



HAL
open science

The fascinating diversity of pepper and eggplant collections held at the INRA Centre for Vegetable Germplasm

Jérémy Salinier, Marie-Christine Brand-Daunay, J Goussopoulos, C Gros, Véronique Lefebvre

► To cite this version:

Jérémy Salinier, Marie-Christine Brand-Daunay, J Goussopoulos, C Gros, Véronique Lefebvre. The fascinating diversity of pepper and eggplant collections held at the INRA Centre for Vegetable Germplasm. 17. Eucarpia Meeting on Genetics and Breeding of Capsicum and Eggplant (2019), Sep 2019, Avignon, France. hal-02958665

HAL Id: hal-02958665

<https://hal.inrae.fr/hal-02958665v1>

Submitted on 6 Oct 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The Fascinating Diversity of Pepper and Eggplant Collections held at the INRA Centre for Vegetable Germplasm

Salinier J¹, Daunay MC¹, Goussopoulos J¹, Gros C¹, Lefebvre V¹
¹INRA, UR1052 GAFL, 84140 Montfavet, France



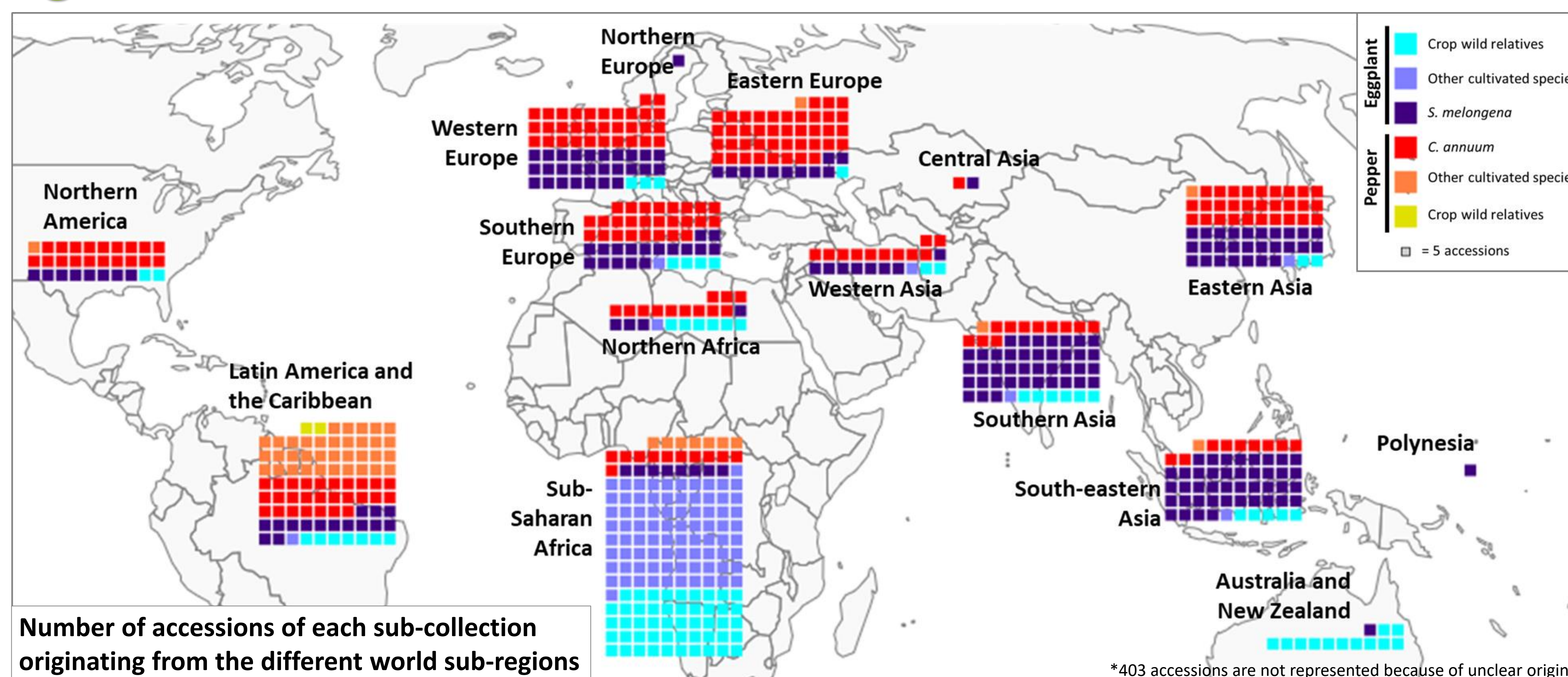
A large taxonomic diversity

- 3627 accessions (1506 pepper and 2121 eggplant) from 143 taxa
- Collected from 1962 to 2018

