

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= crabM_BvsO : n= 100 , d= 5

Class1: n= 50

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	10.2560	6.5431	23.2955	26.6118	10.1705
[2,]	6.5431	4.4591	15.0789	17.2604	6.5481
[3,]	23.2955	15.0789	53.4167	60.9823	23.2389
[4,]	26.6118	17.2604	60.9823	69.7809	26.5889
[5,]	10.1705	6.5481	23.2389	26.5889	10.2393

Correlation matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9676	0.9953	0.9948	0.9925
[2,]	0.9676	1.0000	0.9770	0.9785	0.9691
[3,]	0.9953	0.9770	1.0000	0.9988	0.9937
[4,]	0.9948	0.9785	0.9988	1.0000	0.9947
[5,]	0.9925	0.9691	0.9937	0.9947	1.0000

Median:	15.0469	11.8321	32.49	37.1878	13.571
Mean:	14.842	11.718	32.014	36.81	13.35
MCD-estimated:					
MDC-0.975-Mean:	14.4659	11.3439	31.0195	35.6024	12.8951
MDC-0.750-Mean:	14.4659	11.3439	31.0195	35.6024	12.8951
MDC-0.500-Mean:	14.4659	11.3439	31.0195	35.6024	12.8951

Class2: 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:

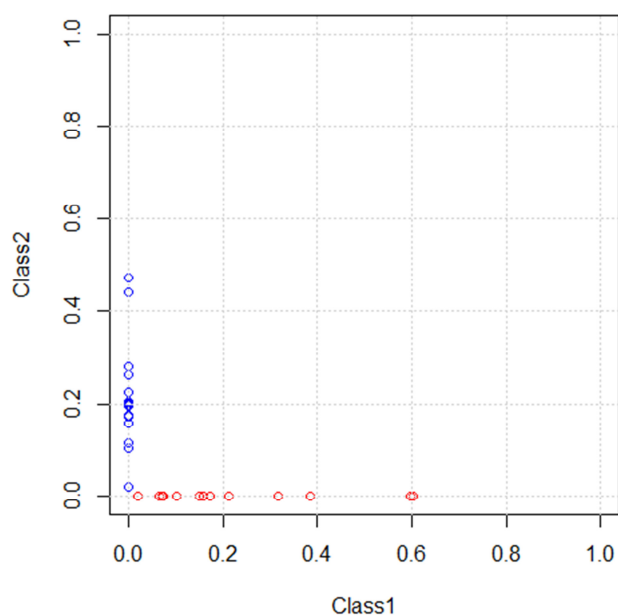
	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9845	0.9950	0.9943	0.9941
[2,]	0.9845	1.0000	0.9894	0.9902	0.9874
[3,]	0.9950	0.9894	1.0000	0.9990	0.9969
[4,]	0.9943	0.9902	0.9990	1.0000	0.9968
[5,]	0.9941	0.9874	0.9969	0.9968	1.0000

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:	16.6279	12.2465	33.6698	37.1907	15.3419
MDC-0.750-Mean:	16.569	12.2167	33.5929	37.0881	15.2786
MDC-0.500-Mean:	16.5682	12.2295	33.5682	37.0773	15.2909

Measures:

Mah. Dist:	6.0536
Mah. Dist-MCD-0.975:	5.1864
Mah. Dist-MCD-0.750:	5.1493
Mah. Dist-MCD-0.500:	5.2575

DD-Plot (zonoid): crabM_BvsO



DD-Plot (random Tukey) for crabM_BvsO

