culture, especially in its later phase. Of these, the first one is introduced into India from Africa during second millenium B.C[2]. It is also archaeobotanically evidenced from a few second millenium B.C. sites like Harappan Rohira in Sangrur district of Punjab[3], Jorwe levels of Daimabad in Ahmednagar district of Maharashtra around 1000 B.C.[4] and also during Savalda levels of Daimabad (unpublished). The pigeon pea has a prominent archaeological record as noted at Megalithic Bhagimohari (C. 800–400 B.C.) in Nagpur district; Indo-Roman levels (C. 150–50 B.C.) of Nevasa, district Ahmednagar[5]; Satavahana and Post-Satavahana levels (C. 200 B.C.–300 A.D.) of Bhokardan[6] in Aurangabad district and Late Historical deposits of Mungi[5], district Aurangabad, all in Maharashtra. In view of this archaeobotanical record, the natural primary diversity of wild intercrossing extant relatives of pigeon pea (*Atylosia* spp.) in Western Ghats and consistent references in ancient Indian literature, it may be postulated that pigeon pea might have been locally domesticated pulse crop in Western India.

Most of the species of cultivated cereals and pulses except pigeon pea had come to light from Chalcolithic Inamgaon[7] (C. 1600–700 B.C.) in Pune district and Daimabad in Ahmednagar district during middle and late phases of 2nd millenium B.C.[4,8]. The present evidence obtained from Tuljapur Garhi demonstrates continuation of double cropping practices in the Vidarbha region of Maharashtra. Subsequent to this, we have well-dated evidence for the remains of crop plants such as rice, barley, wheat, common pea, lentil, grass pea, horse gram, common bean (lablab bean), black gram, green gram, job's tears (wild), etc. unearthed from Megalithic levels of Bhagimohari (C. 800–400 B.C.) (in press)[9]. Thus the present study is useful in illustrating sequential agricultural history and changing ancient food habits in northern Maharashtra in particular and in the Deccan in general. Detailed work on these plant remains is in progress.

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A NEW METHOD OF MASS REARING PREDATORY PHYTOSEIID MITES IN THE LABORATORY

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PHYTOSEIIDS have been cultured using pollen grains or tetranychid prey[1–3]. Shehata and Weiseman[4] developed an artificial diet for *Phytoseiulus persimilis* Athias-Henriot. Although adults were produced they did not lay eggs. Krishnamoorthy[5] developed a technique for laboratory rearing of *Amblyseius* (*Typhlodromips*) *tetranychivorus* Gupta. We developed a simple method of mass-rearing phytoseiid mites in the laboratory using tetranychid mites, and the same is described here.

The rearing unit consists of a glass tray or metal tray (20 cm diameter and 10 cm height), a glass vial (small used vials of antibiotics with rubber cork) and a small tube preferably the used ballpen refil. A small hole was made in the lid of the glass vial and about 2.5 cm of the used refil was inserted through the hole. A petiole of blackgram (or greengram or

cowpea) leaf was then inserted through the refil and the vial was filled with water and closed with lid. This was kept horizontally inside a petri dish (15 cm in diameter) blackened on the outer surface. The whole set-up was kept inside a bigger glass tray and water added to 0.5 cm height in the outer tray to confine both predatory and phytophagous mites. Care was taken to avoid floating of the petri dish to prevent the mites from escaping if the petri dish touches the edge of the glass tray. The whole arrangement was covered with a glass plate.

A known number of predatory mites, *P. persimilis* was allowed on blackgram leaves infested heavily by carmine spidermite, *Tetranychus cinnabarinus* (Boisduval) served as food for the predatory mite. The tetranychid prey was given once in 3 or 4 days. The glass vial was filled with water once in 10 days and when necessary the leaf was also changed.

The predatory mites fed on the tetranychid mites and the eggs were laid on both the leaf surfaces. The rate of multiplication was faster even at the room temperature. Krishnamoorthy[5] provided a strip of wet cotton for egg laying. But in the present study, eggs were laid directly on the leaves which facilitated faster multiplication.

This method can also be successfully used for studies on pesticide residual toxicity to the target and non-target organisms. In predatory mites, the leaves from different treatments can be inserted in the glass vial over which they prey and the predatory mites can be released and the effect of the substrate on these mites can be evaluated.

