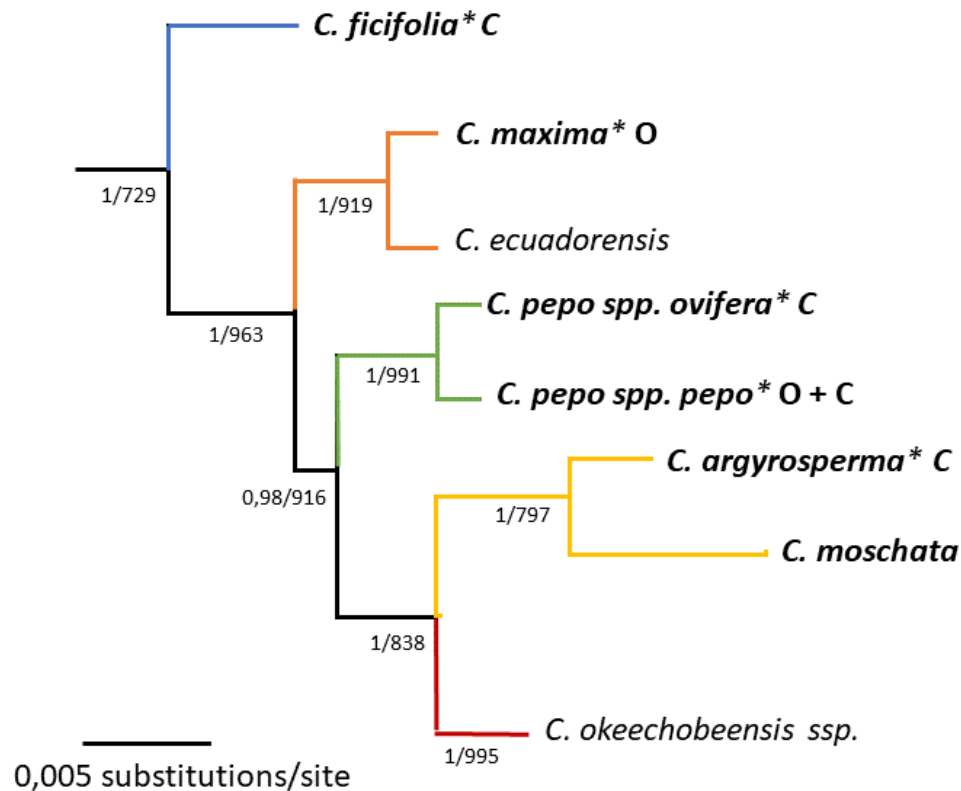
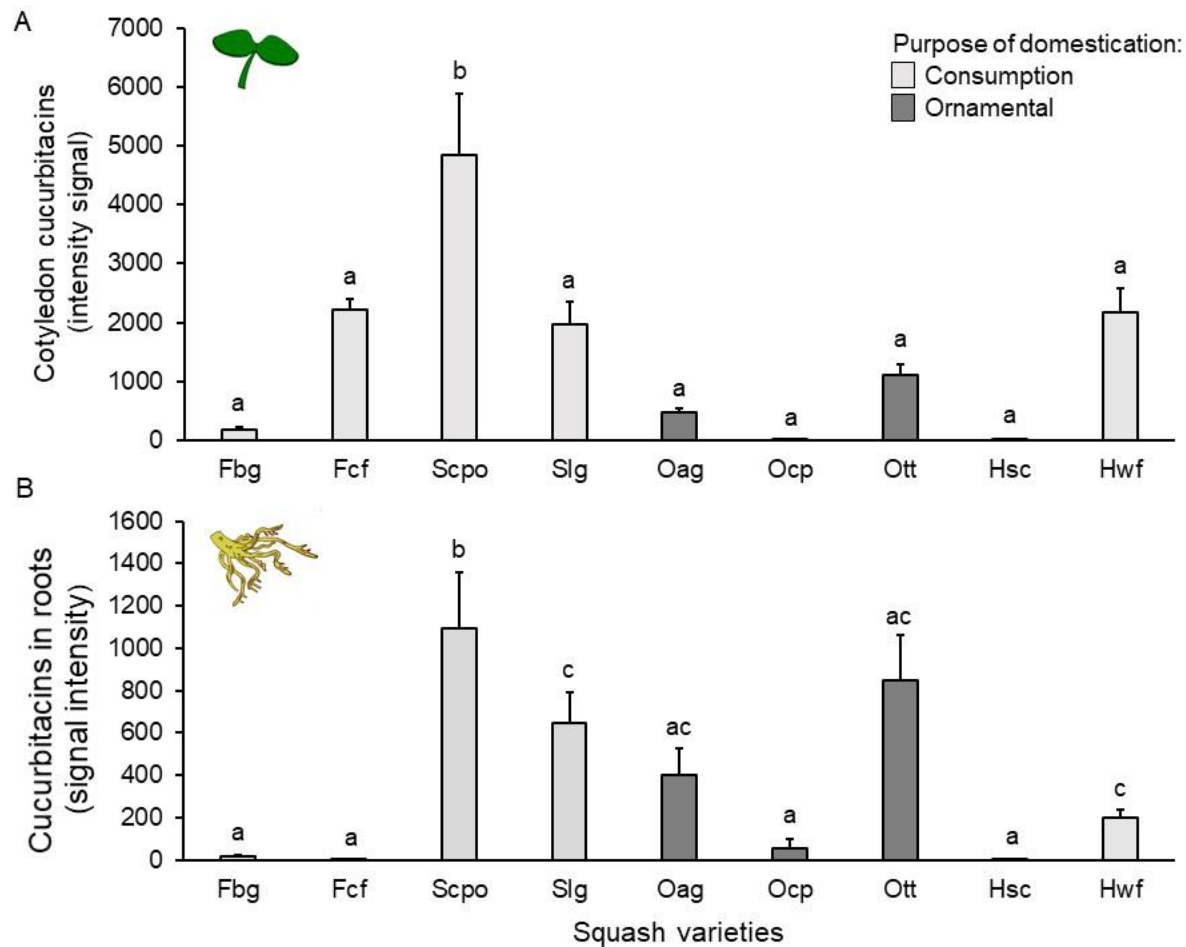


