variety. Meiosis was strikingly normal except for the occurrence of 2–5 two-bivalent secondary associations at metaphase I in both. There was appreciable pollen fertility also (91%).

Previous reports show that all the cultivated and most of the wild varieties of *P. nigrum* possess $2n = 52$[1-3]. All the $2n = 52$ varieties whose meiosis have been studied, including the present hybrid and its male parent variety have exhibited diploid-like behaviour characterised by regular synaptic pairing leading to formation of only bivalents and regular anaphase separation resulting in high pollen fertility. But, it has earlier been postulated[2] that the $2n = 52$ condition in *P. nigrum* could be a polyploid derivation, possibly tetraploid on $x = 13$. Recent reports of $2n = 26$ and 39 species of the genus have confirmed this possibility[3]. Consistent occurrence of the type of secondary association of bivalents noticed in the present Panniyur-I hybrid and its parent variety may suggest the allotetraploid origin of the $2n = 52$ condition.

Although the different varieties exhibit recognizable difference with regard to cetain exomorphic characters, all the $2n = 52$ varieties studied from S. India[1,2], showed almost similar karyotype features. The karyotype of the present hybrid variety is found to compare very well with that of the other $2n = 52$ varieties including its parents. The strikingly normal meiotic behaviour of the hybrid should be a reflection of the similarity between the somatic complements of its parents, which has evidently facilitated their successful crossing leading to good fertility and high fruit set in the hybrid.

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TRICHOLOMA LOBAYENSE: A NEW EDIBLE MUSHROOM FROM INDIA

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During a survey of mushroom flora of West Bengal, a species of *Tricholoma* namely *T. lobayense* Heim was found to grow wildly in summer in different areas of Indogangetic plains (Districts of Howrah, Hooghly and 24-Parganas). This mushroom is large in size, has attractive snow white colour, is delicious and fetch a lucrative market value. The fruit bodies of these beautiful mushrooms grow generally in clusters on the soil near the base of trees under partial shade (figure 1).

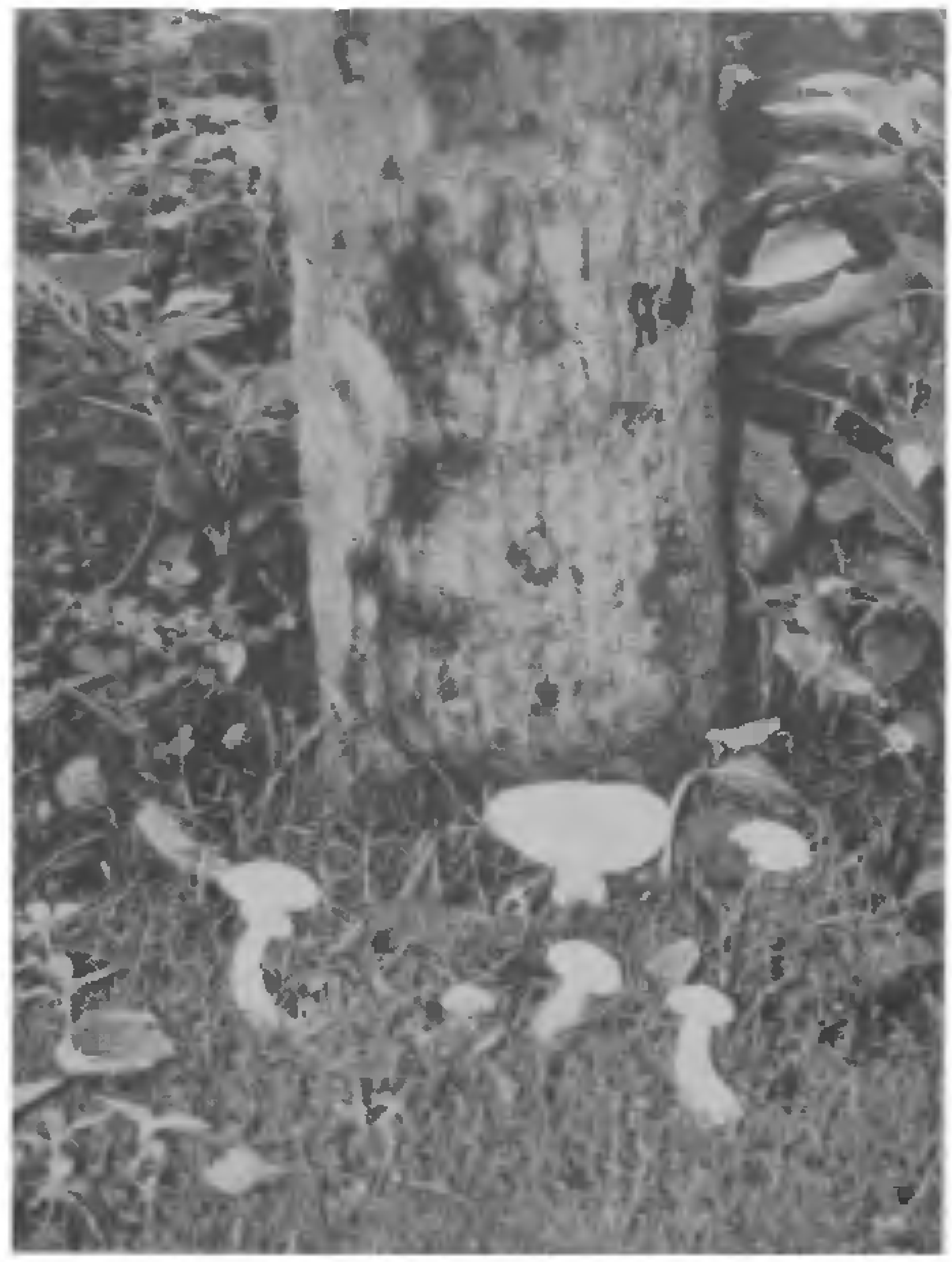

Figure 1 *Tricholoma lobayense* in its wild habitat.

