

**PROCEEDINGS  
OF THE SECOND SYMPOSIUM  
ON THE BOTANY OF THE BAHAMAS**

**Editor**

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**CCFL Bahamian Field Station**

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# THE GENUS *CAPSICUM* (SOLANACEAE) IN THE BAHAMAS

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## ABSTRACT

At the time of discovery Columbus found the natives of the New World using a spice as pungent as any previously known from the Orient. This spice, known as aji, was later described as the genus *Capsicum* (Solanaceae). The chili peppers as known in the Bahamas today include a single native species *C. annuum* var. *aviculare* and its domesticated *C. annuum* var. *annuum* and another wild-domesticated pair *C. frutescens* and *C. chinense*.

## INTRODUCTION

The genus *Capsicum* (Solanaceae), as recognized today, includes approximately twenty-five taxa of chili peppers whose origin is New World (Eshbaugh, 1980). Since the discovery of the Americas by Columbus several of these pepper taxa have become worldwide in distribution especially throughout Asia. The several domesticated taxa had also become widely distributed throughout the Americas from a South American center before the arrival of Columbus (Pickersgill, 1984). Several chronicles of Columbus' expeditions to the New World mention the use of pepper more pungent than that of the Orient (*Piper nigrum*) by the native peoples of the Caribbean. We do not know for certain what peppers were being used at that time, but we can be sure that the domesticated, *C. baccatum* var. *baccatum*, a lowland southern and western South American species and *C. pubescens*, a mid-elevational Andean species were not in use in the region.

My research and travels throughout the Caribbean area as well as a survey of herbarium materials indicate that the genus *Capsicum* in the Bahamas, Greater Antilles, and Lesser Antilles as seen in the last part of the twentieth century includes a single wild species, *Capsicum annuum* var. *aviculare*, and three domesticated taxa, most often

recognized under the names, *C. annuum* var. *annuum*, *C. frutescens*, and *C. chinense*.

## KEY TO THE SPECIES

1. Flowers usually only one per node after the first flowering node, rarely more; prominent constriction lacking between the base of the calyx and pedicel; corolla pure white to bluish-white or rarely violet (in one variety).  
..... 1. *C. annuum*
  1. Flowers two or more per node above the first flowering node (look for scars), very rarely fewer; prominent constriction between the base of the calyx and pedicel present in both flowering and fruiting material or absent.
  2. Constriction between the base of the calyx and pedicel absent; corolla greenish-white; fruit usually erect, deciduous, soft-fleshed; style exerted 1.5 mm or more beyond the anthers.  
..... 2. *C. frutescens*
  2. Constriction between the base of the calyx and pedicel present; corolla dull white; fruit usually pendant, persistent, firm-fleshed; style exerted not more than 1 mm beyond the anthers.  
..... 3. *C. chinense*
- 1a *Capsicum annuum* Linnaeus, Species Plantarum 188-9. 1753. var. *annuum*.  
Lectotype: Herb. Hort. Cliff. 59 (BM)  
Herb or small shrub to 1.5 m. tall, short-lived perennial, or cultivated as an annual, mostly glabrate: flowers solitary, rarely in pairs, prominent constriction lacking between the base of the calyx and pedicel (best seen in fruit); calyx teeth absent or rudimentary; corolla pure white to bluish-white, very rarely violet; anthers usually blue to violet, filaments short; fruit green (immature), red, orange, and purple grading into yellow, persistent, pendant, rarely erect, variable as to size and shape; seeds cream to yellow.  
This is the most widespread of the

*Capsicum* species and is probably cultivated in most countries in the world. The original distribution of this species in pre-Columbian times appears to have been from Mexico south into Colombia, with its probable area of origin in Mexico.

The lectotype designated above is a specimen in flower and fruit with the numeral '1' and the word 'annuum' written at the bottom of the sheet. This specimen is reproduced on microfiche, IDC LINN 141: II. 3. In citing Bauhin's Pinax, Linnaeus evidently meant this name to include a range of cultivated peppers from several parts of the world, and the van Rheedee plate he also cited is a good representation of today's market peppers.

Recent authors follow Shinnars (1956) and consider *C. annuum* to embrace two varieties, a large-fruited, cultivated typical variety, and a small-fruited variety referring to spontaneous (indigenous and naturalized) material.

1b. *Capsicum annuum* var. *aviculare* (Dierbach) D'Arcy & Eshbaugh, Phytologia 25: 350. 1973.

