

Genetics and evolution crop up in a general way several times in the October 1983 issue of *Discover* – from the “Personality” piece on Francisco Jose Ayala entitled “Genetics, Grapes, and the Good Life,” to the Ecology section piece on El Nino and the way Pacific life is struggling to survive and adapt in a warming sea.

To those who attended the NPS-sponsored 1982 Conference on Genetics and Conservation in Washington, D.C., it comes as no surprise to learn that “Ayala has demonstrated that heterogeneity is important to survival.” *Discover* author Kevin McKean writes: “Apparently, natural selection has hedged its bet on the conditions the flies (*Drosophila melanogaster*, used by Ayala in his research) may encounter . . . flies with a high degree of genetic variability evolve faster and survive better under adverse conditions than flies with a more limited repertoire of genes.”

The story on El Nino treats the ocean phenomenon in much the same way science is treating the Mount St. Helens story – as a magnificent natural experiment. Richard Barber, a marine biologist at Duke University, found genetics and human intervention interacting in a stately dance that adds up to what he calls “qualitative overfishing” in the anchovy fishery off Peru. He also calls it “overfishing with a twist.” His research goes back to the 1972 El Nino, which drove anchovy numbers down from 13 million tons per year to the present 2 million ton yield.

Barber asked himself why the anchovy fishery failed to rebound when the 1972 El Nino ended. “The largest and hence most easily found schools are produced by the most fecund fish,” he reasoned. These fish already had been caught. Barber concluded that “the remaining fish lacked the genetic ability to reproduce as fast as necessary to bring the population back up to pre-El Nino levels.”