

VARIATION AMONG SPANISH PEPPER ACCESSIONS OF DIFFERENT TRADITIONAL VARIETIES

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INTRODUCTION

The genebank of the COMAV-UPV holds an important collection of pepper. Collecting expeditions of vegetable crops started in the early eighties by the COMAV institute in Spain, financed by IBPGR, the predecessor of Bioversity International. Safety duplicates of 198 pepper accessions collected, were sent to the CGN and subsequently to the Asian Vegetable Research and Development Center (AVRDC) because pepper had no priority in the CGN collection at that time. With the time about 100 of these accessions were not available because they were never regenerated or regenerations failed. In addition, the viability of a low proportion already available in the COMAV genebank decreased dangerously and needed to be regenerated. With the intervention of CGN, the safety duplicates were recovered from the AVRDC and so two regeneration assays could be conducted in 2014 and 2015 at the COMAV.

The CGN and the COMAV joined work force to rescue this collection of Spanish traditional varieties which resulted in the regeneration and characterization of 126 accessions.

OBJECTIVE

The objective was to rescue, regenerate and characterize a collection of 126 Spanish accessions of pepper (*Capsicum annuum*) and make them available from the genebanks of CGN (Wageningen, The Netherlands) and COMAV (Valencia, Spain).

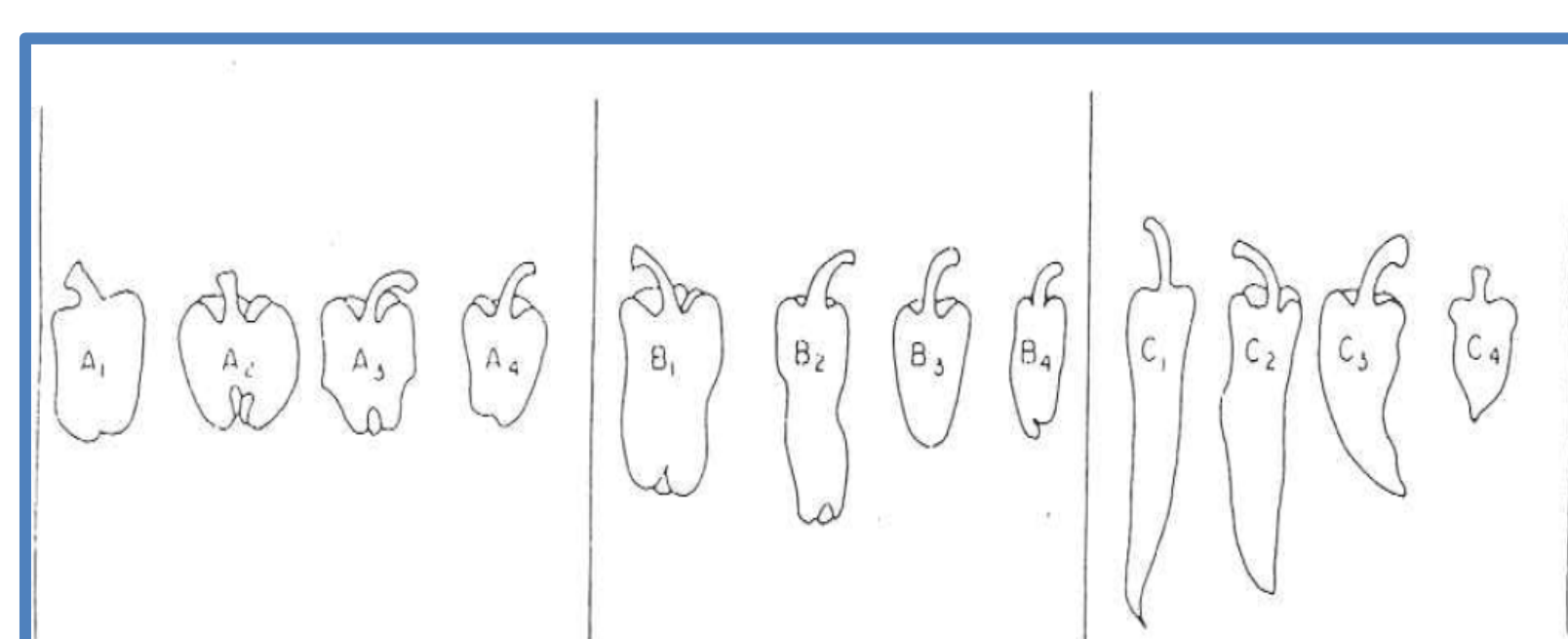
MATERIALS AND METHODS

Material: 126 accessions of *Capsicum annuum*
Genebanks: COMAV, CGN, AVRDC

Assay year	Nº accessions (nº plants/acc.)	Type of cultivation	Transplant month	Harvest period
2014	89 (15)	Mesh tunnel (soil)	April	Mid July – end September
2015	37 (15)	Mesh tunnel (pots)	April	Mid April – end November

A total of 17 descriptors, corresponding to different plant, flower, inflorescence and fruit characteristics were recorded. Priority was given to fruit descriptors to determine the different varietal types (IPGRI, AVRDC and CATIE, 1995). Accessions were grouped according the classification of sweet pepper proposed by Pochard (1966)

Pochard's classification (Pochard, 1966)



