and Java (Tjibodas)[3]. *Circinoconis* is a monotypic genus and the only known species is *C. paradoxa* Boedijn, 1942. There are a few reports of Quaternary fungal spores from India confined to Tripura, Tamilnadu, West Bengal and Gujarat[4-7].

Survey of fungal taxonomic literature revealed that spores dealt presently are not known to be borne by any other fungus, except *Circinoconis*. Hence, they are identified as the conidia of *Circinoconis*. The investigated samples in which these conidia have been found are dated at 3340 ± 140 Y.B.P. by radiocarbon.

The recorded fungal spores are large, racket-shaped, uni-partly biseriate with a ring of 8–10 cells which on the circumference are constricted at the septa and terminate into an appendage which is mostly 3–4 celled (rarely upto 8 celled). Length of the spores including the appendage varies from 80–120 μm, breadth 50–64 μm and the rostrum 6–14 μm. The conidia of *C. paradoxa* also have similar dimensions *i.e.* 80–119 μm length, 45–63 μm breadth and rostrum 6–12 μm.

It is rather interesting to note that spores of this kind were recovered from the Quaternary deposits of Pykara area, Ootacumund, South India[5] and were described under *incertae sedis*. The authors also mentioned that "It is difficult to identify these spores. In fact it is doubted if they are spores at all and not a segmented worm". The present report confirmed them as the fungal spores and identified them as the dispersed conidia of *Circinoconis*.

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THYMUS IN DIFFERENT AGES OF A BAT, *PTEROPUS GIGANTEUS*

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THE importance of thymus as a primary lymphoid organ and the sources of T cells responsible for different immunological responses including defence against cancer cells is well documented[1,2]. Thus a study of this organ is imperative in a systematic investigation of the immune system of an evolutionarily old, physiologically interesting animal like a bat which is also known to be a carrier of dreaded viruses and bacteria[3]. There are only a few passing references to the "so-called thymus gland" in the bat without much detail[4,5]. In connection with the study of cardio-vascular system Kallen[6] identified the organ in *Myotis lucifugus* as two dorsoventrally flattened lobes, elongated craniocaudally, lying side by side and investing the ventral pericardium in young animals. In the present investigation, the morphology and histology of the thymus organ in a *frugivorous megachiropteran* species, *Pteropus giganteus* was studied at different stages of development like foetus, neonate and adult. Certain features of the thymus of *P. giganteus* showed similarity with those in highly evolved primates.

The bats were maintained in the laboratory with banana and water *ad-libitum*.

The thymus in *P. giganteus* is located ventral to the heart; two white lobes of the thymus are firmly bound together in the mid-line anteriorly. Each lobe is subdivided into several lobules by the invaginated connective tissue septae; these lobules are more prominent at the posterior margin of each lobe.

An interesting feature in the thymus of the fruit bat at different ages is a gradual increment in the size of the lobes through neonatal stages; after attaining the maximum size pronounced involution of thymus occurs in adult animals as seen in some other mammalian species including human. Thus in adult bats, islands of lymphoid cells are embedded in an enormous mass of fatty tissue which has infiltrated the original space occupied by thymic tissue in earlier life.

Histology of this organ reveals that epithelial cells, reticular cells and connective tissue fibres provide the basic supporting network of the organ and the interstices of which are occupied by the lymphoid cells. Each lobe of the thymus has central lightly stained region, the medulla and peripheral darkly-stained densely-packed cortex. Small lymphocytes mainly aggregate in cortex and medulla harbours comparatively larger and irregular-shaped lymphocytes. Differentiation into distinct cortex and medulla is very prominent in the thymus of neonates than that of foetuses. In adult thymus, cortex and medulla are not well demarcated.

Moreover, the prominence of medulla in neonatal thymus is accentuated with the presence of well-defined Hassall's bodies. These bodies are aggregates of the epithelial cells in whorled pattern and interestingly are very similar to those seen in primates or human thymus[7]. They stain bright red with eosin. An amorphous substance and degenerating cells in the centre of the Hassall's bodies have been observed. These are not observed in the foetal thymus studied. The diameter of Hassall's bodies in neonatal thymus varies from 47–125 μm. The size and number of these bodies decrease in adults where their diameter varies from 17–48 μm.

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A NOTE ON THE BASIC CHROMOSOME NUMBER OF *GOSSYPIUM* L.