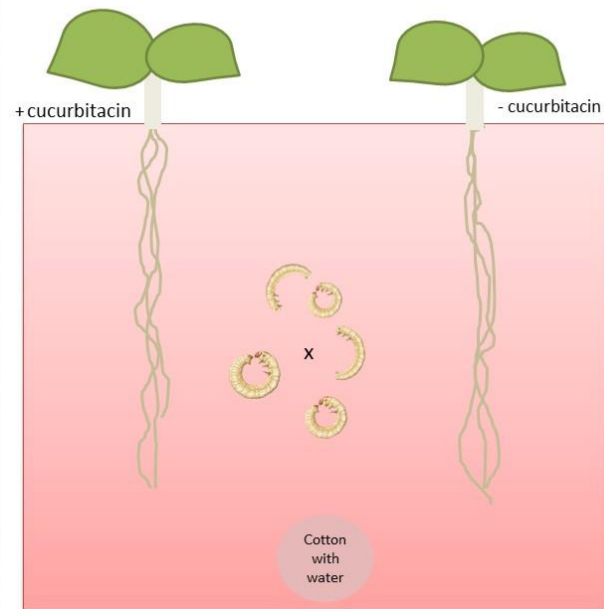
Supplementary Material



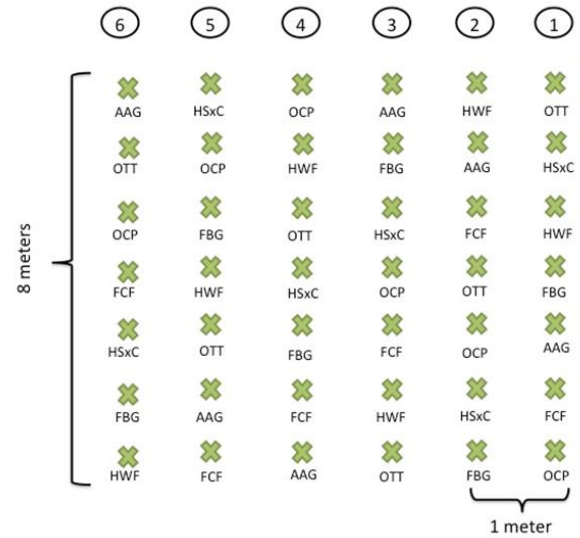
Supplementary Figure 1. Species used in our experiments based on a *Cucurbita* phylogeny modified from Castellanos-Morales *et al.* [32]. Color indicates different monophyletic groups: light blue: *Cucurbita ficifolia*, orange: group Maxima, green: group Pepo, Yellow: group Argyrosperma and red: group Okeechobeensis. Asterisks shows the varieties used in this study. Letters indicate the purpose of domestication: C: Consumption and O: ornamental used in our study. Domesticated taxa are in bold.



