

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= crab_MvsF : n= 200 , d= 5

Class1: n= 100

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	11.9950	7.2443	25.4593	27.8510	12.0232
[2,]	7.2443	4.6678	15.8769	17.6200	7.2970
[3,]	25.4593	15.8769	55.8189	61.9070	25.5830
[4,]	27.8510	17.6200	61.9070	69.3930	27.9438
[5,]	12.0232	7.2970	25.5830	27.9438	12.2096

Correlation matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9681	0.9839	0.9653	0.9935
[2,]	0.9681	1.0000	0.9836	0.9790	0.9666
[3,]	0.9839	0.9836	1.0000	0.9947	0.9800
[4,]	0.9653	0.9790	0.9947	1.0000	0.9600
[5,]	0.9935	0.9666	0.9800	0.9600	1.0000

Median: 15.5579 11.9048 32.6514 36.8386 14.0993
 Mean: 15.734 11.99 32.851 36.999 14.337
 MCD-estimated:
 MDC-0.975-Mean: 15.5211 11.8256 32.3144 36.3211 14.1289
 MDC-0.750-Mean: 15.5211 11.8256 32.3144 36.3211 14.1289
 MDC-0.500-Mean: 15.5211 11.8256 32.3144 36.3211 14.1289

Class2: n= 100

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	12.5169	9.3825	23.2727	25.3404	11.6479
[2,]	9.3825	7.5114	18.1249	19.9274	8.9189
[3,]	23.2727	18.1249	44.9301	49.2987	22.1403
[4,]	25.3404	19.9274	49.2987	54.4781	24.1416
[5,]	11.6479	8.9189	22.1403	24.1416	11.1772

Correlation matrix:

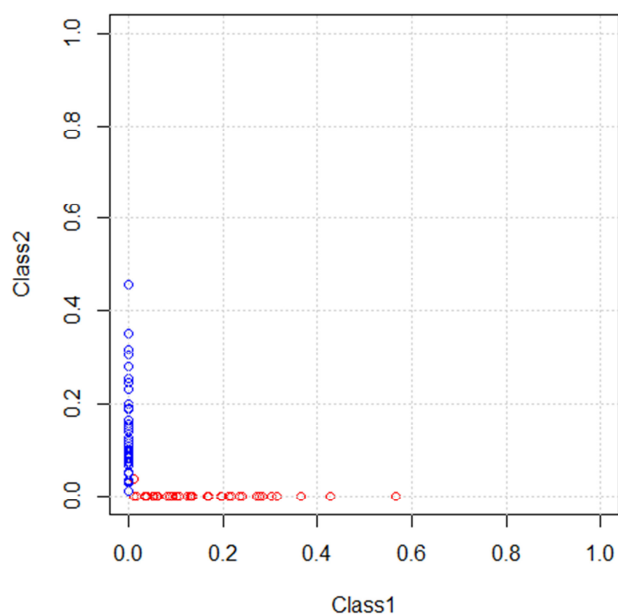
	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9676	0.9814	0.9704	0.9848
[2,]	0.9676	1.0000	0.9866	0.9851	0.9734
[3,]	0.9814	0.9866	1.0000	0.9965	0.9880
[4,]	0.9704	0.9851	0.9965	1.0000	0.9783
[5,]	0.9848	0.9734	0.9880	0.9783	1.0000

Median: 15.5755 13.6788 31.7398 36.3075 13.8205
 Mean: 15.432 13.487 31.36 35.83 13.724
 MCD-estimated:
 MDC-0.975-Mean: 14.85 13.0071 30.2024 34.4786 13.1738
 MDC-0.750-Mean: 15.1302 13.1581 30.6895 35.0314 13.4081
 MDC-0.500-Mean: 14.85 13.0071 30.2024 34.4786 13.1738

Measures:

Mah.Dist: 3.4381
 Mah.Dist-MCD-0.975: 3.3701
 Mah.Dist-MCD-0.750: 3.3337
 Mah.Dist-MCD-0.500: 3.4178

DD-Plot (zonoid): crab_MvsF



DD-Plot (random Tukey) for crab_MvsF

