

The multiple and contrasting sides of eggplants domestication



Comprendre le monde, construire l'avenir



MC Daunay¹, X Aubriot², AML Page³, MA Chapman³



¹ INRA UR1052, Montfavet (FR); ² UMR 8079, Université Paris-Sud, Orsay (FR)
³ Biological Sciences, University of Southampton (UK)

Three cultivated eggplant species

Solanum melongena L.

S. aethiopicum L.

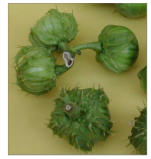
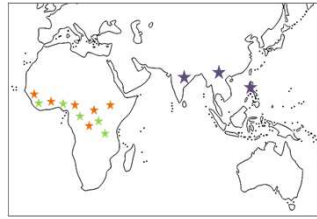
S. macrocarpon L.

Their wild progenitors

S. insanum L.

S. anguivi Lam.

S. dasyphyllum Schumach. & Thonn.



1. Multilocal domestication events

2. Domesticated traits co-exist with wild traits



3. Enlargement of diversity for a range of traits common to the 3 eggplant species



TRAITS	<i>S. insanum</i> (wild)	<i>S. MELONGENA</i>	<i>S. anguivi</i> (wild)	<i>S. AETHIOPICUM</i>	<i>S. dasyphyllum</i> (wild)	<i>S. MACROCARPON</i>
plant growth habit	decumbent to erect	decumbent to erect	erect	erect, semi erect	semi-erect	semi-erect to erect
plant size	small to high	small to high	high	high to low	high	high to low
plant pubescence	hairy	hairy or glabrous	hairy	hairy or glabrous	hairy	glabrous
plant prickles	present	present or absent	present	present or absent	present	absent
nber of flowers/inflorescence	multiple or single	multiple or single	multiple	multiple or single	multiple	multiple or single
nber of fruits/inflorescence	multiple to single	multiple to single	multiple	multiple to single	multiple	multiple to single
fruit position	pendant	pendant	erect	erect, semi erect, pendant	erect	erect, semi erect, pendant
fruit size	small	small to very large	very small	small to medium	small	small to medium
fruit shape	spherical	spherical, broader than long, longer than broad to very long and slender	spherical	spherical, broader than long, longer than broad	spherical	spherical, broader than long (rarely longer than broad)
fruit grooves	none	none or present	none	none or present	none	none
fruit epidermis colour	green	green, violet, purple, black, white	green	green, violetish, white	green	green, violetish, white
fruit colour distribution	reticulated	reticulated, uniform, striped, irregular	uniform	uniform, reticulated, irregular	reticulated	reticulated, uniform, irregular
mature fruit color	yellow	yellow, brown	red to orange	red to orange	yellow	yellow, brown
fruit taste	bitter	sweet to lightly bitter	bitter	lightly bitter to sweet	bitter	lightly bitter
prickles on calyx	present	present or absent	present	present or absent	present	absent
seed size	small	large	small	large	small	large
use	medicinal	medicinal, fruit vegetable	medicinal	fruit or leaf vegetable	medicinal	fruit or leaf vegetable

Stronger diversification for some fruit traits



4. Domestication differently advanced

S. melongena L.

>

S. aethiopicum L.

>

S. macrocarpon L.