Tricholoma lobayense Heim

Pileus 8–22 cm in diameter, upper surface convex at the beginning which gradually flatten with age, smooth, appressed scales being present at the centre; margin thin regular, bent downwards, cuticle easily pealed, cortex homogeneous consisting of cylindrical homogeneous interwoven hyphae with clamp connections, gills decurrent, white, alternate, free towards the margin of the pileus; flesh white and fibrous; gill trama regular, consisting of parallel thin-walled hyphae; stipe 14–28 cm in length, unequal tapering towards the apex, smooth, fibrillose, solid sub-bulbous base; annulus and volva are absent; basidia clavate, tetrasterigmatic, 20–28 × 5–9 μm; basidiospores hyaline, smooth, nonamyloid, ellipsoid, thin-walled, 4-6 × 3.5–5 μm, spore print milky white; Reaction with HOH positive, with HCl negative at first and then positive.

Literature survey shows that this species has not been previously reported from India[1-4] though this has been reported from West Africa[5].

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CONJUGAL TRANSFERABILITY AND SPONTANEOUS LOSS OF R-PLASMIDS IN STRAINS OF *S. TYPHI* AND *S. PARATYPHI A*: COMPARISON OF FREQUENCIES AT 30°.C AND 37° C

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High incidence of multiple drug resistance in gram-negative enterobacteria has posed a serious therapeutic problem in the last two decades. The drug resistance in the majority of the multidrug resistant organisms is mediated by extra-chromosomal genetic elements called R-plasmids, which are transferable to other enterobacteria[1]. In the earlier decade, several investigators expressed the fear that these plasmids might be transferred to potential enteric pathogens like *Salmonella typhi* leading to great health hazards. Indeed, in 1972 outbreaks of typhoid due to *S. typhi* strains carrying plasmid-mediated chloramphenicol resistance did occur, causing high mortality[2]. Interestingly, all the strains from these outbreaks harboured incompatibility group H1 R-plasmids[2]. In view of this, we had examined the transfer frequency of various plasmid groups in crosses between *Escherichia coli* K12/R$^+$ and *S. typhi* under ecological factors that prevail in the human gut[3]. It was observed that at 37° C, IncH1 and IncH2 plasmids are transferred at extremely low frequencies (in the order of 10^{-6} or less) compared to other incompatibility group plasmids. Of the gut associated factors, temperature seems to be the most detrimental for the conjugal transfer of IncH1 and IncH2 plasmids, because they possess a thermosensitive transfer system[2]. In crosses at 22°–28° C, plasmids of groups H1 and H2 are transferred at 10,000 fold higher frequencies[2]. It has, therefore, been suggested that these plasmids are likely to be more extensively spread in extra-intestinal situations like sewage[2]. The transfer frequency of other R-plasmid groups at 22°–28° C has not been investigated so far to enable speculations on their relative transfer in intra-intestinal and extra-

Table 1

Frequencies† of conjugal transfer and spontaneous loss of R-plasmids of different incompatibility groups

R-Plasmid group	*S. typhi* Transfer frequency 30° C	*S. typhi* Transfer frequency 37° C	*S. typhi* Per cent loss after ten sub-cultures 30° C	*S. typhi* Per cent loss after ten sub-cultures 37° C	*S. paratyphi A** Transfer frequency 30° C	*S. paratyphi A** Transfer frequency 37° C	*S. paratyphi A** Per cent loss after ten sub-cultures 30° C	*S. paratyphi A** Per cent loss after ten sub-cultures 37° C
IncFI	4.1×10^{-5}	5.1×10^{-3}	100	90	7.7×10^{-5}	6.9×10^{-4}	100	96
IncFII	5.6×10^{-5}	4.2×10^{-4}	100	100	6.6×10^{-6}	3.6×10^{-5}	100	97
IncFIV	2.9×10^{-3}	2.3×10^{-3}	100	98	1.5×10^{-4}	5.1×10^{-4}	100	90
IncI1	6.1×10^{-4}	6.5×10^{-4}	28	11	6.6×10^{-5}	6.7×10^{-5}	42	15
IncN	3.0×10^{-5}	9.3×10^{-5}	43	10	6.5×10^{-4}	3.4×10^{-4}	40	12
IncC	$1.7\ 10^{-4}$	5.4×10^{-4}	47	16	3.9×10^{-6}	3.1×10^{-6}	35	14
IncA	5.9×10^{-4}	6.3×10^{-4}	42	17	4.1×10^{-4}	3.3×10^{-4}	40	7
IncH1	2.6×10^{-2}	1.1×10^{-6}	25	8	3.0×10^{-3}	1.4×10^{-6}	20	9
IncH2	9.5×10^{-3}	3.6×10^{-6}	21	11	1.4×10^{-3}	2.2×10^{-6}	26	12

† Frequencies presented are mean values for three experiments.

* Both phage types of *S. paratyphi A* (*i.e.*, 1 and 2) showed similar frequencies.