| Pepper Collection | | |
|---------------------------------|---|------------------------------------|
| Collection Sub-group | Species | Number of accessions in collection |
| C. annuum | <i>C. annuum</i> L. | 1140 |
| | <i>C. annuum</i> var. <i>glabriusculum</i> (Dunal) Heiser & Pickersgill | 8 |
| | <i>C. chinense</i> Jacq. | 127 |
| Other cultivated species | <i>C. baccatum</i> L. | 111 |
| | <i>C. frutescens</i> L. | 72 |
| | <i>C. pubescens</i> Ruiz & Pav. | 27 |
| | <i>C. chacoense</i> Hunz. | 11 |
| Crop wild relatives | Other 4 <i>Capsicum</i> species | 10 |

| Eggplant collection | | |
|---------------------------------|---|------------------------------------|
| Collection Sub-group | Species | Number of accessions in collection |
| <i>S. melongena</i> | <i>S. melongena</i> L. | 1071 |
| | <i>S. insanum</i> L. | 32 |
| Other cultivated species | <i>S. aethiopicum</i> L. | 327 |
| | <i>S. anguivi</i> Lam. | 39 |
| | <i>S. macrocarpon</i> L. | 81 |
| | <i>S. dasyphyllum</i> Schumach. & Thonn. | 15 |
| Crop wild relatives | <i>S. campylacanthum</i> Hochst. ex A.Rich. | 73 |
| | <i>S. lichtensteinii</i> Willd. | 14 |
| | <i>S. incanum</i> L. | 13 |
| | <i>S. linnaeanum</i> Hepper & P.M.L.Jaeger | 24 |
| | <i>S. viarum</i> Dunal | 15 |
| | <i>S. sisymbriifolium</i> Lam. | 11 |
| | Other 120 Solanaceous species | 406 |

Originating from all over the world



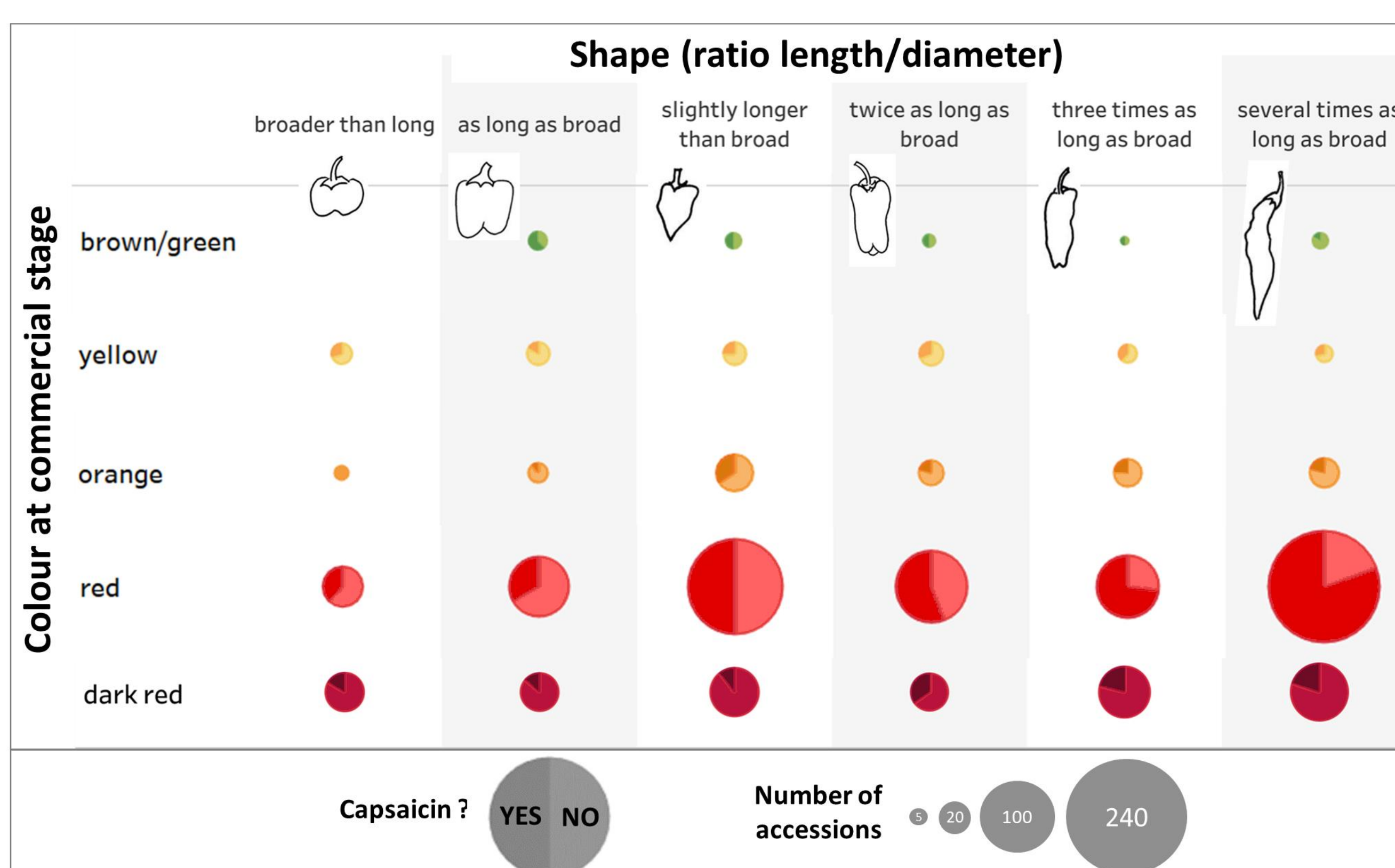
→ all domestication and diversification areas represented

