

Plastid DNA sequence diversity in a worldwide set of grapevine cultivars (Vitis vinifera L. subsp. vinifera)

T. Beridze, I. Pipia, J. Beck, S.C. Hsu, B. Schaal, M. Gamkrelidze, M. Gogniashvili, V. Tabidze, Patrice P. This, Roberto Bacilieri, et al.

▶ To cite this version:

T. Beridze, I. Pipia, J. Beck, S.C. Hsu, B. Schaal, et al.. Plastid DNA sequence diversity in a worldwide set of grapevine cultivars (Vitis vinifera L. subsp. vinifera). 10. International Conference on Grapevine Breeding and Genetics, Aug 2010, Geneva (N.Y.), United States. hal-02755789

HAL Id: hal-02755789 https://hal.inrae.fr/hal-02755789

Submitted on 3 Jun2020

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.

Plastid DNA sequence diversity in a worldwide set of grapevine cultivars (*Vitis vinifera* L. subsp. *vinifera*)

B. Schaal¹, J. Beck¹, S-C. Hsu¹, T. Beridze^{*2,3}, M. Gamkrelidze², M. Gogniashvili², I. Pipia², V. Tabidze², P. This⁴, R. Bacillieri⁴, V. Gotsiridze⁵, M. Glonti⁵

¹Washington University, St. Louis, Missouri; ²Durmishidze Institute of Biochemistry and Biotechnology, Tbilisi, Georgia; ³Ilia State University, Tbilisi, Georgia; ⁴Institut National de la Recherche Agronomique (INRA) Montpellier, France; ⁶Institute of Horticulture, Viticulture and Oenology, Tbilisi, Georgia

*Corresponding author: tgberidze@yahoo.com, tengiz_beridze@iliauni.edu.ge

DNA sequence diversity was investigated at two plastid regions (the trnH-psbA intergenic spacer and the *rpl16* intron) in a geographically diverse group of 113 cultivated grape samples. This group included 40 samples from the Republic of Georgia, home to over 500 grape cultivars and the earliest archaeological evidence of grape domestication. The greater Caucasus region in which Georgia lies is widely believed to be the area in which grape domestication began, and the study of genetic diversity in this region is viewed as key to understanding grape domestication in general. Four plastid haplotypes are evident in the 113 samples, and are designated by their character-states at each of the 3 polymorphic positions: (AAA)-23 samples, (ATT)-29 samples, (GTA)-34 samples, and (ATA)-27 samples. The AAA haplotype was only observed in Georgian samples, and these 23 "Rkatsiteli" group cultivars originate mostly from eastern Georgia. Contrast this group with the nine Georgian cultivars (23%) of the "Chkhaveri-Pinot noir" group (GTA), most of which are cultivated in western Georgia near the Black Sea coast. The observation that the Georgian cultivars exhibited both unique plastid DNA variation (the AAA haplotype) and all other observed plastid haplotypes is consistent with previous studies that have observed both unique and high levels of genetic variation in wild grape (V. vinifera subsp. sylvestris) in the greater Caucasus region.

Comment citer ce document Beridze, T., Pipia, I., Beck, J., Hsu, S., Schaal, B., Gamkrelidze, M., Gogniashvili, M., Tabidze, V., This, P., Bacilieri, R., Gotsiridze, V., Glonti, M. (2010). Plastid DNA sequence diversity in a worldwide set of grapevine cultivars (Vitis vinifera L. subsp. vinifera). In: 10. International Conference on Grapevine Breeding and Genetics (p. 145 (Session P-65)).