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ON THE OCCURRENCE OF 'GREEN TIDE' IN THE ARABIAN SEA OFF MANGALORE

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An unusual phenomenon of intense green coloration and soup-like consistency of the coastal waters of the Arabian Sea off Mangalore was reported around the last week of January 1987. Since the phenomenon persisted even beyond a week, an investigation was taken up. The daily observations confirmed the earlier reports and strangely enough the phenomenon continued with some degree of fluctuations till the end of May 1987. The phenomenon in its full intensity was reported to extend from Someswar in the south to Suratkal in the north.

It is generally known that the 'red tide' phenomenon is brought about by the blue-green alga *Trichodesmium erythraeum*[1,2]. On the other hand, the phenomenon presently noticed displayed intense green colour and could, therefore, justifiably be termed as 'green tide'. Samples collected off Hoige Bazaar and Panambur in the inshore areas and in the Gurpur and Netravathi estuaries near their entry into the sea showed the presence of an extremely dense bloom of the dinoflagellate *Noctiluca milaris*. The only other organism present in the samples was a small euglenoid flagellate (possibly *Protoeuglena*) in very large numbers, both inside and outside *Noctiluca*. The green coloration of the water was due to this green-coloured flagellate. The plankton samples showed only these two organisms to the complete exclusion of all other phytoplankters and zooplankters.

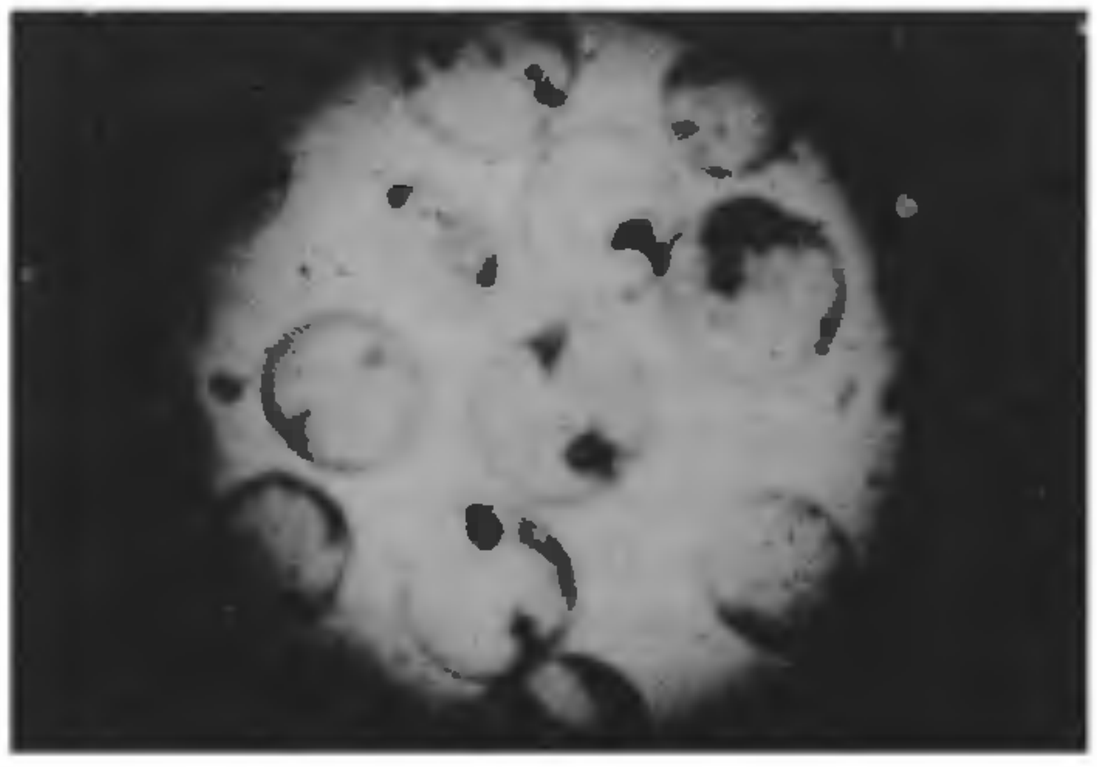

Figure 1. Photomicrograph of plankton sample, showing the presence of only *N. milaris* and *Protoeuglena* sp. (×40).