CHAPTER I

INTRODUCTION

The search for the Indies, the land of pepper and spices resulted in the discovery of America by Columbus in 1492, and with this discovery of the New World a number of supremely useful plants have been introduced into the old world. Of these the best known are Tobacco, Cocoa, Hevea, Cashewnut, Potato, Tomato and Capsicum. The last has become so indispensible to the estern cuisine, that it is difficult to imagine that there was a time when Capsicums were not known and used in this country.

Capsicum was first described by PETER MARTYR. In an epistle written in 1493 he says that, "Columbus brought home pepper more pungent than that from Caucasus". In 1494, the physician Chanca who accompanied Columbus on his second voyage also mentioned it.

The name "Kapal mologu" in Malayalam given by RHEEDES in his Hortus Malabaricus denotes its arrival by Kappal or Ship.

Capsicum entered India via Goa through the Portugese. The vernacular names Khandhari and Chine given to the Birds eye Chilli in Capsicum minimum of ROXBURGH seems to signify its import via China by sea, or by land, by way of continental trading caravans, though the ancient kingdom of Gandhar in North Western India.

ROXBURGH in 1814 has stated in his Hortus Bengalensis, that Capsicum minimum is indigenous to India, and Kanjelal and DAS in the flora of Assam, State Capsicum minimum as appearing
PLATE - I

Fig. 1: - *Capsicum minimum*

The Birds Eye chilli
wild in the Khasi hills. *Capsicum minimum* is a large perennial and old specimens of over forty years are sometime met with in old gardens in Malabar. (Fig. I)

In his *Botany of Bihar and Orissa* HAINS (1925) considers *Capsicum minimum* as naturalized.

Index Kewensis mentions 54 species of *Capsicum* but HOOKER (1885) recognizes only three species. *Capsicum minimum* Rox., *Capsicum annuum* L. and *Capsicum gracile* Wild.

During the course of the last two centuries, a large number of varieties and chillies have been evolved in the course of cultivation and in recent years, such genetical work has been done on the inheritance of morphological characters that differentiate the various cultigens. The early work on the genetics of *Capsicum* has been summarised by BOSWELL (1937).

It is well known, that the pungency and flavour characteristic of chillies is due to the presence of an alkaloid Capsaicin. This pungency of *Capsicum* fruits is an important character and varies widely in different cultigens. Besides the use of *Capsicum* in culinary art the importance of chillies in medicine has also been recognized.

Chillies also form an important source of Vitamin C. In ripe chilli fruits vitamin C content have been found to be much higher than in tomatoes by HEISER and SMITH (1953).

Modern methods of plant improvement are based on hybridization and production of mutations by chemicals and by means of X-rays and Gamma rays. All species of *Capsicum* being diploid in nature, the production of tetraploids by the use of colchicine has been resorted to and the effects of tetraploidy
on vitamin C content and Capsaicin content as well, as on morphological characters is presented in this thesis.

Improved tetraploid forms of several varieties of Chillies both local and exotic are now available as a result of these studies. Thus the demands for a more balanced diet in India has been achieved.