Supplementary Figure 2. Cucurbitacin relative content (signal intensity) in cotyledons (A) and roots (B) of the studied *Cucurbita* spp. varieties. Bars represent means (\pm SE). Light-colored bars are varieties domesticated for consumption and dark-colored bars are varieties domesticated for an ornamental purpose. Different letters indicate significant differences among varieties. P values are given for treatment comparisons with log transformed data [linear model], followed by pairwise comparisons of Least Squares Means (LS means).



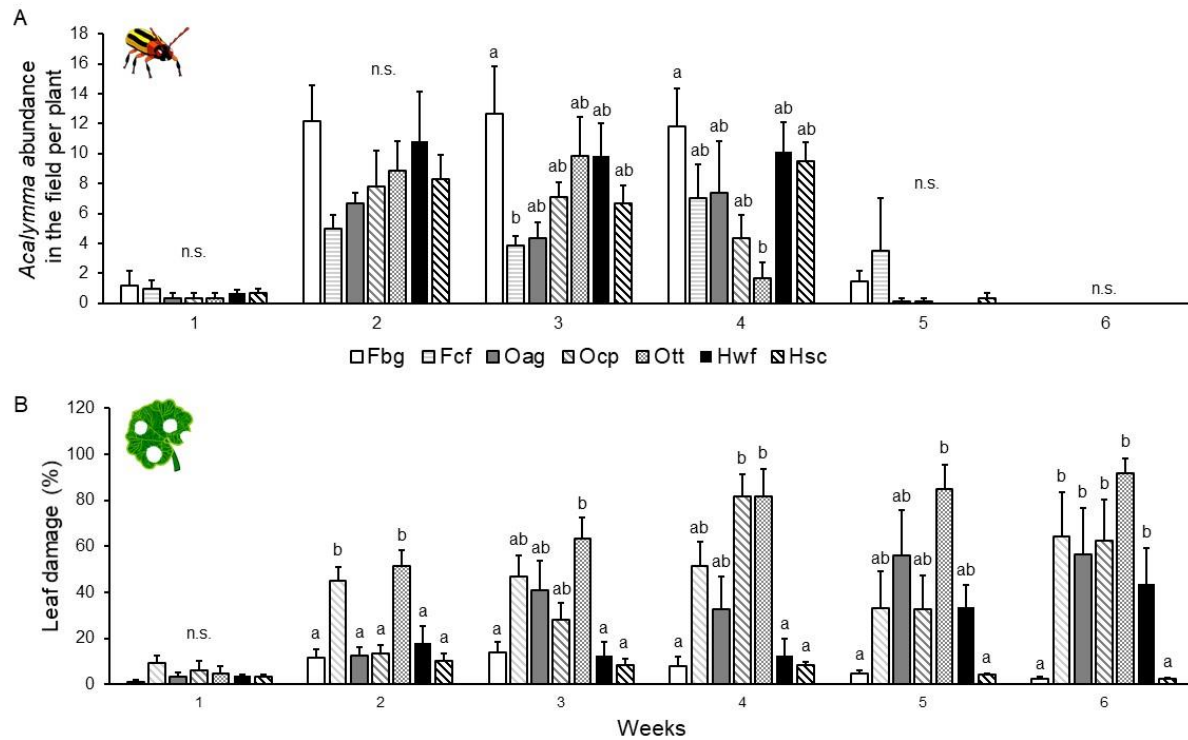
Supplementary Figure 3. Design for the choice-experiment with *D. balteata* on roots of two squash varieties with different cucurbitacin content. Position of the plant varieties in the squared petri dishes were alternated. At each time, five larvae were put in the middle of the petri dish by the hole on the lid. The red cellophane is used to mimic darkness as the UV light cannot go through. N=30.



Supplementary Figure 4. Common garden of squash varieties selected for consumption and ornamental purpose. The field was located in the coastal area of the state of Oaxaca, Mexico, 15 km northwest of Puerto Escondido in the UMAR (Universidad del Mar) experimental campus. The experimental field area is mainly used for cultivation of maize, and it is surrounded by native vegetation including wild cucurbits and wild lima bean plants.



Supplementary Figure 5. Picture of adaxial side of the squash leaf. Trichomes are non-glandular (hairy).



Supplementary Figure 6. Mean number of *Acalymma* spp beetles per plant (A) and percent of leaf damage (B) on squash varieties domesticated for different purposes (n=6) in a common garden field experiment in Puerto Escondido, Oaxaca, Mexico. Data were recorded once per week for 6 weeks. Bars represent means (\pm SE). P values are given for treatment [linear model] per week and followed by pairwise comparisons of Least Squares Means (LS means). n.s. not significant.