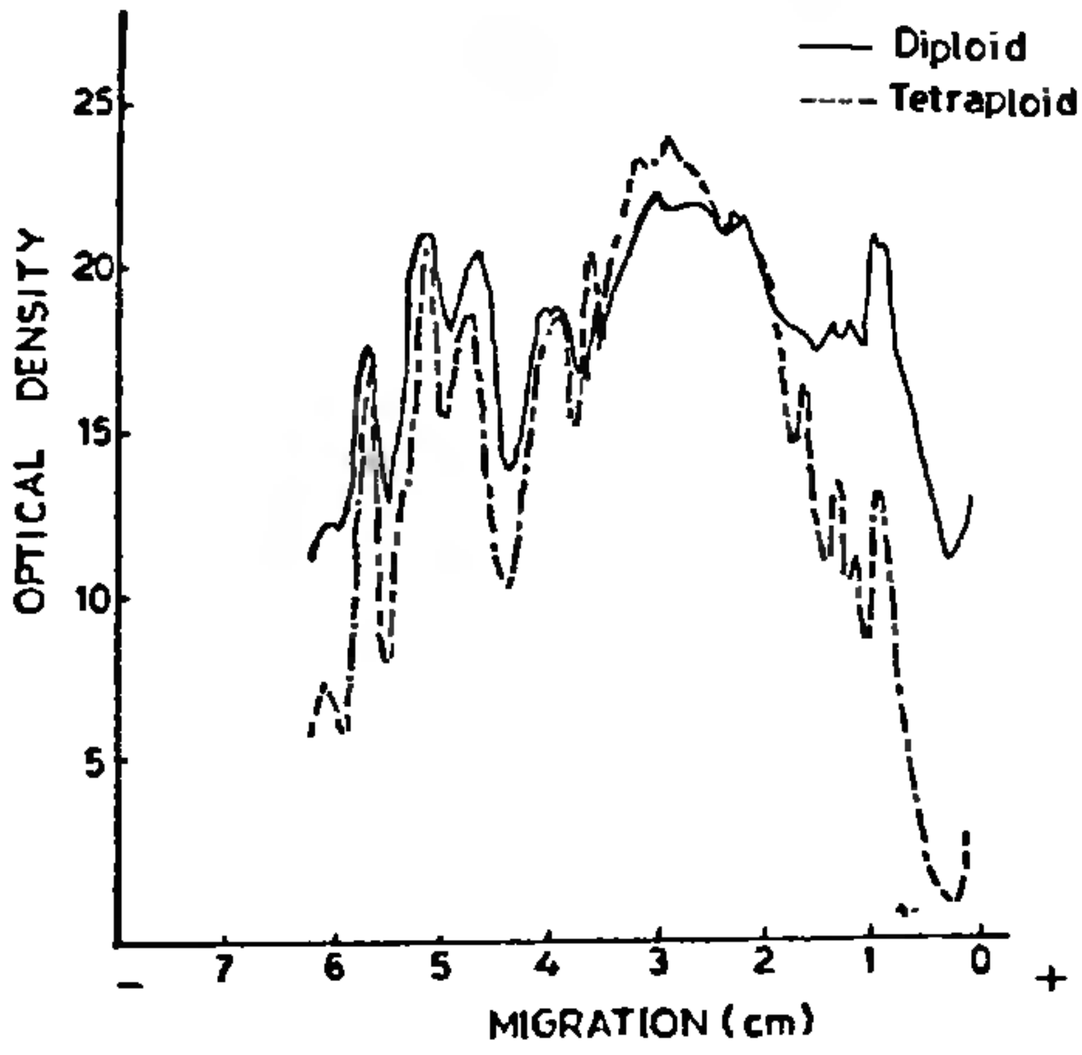

Figure 2. Densitograph of soluble protein fractions of diploid and tetraploid of green-gram.

at R_f 2.4 in the tetraploid (figures 1 and 2). The present study lends support to the opinion expressed by Ladzinsky and Hymowitz[1] that diploids and polyploids show uniform protein pattern and represent a small segment of the genetic variability. Highly uniform protein profile in polyploid plants not only permits a quick identification of their diploid progenitors but also is of practical value for plant breeders.

Auto-tetraploids have been produced in a large number of crop species for their improved quality, utility in breeding and ability to overcome self-incompatibility. Although no difference in seed protein profile was noticed, the diploid and the tetraploid exhibited distinct morphological differences in leaf, flower and seed characters. Further studies on isozyme pattern may yield more information and bring out finer differences between diploid and tetraploid.

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A NOTE ON COLCHICINE-INDUCED INTERCHANGE HETEROZYGOSITY IN *CAPSICUM ANNUUM* L.

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COLCHICINE, the alkaloid drug obtained from the bulbs of autumn crocus *Colchicum autumnale*, not only acts as a polyploidizing agent but also acts as a mutagenic agent[1–8]. The present study confirms the mutagenic action of the drug on the genus *Capsicum*, an important cash and condiment crop of Andhra Pradesh, in addition to the earlier reported action on rye, *Sorghum*, *Collinisia* and castor beans.

To produce polyploids artificially, 10-day-old seedlings of five divergent diploid strains of *Capsicum annuum* were subjected to 0.3% colchicine treatment by cotton plug method for 24 hr. In addition to polyploids, plants with interchanges fragmentation and chromosome mosaicism were recorded. The present report deals with the occurrence of an interchange heterozygote in colchicine-