*This script is part of supporting materials, coming with the book of Borcard et al. 2011.*

To import the function definition directly into R, use the following:

```
source
('http://www.davidzeleny.net/anadat-r/doku.php/en:numecolr:pcacircle?do=export_code
&codeblock=1')
```

pcacircle

```
pcacircle <- function(pca, ordiplot, ...)
#
# Draws a circle of equilibrium contribution on a PCA plot
# License: GPL-2
# Author: Francois Gillet, 25 August 2012
#
{
    eigenv <- pca$CA$eig
    p <- length(eigenv)
    n <- nrow(pca$CA$u)
    tot <- sum(eigenv)
    cons <- ((n - 1) * tot)^0.25
    radius <- (2/p)^0.5
    radius <- radius * cons
    result <- list(radius = radius, constant = cons)
    drawcircle(radius = radius, ...)
    speciescoord <- scores(ordiplot, display = "species")
    for (i in 1:nrow(speciescoord))
    {
        lengthr <- (speciescoord[i, 1]^2 + speciescoord[i, 2]^2)^0.5
        if (lengthr >= radius)
        {
        arrows(0, 0, speciescoord[i, 1], speciescoord[i, 2], ...)
        }
    }
    return(result)
}


drawcircle <- function(x0 = 0, y0 = 0, radius = 1, npoints = 100, ...)
{
    a <- seq(0, 2 * pi, len = npoints)
    b <- array(dim = c(2, npoints))
    b[1, ] <- x0 + cos(a) * radius
    b[2, ] <- y0 + sin(a) * radius
    for (i in 1:(npoints - 1))
    {
        segments(b[1, i], b[2, i], b[1, 1 + i], b[2, 1 + i], ...)
    }
    segments(b[1, i], b[2, i], b[1, npoints], b[2, npoints], ...)
}
```

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

Permanent link:
**https://anadat-r.davidzeleny.net/doku.php/en:numecolr:pcacircle**

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