

# Archaeological Evidence of the Utilization of Plants 14,000 years ago and the Beginnings of Horticulture 7,000 Years Ago

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This paper presents new archaeological knowledge concerning the origin of wild plants, the exploitation of plants, and the beginnings of horticulture in prehistory. It is based on historical research involving analysis of documentary sources and making a descriptive summary of the relevant material.

Non-flowering plants evolved during the Carboniferous Period some 260 million years ago and flowering plants developed during the Jurassic Period about 245 million years ago.

Concerning the exploitation of plants, it was found that the early Tai were using plants no less than 14,000 years ago, for fossil remains of 15 types of plants have been found at the Spirit Cave archaeological site in Mae Hong Son Province. These include foods, *i.e.*, tingara nut *Trapa quadrispinosa* (กระจั๊บ), cucumber *Cucumis sativa* (แตงจั๊าน), beans *Phaseolus* spp. and *Vicia* spp. and perhaps pea *Pisum* spp. (ถั้ว), bottle gourd *Lagenaria siceria* (น้ำเต้า), and sponge gourd *Luffa* spp. (บวบ); masticants, *i.e.*, areca nut *Areca catechu* (หมาก) and betel *Piper betel* (พลู); a condiment, *i.e.*, pepper *Piper nigrum* (พริกไทย); medicinals, *i.e.*, wild Himalayan cherry *Prunus cerasoides* (นางพญาเสือโคร่ง), *Canarium kerri* (มะกอกเล็อม), butternut *Madhuca pierrei* (มะขาง), Chebulic myrobalan *Terminalia chebula* (สมอไทย), Beleric myrobalan *Terminalia belerica* (สมอพิเอก); a source of fuel and oil, *i.e.* candlenut

*Aleurites* spp (มะเยา); and a poison for dressing blowgun darts in hunting, *i.e.*, triangular spurge *Euphobia antiquorum* (สลัดไดป่า).

During the Neolithic Period, the ancestral Tai migrated from the source to the mouth of the Yangtze River and developed the Hemudu culture. At the Hemudu archaeological site near present-day Yuyao city of Zhejiang Province, 7,000-year-old fossil remains have been found of 11 types of plants, *i.e.*, tingara nut *Trapa quadrispinosa* (กระฉับ), sesame *Sesamum indicum* (งา), Thai musk melon *Cucumis melo* (แตงไทย), bean, peach *Prunus persica* (ลูกท้อ), bottle gourd *Lagenaria siceria* (น้ำเต้า), Japanese apricot *Prunus mume* (ลูกบ๊วย), lotus *Nelumbo nucifera* (บัว), jujube *Ziziphus* spp., luk yang (ลูกยาง), and Chinese chestnut *Castanea mollissima* husks (เปลือกเกาลัด).

Concerning the beginnings of plant cultivation, 7,000-year-old fossilized Chinese cabbage *Brassica pekinensis* (ผักกาดขาว) or kale *Brassica oleracea* (ผักคะน้า) seeds have been found at the Hemudu site, and 7,000-year-old Chinese mustard green *Brassica campestris* var. *chinensis* (ผักกวางตุ้ง) or *phak nam man* (ผักน้ำมัน) seeds have been discovered at the Dadiwan archaeological site in Qi'nan County of Gansu Province. Furthermore, testimony to the storage of seed has been found in the form of a 6,000-year-old narrow-mouthed earthenware flask recovered at the Banpo archaeological site near Xi'an in Shaanxi Province.

This archaeological evidence that plants have been used as food for no less than 14,000 years and that plants have been cultivated for 7,000 years is a contribution to the study and development of genetic diversity of horticultural crops for food security in the future.