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Chickpea (*Cicer arietinum* L.): Origin And Domestication In Historical Perspective

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Abstract

The past literary resume indicated that origin and domestication of the leguminous crop *viz*., Chickpea (*Cicer arietinum* L.) has been concluded based on limited criteria and disciplines. The present authors, therefore, felt a need for its reinvestigation with particular emphasis on Indian civilization. This study incorporated all realms of enquiry and knowledge to arrive at better conclusion. Certainly, Indian subcontinent is also one of the ancient centre of its domestication, although it originated outside India.

Key Words: Chickpea, origin, Domestication, India.

Introduction

India is the main producer of crop *viz*., Chickpea in the world. It is a rich source of protein and carbohydrates and also rich in copper, zinc, phosphorous, potassium, manganese and fiber. It is an important part of Indian cuisine. It is the third most important pulse in the world after Field Pea (*Pisum sativum* L.). It is self-pollinated annual winter crop. Because of high nutritional profile, it is being consumed in various Indian food preparations. It is needless to state that Chickpea is associated with human health benefits. Its origin, domestication and history is shrouded in mystery and debated variously. It is, therefore, the present authors reviewed it in historical context with particular emphasis on Indian civilization.

Methodology Adapted:

The leguminous crop of Chickpea is cultivated in Indian subcontinent since ancient period and has deeply rooted in different realms of knowledge and enquiry. It is surveyed from the standpoint of agriculture, domestication, nutrition, various benefits, etymology, literary history, etc. The relevant references are provided for each of these aspects to have is complete history in Indian perspective. This review highlighted its ingrained history in the life of Indians since ancient period of time.

Systematic Enumeration:

1. Chickpea is originated in the Turkey-Syria region and spread eastwards. *Cicer reticulatum* L. is thought to be wild progenitor of the cultivated Chickpea (Van der Maesan, 1987). It is also said to be native of southern Turkey (Lardizinsky, 1975).
2. It is mentioned or named as 'Khalva' in the Brahadaranyka (C.5500 BC.), a commentary on the Rigveda (Sharma, 1989).
3. 'Khalva' is specified as a pulse in the Yajurveda (C.700 BC.) (Sharma, 1989).
4. It is called 'Kalaya' by Kautilya (321-296 BC.) and said to be consumed in various ways including the roasted form (Shamasastry, 1961).
5. It is notable that the name or word 'Khalva' or 'Kalaya' is strikingly similar to 'Kadale' in Karnataka, 'Kudalaii' in Tamil Nadu and 'Kadala' in Kerala states in India. Dravidians use the name 'Kadalia'. The name 'Chanaka' in the Buddhist literature (C.400 BC.) for chickpea is popular in most Indian languages even today. In Sanskrit, it is called 'Harimanth' (Hari-horse; manth-chewing) as it is fed to horses since remote past. It is strikingly similar Telagu name in Andhra Pradesh *viz*., 'Harimandakma'. A similar word 'Harbhara' is used in Marathi language with the similar meaning (Patil, 2019).
6. Kautilya (321-296 BC.) in his 'Arthashastra' also called it 'Khalva' and described treatment to seed of Chikpea before sowing (Shamsastry, 1961).
7. Kashyapa (800 AD.) in his 'Kashyapiyakrishisukti' stated to grow Chickpea without irrigation. He distinguished two varieties *viz*., large and small seeded ones. The former, in his opinion, to be sown in lines, whereas the latter should be moisted and broadcasted before sowing. Weeding a month after sowing and manuring with cow-dung near the roots was also practiced (Ayachit, 2002). It is found in archaeological site *viz*., Nevasa (Maharashtra) dating from 300-100 BC. (Allchin, 1969; Sankalia *et al*., 1960).
8. Seeds were soaked for a day in warm water before sowing in Indian historical Sultanic period (1206-1555 AD.) (Naqvi, 1984). This was also followed by Dara Shikoh (Mughal Prince) to produce larger seeds (Razia Akbar, 2000). Grains were stored in Sultanic period by mixing with pounded bones of elephants and leaves of pomegranate and species of *Lactuca*.
9. In North India, Chickpea seeds were recorded as (i) large (reddish or black), (ii) small (pale brown) and (iii) white one (Cabuli) (Watt, 1889). The earliest mention of 'Cabuli' (Kabuli) is found in 'Ain-i-Akbari' (C.1500 AD.) (Blochmann, 1873). Later on, other varieties were described as 'Desi'.

