

The data set (and description) can be downloaded here:

<http://stat.ethz.ch/Teaching/Datasets/crabs.dat>

Description:

TITLE : crabs
KEYWORDS (statist) : discriminant analysis
APPLICATION AREA : biology, zoology, environment

SHORT DESCRIPTION :
Leptograpsus crabs
Data from Campbell & Mahon (1974) on the
morphology of
rock crabs of genus Leptograpsus. There are 50
specimens
of each sex of each of two colour forms.
Variables are:
- colour form (B = blue form, O = orange form);
- sex (M = male, F = female);
- index within each group of 50;
- frontal lip of carapace, in mm;
- rear width of carapace, in mm;
- length along the midline of carapace, in mm;
- maximum width of carapace, in mm;
- body depth, in mm.

DIM. (VAR./OBS.) : 5 / 200

/ LITERATURE : /

Ripley (1996): Pattern Recognition and Neural
Networks.

Descriptive statistics:

Dataset= crabO_MvsF : n= 100 , d= 5

Class1: n= 50

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	12.3550	7.5982	26.6189	29.3146	12.3245
[2,]	7.5982	4.8208	16.5342	18.2342	7.6471
[3,]	26.6189	16.5342	57.9305	63.7723	26.7634
[4,]	29.3146	18.2342	63.7723	70.3484	29.4883
[5,]	12.3245	7.6471	26.7634	29.4883	12.4410

Correlation matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9845	0.9950	0.9943	0.9941
[2,]	0.9845	1.0000	0.9894	0.9902	0.9874
[3,]	0.9950	0.9894	1.0000	0.9990	0.9969
[4,]	0.9943	0.9902	0.9990	1.0000	0.9968
[5,]	0.9941	0.9874	0.9969	0.9968	1.0000

Median: 16.4116 12.0831 33.0839 36.4237 15.0265
 Mean: 16.626 12.262 33.688 37.188 15.324
 MCD-estimated:
 MDC-0.975-Mean: 16.7525 12.34 33.9625 37.505 15.4675
 MDC-0.750-Mean: 16.6854 12.2854 33.8122 37.3537 15.4244
 MDC-0.500-Mean: 16.5682 12.2295 33.5682 37.0773 15.2909

Class2: n= 50

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	8.8447	6.7255	17.1719	19.2543	8.0120
[2,]	6.7255	5.5150	13.3971	15.0458	6.2117
[3,]	17.1719	13.3971	34.0725	38.0765	15.9082
[4,]	19.2543	15.0458	38.0765	42.8007	17.7631
[5,]	8.0120	6.2117	15.9082	17.7631	7.5769

Correlation matrix:

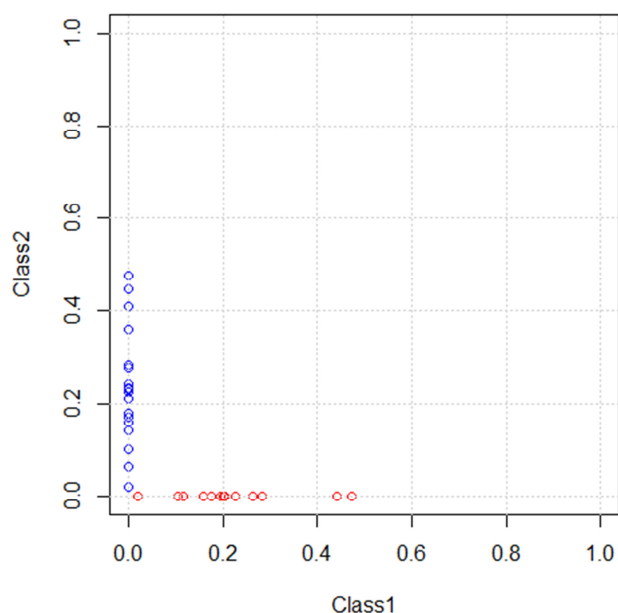
	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9630	0.9892	0.9896	0.9787
[2,]	0.9630	1.0000	0.9773	0.9793	0.9609
[3,]	0.9892	0.9773	1.0000	0.9971	0.9901
[4,]	0.9896	0.9793	0.9971	1.0000	0.9864
[5,]	0.9787	0.9609	0.9901	0.9864	1.0000

Median: 17.9134 14.8869 34.8019 39.4915 15.703
 Mean: 17.594 14.836 34.618 39.036 15.632
 MCD-estimated:
 MDC-0.975-Mean: 17.6872 14.8487 34.7333 39.141 15.6795
 MDC-0.750-Mean: 17.6872 14.8487 34.7333 39.141 15.6795
 MDC-0.500-Mean: 17.6872 14.8487 34.7333 39.141 15.6795

Measures:

Mah.Dist: 4.2286
 Mah.Dist-MCD-0.975: 5.5617
 Mah.Dist-MCD-0.750: 5.4848
 Mah.Dist-MCD-0.500: 5.4848

DD-Plot (zonoid): crabO_MvsF



DD-Plot (random Tukey): crabO_MvsF

