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CA & DCA (unimodal unconstrained ordination)

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R functions

- **cca** (library `vegan`) - if the environmental matrix is not specified, `cca` function in `vegan` package calculates unconstrained correspondence analysis¹⁾.
- **decorana** (library `vegan`) - this function implements the original DECORANA program, written by Mark Hill in Fortran, into R. For historical reasons²⁾, only four DCA ordination axes are returned, and this is not easy to change.
- **CA** (P. Legendre, *Numerical Ecology with R*, called **CA.newr** in the 2nd edition) - code can be found [here](#).

¹⁾

Alternatively to library `vegan`, there is also a package `ca` with function `ca` calculating correspondence analysis, with `plot`, `plot3d` and `summary` functions. Package `ade4` offers function `dudi.coa`.

²⁾

The function `decorana` is implementing the original Hill's algorithm for DCA introduced by Fortran program DECORANA, which itself can calculate only four ordination axes; CANOCO behaves in the same way.

From:

<https://anadat-r.davidzeleny.net/> - **Analysis of community ecology data in R**

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