Herb or small shrub to 2 m. tall or short-lived perennial, glabrous or rarely puberulent; flowers one per node, rarely 2-3; pedicels slender, enlarging just beneath the fruit; calyx mostly truncate or with a small umbo in place of teeth; corolla white, rarely greenish; anthers violet to blue, filaments short; fruit green suffused with dark purple to black when immature, red when mature, erect, deciduous, small globose or ovoid, 5-10 mm. in diameter, rarely exceeding 15 mm. in length; seeds cream to yellow.

The common American bird pepper (Fig. 1) is found from the southeastern and southwestern United States south into northern Peru and is widespread in the Caribbean. It seldom occurs at an elevation of more than 1000 m. Most workers consider it the probable progenitor of cultivated *C. annuum*, but the possibility exists that it is a weedy derivative of cultivated *C. annuum* (Heiser, 1964; Pickersgill, 1971). The bird pepper is frequently a weed of fence rows, pastures, coffee plantations, and waste places, and probably originated in southern Mexico or possibly in northern Colombia. Wild fruits are commonly used for spicing and food but often the birds do the harvesting first.

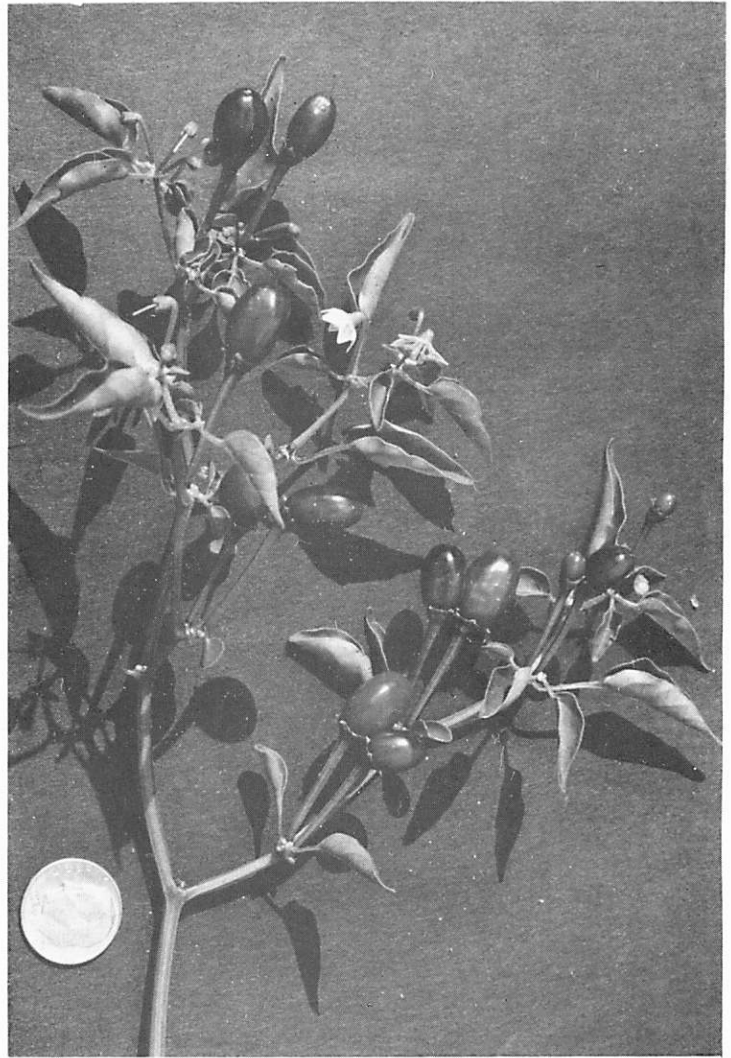


Fig. 1. *Capsicum annuum* var. *aviculare* (Dierbach) D'Arcy & Eshbaugh.

The complicated literature discussing the appropriate naming of this taxon is detailed in D'Arcy and Eshbaugh (1974) and Heiser and Pickersgill (1975). Heiser and Pickersgill (1975) have selected the name *Capsicum annuum* var. *glabriusculum* for this taxon but I have chosen to retain *Capsicum annuum* var. *aviculare* as the most appropriate name rejecting their arguments. Much of the herbarium material of this species on deposit throughout the world is filed under the name *C. baccatum*, a name correctly associated with a South American species.

Correll and Correll (1982) accepted *C. annuum* var. *aviculare* as the name for the widely distributed bird pepper noting that it is a species found in the scrublands, in and on the edge of coppices, and in disturbed areas, flowering and fruiting throughout the



Fig. 2. Distribution of *C. annuum* var. *aviculare* in the Bahamas as plotted by William T. Gillis (solid circles) with additions from Eshbaugh (stars and circles). Original distribution map supplied by Dr. John H. Beaman from the records of Dr. W.T. Gillis on deposit at Michigan State University (MSU).

year. The bird pepper is found throughout the Bahamas (see Fig. 2).