10. Charak in his 'Charak Samhita' (C.700 BC.) described Chickpea soup to treat spleen and liver disorders (Vidyalankar, 1994).
11. Susrut in his 'Sushruta Samhita' (C.400 BC.) described leaves nutritious and useful as vegetable, and also as green, dry whole seeds and its flour (Krishnamurthy, 1991).
12. Vagbhatta-II (Approx. 800 AD.) mentioned acids from leaves as medicinal in case of digestion and cooling effect (Gode, 1961).
13. 'Sattoo' (an instant common food prepared from flour of Chickpea, barley or wheat, milk and jaggery) is mentioned in Rigveda (C.800 BC.) (Maharshi, 2022; Ambike, 2016).
14. Its name 'Kabuli', one of the variety of Chickpea, logically points to Kabul in Afghanistan on the ancient 'Silk Road' from Europe via Samarkand to India. Then Indians thought it hailed from Kabul.
15. Ancient Indian scripts *viz*., Yog Chitamani (16th century) authored by Harshkirti Suri, it is referred as 'Chana', and as 'Chanak' in Amarkosa (4th century CE) by Amarsimhas (Patil, 2019, 2021).
16. Three complete seeds and nine cotyledons in almost complete form have been found at ancient Sanghol, Punjab (India) during Kushana period (100-300 AD.). The authors revealed their sizes, thickness and overall morphological features (Pokharia and Saraswat, 1998-1999; Musil, 1963)
17. Pokharia and Saraswat (1998-1999) opined that pulses co-occurred with wheat and barley in Indus valley region by the time of the Mature Hrappan period (2600-2000 BC.), but Chickpea may have arrived later than Lens, Pisum and Lathyrus.
18. Saraswat *et al*. (1994) and (Patil, 2020) documented seeds (grains) at archaeological sites *viz*., Savalda (Maharashtra), Imlidih-Khurd (Uttar Prdesh) and Balu, Kunal (Haryana) (Ca.1300 BC. -300/400 AD.) in India.
19. It is called Horse Gram. Watt (1908) explained that name 'Gram' derived from the Portuguese 'Gravo' which means grain.
20. It spread eastward to Indi and called 'Chenuka', 'Chanak', etc. in Sanskrit. The name 'Chana' is eventually derived from the Sanskrit names (De Candolle, 1882). Sanskrit names, according to De Candolle (*loc.cit*.) would indicate that the crop has been under cultivation in India for longer period than in any other country.
21. The Sanskrit name 'Canaka' is also available in 'Tantrasarah' (15th-16th century) originally written by Krishnananda Agamvisha (Banerjee, 1988; Patil and Patil, 2019).

22. Interestingly, it is also mentioned as 'Chanak' in the ancient epic Ramayana (Goswami, 2016; Patil, 2018).

Results And Discussion

Pulses have occupied important place in human diet and nutrition being rich in protein. After cereals, the pulses are required more in terms of quantity. It is to be noted that they do not need irrigation normally and grown as subordinate crops in cropping systems. Although its origin is outside Indian region, particularly Turkey-Syria region (Nene, 2006), it has been also domesticated in ancient time in India. Its occurrence, utilities and health benefits are documented by the ancient Indians from time to time. While reviving its history, the Indian history will find a special importance. The ancient Vedas and Sanskrit manuscripts too took notice of it (c*f*. Sarma, 1989; Patil, 2019; 2021). While embarking upon history, origin and domestication of any crop species, a single discipline is not acceptable, nay workable. Such a realm of enquiry must consider all available fields enquiry and knowledge to arrive at better conclusions.

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