

tissue samples – more in number from the tissue samples. In the second batch, motile and live spermatozoa could be retrieved from the frozen tissue samples but none from the TESE/SPERT group.

The technique of cryopreservation of testicular extracted spermatozoa (TESE/SPERT) and their repeated use after thawing has been well established. Joseph Romero *et al.*³ report two successful ICSI attempts from Spain in 1996, using cryopreserved testicular extracted spermatozoa. Recently, Salzbrunn *et al.*⁴ from Hamburg, Germany reported pre-ICSI cryopreservation of testicular tissue bits at their Andrology department and storing at ICSI/IVF centres for recovery of spermatozoa after ovum pick up for administrative convenience.

We, herein, propose our hypothesis that the natural milieu of seminiferous tubules with their supportive Sertoli cells

would prove to be a better transport base for spermatozoa while being cryopreserved. In our preliminary study, we observed better post thaw recovery rate from tissue bits rather than from the extracts.

This is our preliminary pilot study to assess the length of cryopreservability of testicular tissue for recurrent ICSI and other ART procedures, if desired at longer intervals. This will enable the couples to avoid unnecessary, recurrent testicular biopsies with subsequent gross adhesions.

This needs further studies of more samples, for more extended periods of time to substantiate our concept which will be very valuable in all infertility centres which practise ICSI/ART procedures.

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Some botanical curiosities

This report draws attention to three botanical accounts in the Andaman and Nicobar islands.

Malformation in coconut trees (*Cocos nucifera* Linn.)

Cocos nucifera Linn., a stately palm generally grows to a height of 25–30 m when fully mature and bears a crown of large pinnate leaves, and being a monoecious palm the relatively few female flowers are born at the base of the panicle while the numerous male flowers are on the top of the panicle. It is known that the deficiency of boron, one of the seven essential elements, causes 'hen and chick' disorder in coconut due to which the female flowers (buttons) in the spathe and spadix fail to develop into coconuts (drupes). Sometimes one or two in the whole spathe and spadix develop fully.

During a recent exploration and survey tour to the Little Andaman island in the Union Territory of A & N Islands, we happened to locate a couple of coconut trees with a marked difference that the trunk which is not so stout but straight or gently curved rising from a swollen base is almost entirely (starting

three meters above the base) covered by numerous bunches of aborted panicles and thereby, the whole tree mimicks the

Red Oil Palm trees (which are incidentally cultivated in the nearby plantations) except that these coconut trees



Figure 1. Malformation in coconut trees (*Cocos nucifera* Linn.).

are relatively slender, taller and bear only four to five coconuts in the midst of the crown (Figure 1). Enquiries made with the Coconut Development Board, Port Blair reveal that as a rare case the 'hen and chick' disorder is seen in coconut trees when the soils are deficient of boron but the flowering on the trunks itself, subsequent failure of fruiting and the retention of sterile panicles on the trunks are quite unique and have not been encountered by them till date. We opine that it may be due to the deficiency of boron coupled with some unknown factors such as inter-generic cross pollination which can be confirmed by further studies.

Abnormal growth of common coriaceous fleshy sheath around the seeds in *Artocarpus heterophyllus* Lam. (Moraceae)

The jack tree (*Artocarpus heterophyllus* Lam.) belonging to the family Moraceae and known for its fruits which are said to be the largest edible fruits in the world, is indigenous to India and grows well in the Western Ghats and the Andaman and Nicobar Islands where there is high rainfall, while it is grown plentifully in West Bengal and Bihar. It is also grown in Sri Lanka, Myanmar, Malaya and Brazil and has been introduced into many other tropical countries.

The fruits contain a large number of seeds, each enclosed in a yellowish juicy sheath in general. However, we



Figure 2. Common edible fleshy sheath around two seeds in jack fruit (*Artocarpus heterophyllus* Lam.).



Figure 3. Honey bee-resembling flowers in *Arenga pinnata* (Wurmb.) Merril.

recently happened to come across some fruits consisting of two seeds enclosed by a common fleshy juicy sheath, which is a botanical curiosity. It would otherwise just be a disadvantage, reducing the pulp quantity. We are not aware of any earlier report or occurrence of such abnormal growth of common fleshy sheath around two or more seeds (Figure 2) and it appears that this may result in less availability of juicy sheath as compared to when each seed has separate sheath in ripe ones while it hardly matters in case of unripe jack fruits when used as a vegetable since both the seeds and raw sheaths are used up in vegetable making.

Honey bee-resembling flowers in *Arenga pinnata* (Wurmb.) Merril

The sugar palm *Arenga pinnata* (Arecaceae) though rare and seen growing semi wild in some parts of Assam and Andaman and Nicobar islands in India is either found wild or cultivated in Malaya, Myanmar and south

China. Male and female flowers generally occur separately on 1-2 m long pendulous floral axes which are seen in bunches, the first such bunch appearing on the topmost leaf axil which later spreads downwards. The flowers mimic the honey bees (Figure 3) in appearance, and attracted by them several thousands of honey bees are seen hovering around the pendulous inflorescences. Successfully pollinated by the bees, as observed by the authors in the Experimental Garden cum Arboretum of BSI at Port Blair, almost all the flowers turned into fruits. The presence of thousands of honey bee-resembling flowers in each inflorescence and hovering of several thousands of honey bees around them for nector collection suggest the best example of plant-animal relationship for mutual benefit.

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