→ European origin overrepresented

Presenting great phenotypic diversity

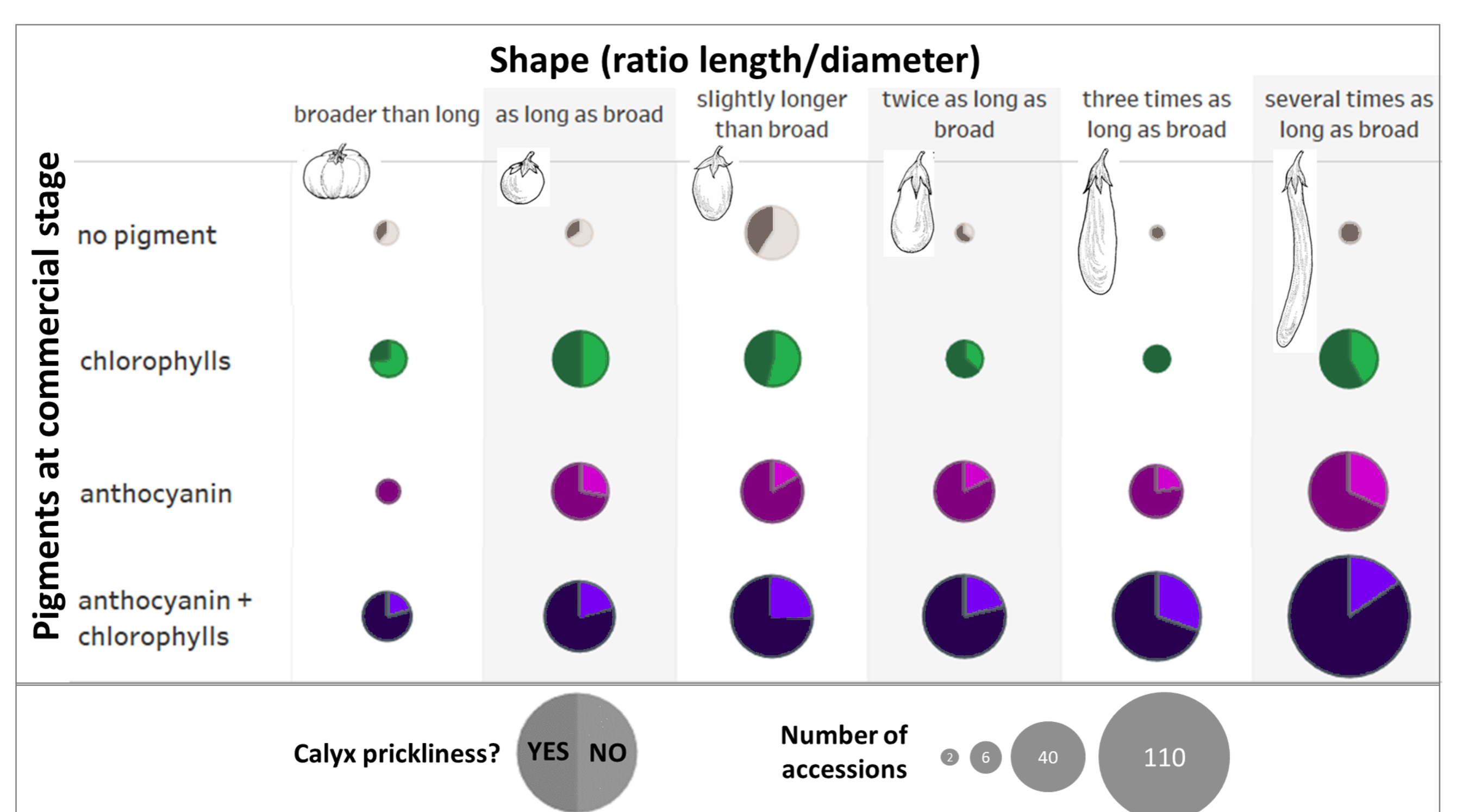
→ 57 pepper types represented

Over 60 defined types [6 Shape classes X 5 Colour x 2 Capsaicin content]
 Over 1140 *C. annuum* accessions analysed



→ 44 eggplant types represented

Over 48 defined types [6 Shape classes X 4 Pigment x 2 Calyx Prickliness]
 Over 630 *S. melongena* accessions analysed



And probable genetic diversity

→ H2020 G2P-SOL project ongoing



- 1300 pepper and 1500 eggplant accessions from INRA included in GBS and SPET genotyping
- 59 pepper and 105 eggplant accessions from INRA selected in the G2P-SOL core-collections
- Currently phenotyped by ENEA, WUR, UPV, CREA, ARO, BATEM, MVCRI, WorldVeg and INRA

