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## Genetic diversity of *Saccharomyces cerevisiae* isolated from African local beverages

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**Statement of the Problem:** In south-west of Burkina Faso, palm wine is produced by spontaneous fermentation of the sap from a specific palm tree *Borassus akeassii* and plays an important role in people's lives. *Saccharomyces cerevisiae* is the main agent of this alcoholic fermentation but little is known about the diversity of the isolates from palm.

**Methodology & Theoretical Orientation:** In this work, 39 *S. cerevisiae* strains were isolated from palm wine samples collected from 14 sites in Burkina Faso, as well as 7 isolates obtained sorghum beer (Dolo) from 3 distant sites. Their diversity was analyzed at 12 microsatellite loci, and compared to the genotypes obtained for other African yeast populations isolated from cocoa hulks from Ghana, sorghum beer from Ivory Coast, palm wine from Djibouti Republic, and to our database of strains from miscellaneous origins (bread, beer, wine, sake, oak). The ploidy of these strains has been assessed as well by flow cytometry.

**Findings:** Our results show that *B. akeassii* palm wine contains a specific yeast population of diploid strains, different from Dolo produced in the same area, but also from other palm wine strains from Ivory Coast, Nigeria, or Djibouti Republic, in contrast to Dolo strains that appeared as a group of related and mainly tetraploid strains despite being isolated from different countries. The figure presents different clusters clearly associated to the source from which these strains have been isolated: one cluster of sorghum beer isolates (in pink) containing all strains from Ghana, Burkina Faso, and Ivory Coast, whereas palm wine isolates from different countries were divided into 4 clusters.

**Conclusion & Significance:** This study provides first information of the diversity of *S. cerevisiae* isolated from palm wine. The industrial potential value of these genetic resources has to be further evaluated for biotechnological applications.

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