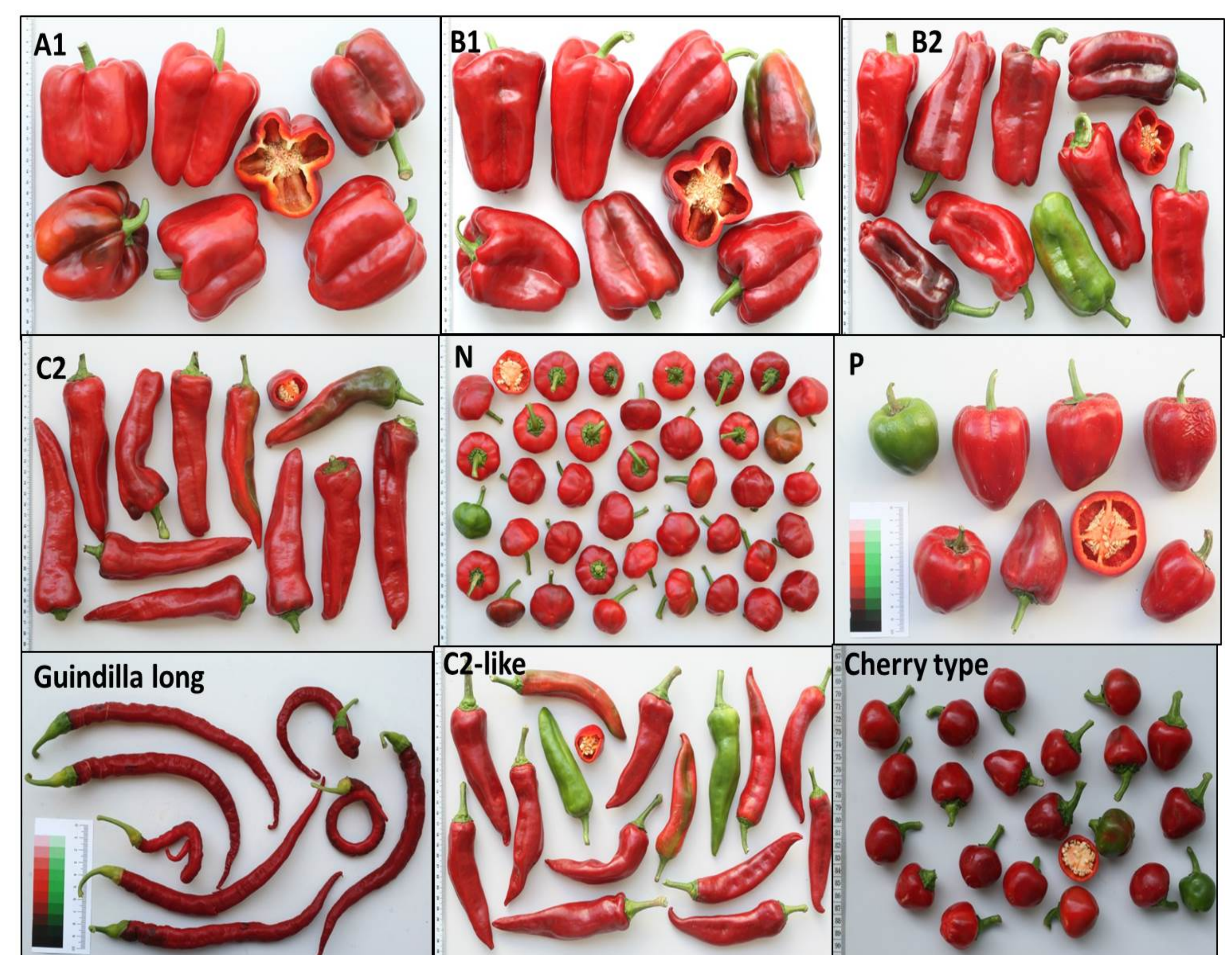
"A" fruits with quadrangular longitudinal section
"B" fruits with rectangular longitudinal section
"C" fruits with triangular longitudinal section
"F" fruits tomato-like peppers
"N" subspheric peppers
"P" heart-triangular shaped peppers

RESULTS

Eighty-nine out of the 126 accessions studied were sweet and 37 belonged to the hot pepper type (Table). The most common types for sweet peppers were B1, B2 and C2 (Figure). For hot peppers the predominant fruit type was very long and thin. A great variability was found among the accessions included in each of these types. The rescue of this material shows fruitful cooperation between genebanks. Sharing responsibilities and funds resulted in the availability of a group of old cultivars with interesting features for research and breeding.

Sweet pepper				Hot pepper			
Type	Assay year		Total nº accessions	Type	Assay year		Total nº accessions
	2014	2015			2014	2015	
A1	3	0	3	B1-like	1	0	1
A3	3	0	3	B4-like	2	0	2
A4	2	0	2	Guindilla long	14	5	19
B1	13	9	22	C2-like	5	4	9
B2	14	7	21	C3-like	1	0	1
B3	1	0	1	Cherry type	2	0	2
C1	2	1	3	OTHER	1	2	3
C2	10	7	17		26	11	37
C3	1	4	5				
C4	0	2	2				
N	2	2	4				
P	2	3	5				
OTHER	1	0	1				
	54	35	89				

Number of accessions belonging to each type of pepper according to Pochard's classification (Pochard, 1966)



Some examples of Spanish traditional varieties belonging to different Pochard types

- B1 Cuatro cascos (Four ribs)
- B2 Largo de Reus (Long of Reus)
- C1 Cornicabra and Cuerno de toro (Goat horn and bull horn, respectively)
- B4-C4 Pimiento de Padrón (Pepper from Padrón, Galicia)
- P with very thick pericarp, usually used for canning "Luesia"
- N with very thin pericarp, used for drying "Ñora"

REFERENCES

- IPGRI, AVRDC and CATIE. 1995. Descriptors for *Capsicum* (*Capsicum* spp.). International Plant Genetic Resources Institute, Rome, Italy; the Asian Vegetable Research and Development Center, Taipei, Taiwan, and the Centro Agronómico Tropical de Investigación y Enseñanza, Turrialba, Costa Rica.
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