2. *Capsicum frutescens* Linnaeus, Species Plantarum 189. 1753.

Lectotype: *van Royen* (L-902560)

*Capsicum frutescens* is a widespread species found from the southeastern United States to Argentina. Its probable area of origin is in the western Amazon River basin of lowland Colombia and Peru. It is grown throughout the islands of Polynesia and has been reported from India (Heiser and Smith, 1953).

A photograph of the lectotype was published along with its designation (Heiser

and Pickersgill, 1969). While the arguments used for the choice of lectotype may not be sound, the type is now fixed and the association of the name *C. frutescens* with the concept of modern writers is fortunately fixed too.

3. *Capsicum chinense* N. J. Jacquin, Hortus Botanicus Vindobonensis 3: 38, pl. 67. 1776.

Type not designated (see D'Arcy, 1970).

Small, stout shrub to 1.5 m. tall, glabrous to puberulent; flowers two or more at a node, pendant (rarely erect); prominent constriction present between the base of the calyx and pedicel especially when in fruit;

calyx teeth absent; corolla dull white (rarely greenish-white), spreading to recurved; anthers blue to violet, rarely yellow (Smith and Heiser, 1957) style and stigma rarely exerted more than 1 mm.; fruit brown, red, tangerine, peach, cherry, neopolitan, yellow-orange, lemon-yellow, or cream, usually pendant, persistent, firm-fleshed, variously shaped; seeds cream to yellow.

The distinction between *C. frutescens* and *C. chinense* is at best difficult to make. Pickersgill (1966) indicates that no one character is sufficient to distinguish these species. However, if a combination of characters is considered, a given sample can usually be assigned to one species or another. Specifically, *C. chinense* with the erect flower type of *C. frutescens* also possesses the constriction and flower color of *C. chinense*. Those forms of *C. chinense* which lack a prominent constriction have pendant, dull white flowers and firm-fleshed, non-deciduous fruits. (See discussion.)

*Capsicum chinense* is cultivated primarily from Mexico and the Caribbean south to and including Bolivia and Brazil. The probable origin of this species is in the lowland jungle of the western Amazon River basin. The species is rarely cultivated as an ornamental in the United States and Europe. In the cultivated 'Scotch Bonnet' of the West Indies and Panama, the fruit resembles miniature, shiny, plastic replicas of the fruit of *Hura crepitans*. Smith and Heiser (1957) describe the fruits as very irregular in shape, but this is not always the case.

Although no type of *C. chinense* has been seen, confidence in the use of the name is engendered by the very good rendition of Jacquin's plate (D'Arcy & Eshbaugh, 1974) which shows the constriction between the base of the pedicel and calyx. Heiser and Pickersgill (1969) suggest that this name may some day be dislodged by *C. angulosum* Miller, Gardeners Dictionary, ed. 8, no. 4, 1768, if a type for the latter is ever found. The name *C. angulosum* is based on *Piper indicum siliquis surrectis rotundis* of C. Bauhin, which is in turn based on *Piper oblongum exiguum pyramidale* of Clusius, Curae Posteriores 98, 51, fig. 4, 1611. This appears to be *C. annuum* var. *aviculare*.

## DISCUSSION

Although I have chosen to maintain *C.*

*frutescens* and *C. chinense* as distinct taxa in this paper, the difficulties in distinguishing these two taxa argue strongly for treating them under a single name as two varieties. If such a treatment were to be accepted, *C. frutescens* would be retained with the name *chinense* treated as a variety of *C. frutescens* embracing the wide variation of domesticated material within the taxon. *Capsicum frutescens* var. *frutescens* would embrace a much narrower range of variation but include the true tobasco pepper form as well as other small fruited types. If one considers the range of variation in *C. chinense* and *C. frutescens* we have a continuum between the two species that can only be accommodated by an artificial and difficult separation.

Correll and Correll (1982) did not include the domesticated *Capsicum* taxa in their flora. Domesticated *Capsicum annuum* occurs throughout the Bahamian archipelago while *C. frutescens* and *C. chinense* are rare. I have collected both species on San Salvador and *C. frutescens* on Andros Island.

Finally, I should comment on pepper use in the Bahamas. The bird pepper occurs as a wild taxon throughout the Caribbean. It is maintained wherever it is discovered. When land is cleared for a garden or farm, any *C. annuum* var. *aviculare* plant is saved and maintained *in situ* and fruits harvested from it whenever the need arises. The three domesticated taxa, *C. annuum* var. *annuum*, *C. chinense*, and *C. frutescens* are grown throughout the Bahamas but the latter two species are found more commonly in the southern Caribbean region.

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