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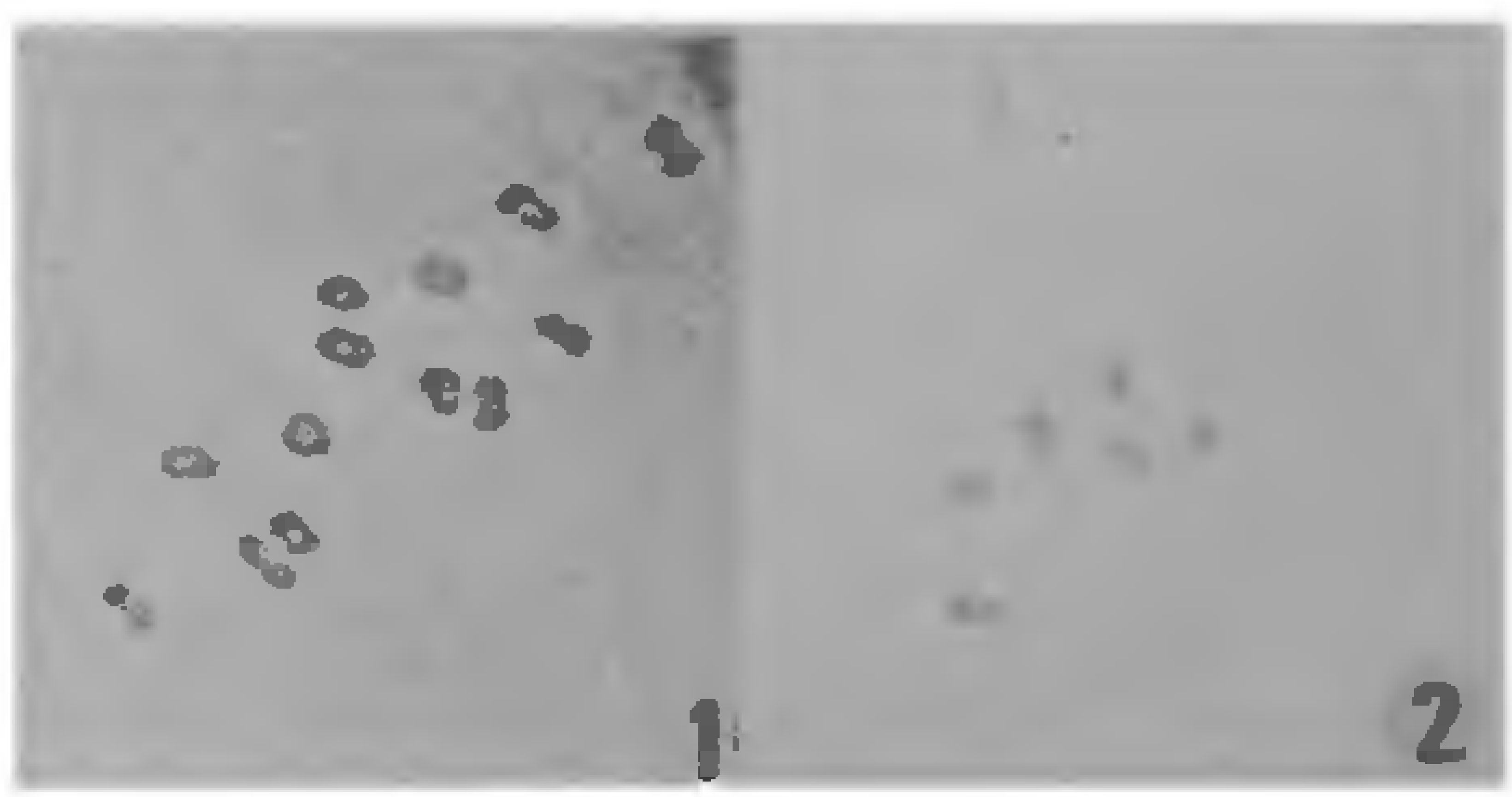
THE genus *Gossypium* L. consists of about thirty diploid and three amphidiploid species[1] belonging to A and G genomes[2] based on their chromosome pairing behaviour.

It has been accepted that the tetraploid cottons originated from interspecific hybridization between cultivated and wild diploids[3]. The origin of amphidiploid cotton, particularly that of *G. hirsutum* has been supported on the basis of geographical distribution of the concerned diploid species, the number of translocations involved in the interspecific crosses[4–9] and banding pattern obtained by gel electrophoretic method[8]. Of the various proofs offered in support of the origin of amphidiploid cottons, the cytological evidences like chromosome pairing behaviour, translocations involved and segregation of marker genes in the induced allopolyploids, are considered as significant source[4–9] evidences. These are however, based on the crosses between various diploids, tetraploids and their amphidiploids.

The present author have reported (allopoly) haploids with $2n = 2x = 26$ chromosomes[10–12] and triploids in tetraploid with $2n = 39$ chromosomes in *G. hirsitum* and *G. barbadense* cottons[13, 14] and monoploid ($n = x = 13$) in *G. arboreum* cotton[15]. While studying the chromosome pairing in all the cases[12, 16] interesting configurations were noted *e.g.* $6^{II} + 1^{I}$ in monoploid[15, 16] of *G. arboreum* cotton (figures 1 & 2).

The bivalent formation in the monoploid indicated the presence of residual homology and archaic polyploid nature of the *G. arboreum* cotton with $2n = 26$ chromosomes. It is also likely to be the base of aneuploidy followed by duplication of the basic chromosome number in the genus *Gossypium*. It is, therefore, more likely that seven is the basic number of the genus *Gossypium* species with $2n = 26$ chromosomes and can now be considered as aneuploids followed by



Figures 1 & 2. 1. Metaphase-I with 13^{II} in *G. arboreum* var., *Jyoti*, **2.** Metaphase-I with $6^{II} + 1^{I}$ in *G. arboreum* monoploid var LD. 132.