

```

options pageno=1 linesize=100;
goptions reset=all;
title "MANOVA for Gyrinicola Thesis Four Species Male";
data Gyrinicola;
  input TL EL BW NR EP SPI MW Clade :$8.;
  datalines;
297.669 282.683 60.049 172.455 401.394 51.651 117.818 1
339.723 251.588 62.338 142.582 396.964 54.971 144.908 1
343.722 290.773 66.069 185.298 387.485 55.916 148.152 1
282.661 278.098 58.383 154.436 415.360 53.036 133.370 1
323.385 271.768 58.228 147.090 420.998 48.029 115.387 1
249.677 273.836 70.357 139.397 354.035 55.529 169.616 2
349.170 293.648 63.890 166.066 400.113 53.073 193.082 2
279.570 242.226 51.594 146.404 370.897 48.249 103.604 2
242.340 243.179 54.502 150.849 353.392 47.945 112.645 2
245.165 216.191 50.696 118.890 289.211 48.024 104.187 2
165.131 174.395 44.251 102.768 233.097 45.066 68.078 3
250.578 213.995 52.751 131.484 359.670 39.103 94.393 3
269.708 197.345 46.939 108.400 318.874 41.900 59.739 3
160.591 149.879 41.624 74.155 208.313 46.101 46.697 3
186.628 149.790 41.534 94.652 160.881 40.051 51.899 3
152.704 268.980 67.518 123.556 358.080 44.495 108.257 4
320.605 273.812 66.547 133.698 312.753 43.243 134.243 4
298.869 214.300 48.606 111.735 281.100 48.777 75.691 4
220.797 274.357 69.520 128.339 330.141 40.786 147.799 4
260.567 202.972 51.149 70.982 212.006 46.022 106.207 4
run;
* Print data set;
proc print data=Gyrinicola;
run;
* Scatterplot matrix using a SAS macro (scatmat.sas);
%include "/home/u60760518/ForLogReg/gdispla.sas";
%include "/home/u60760518/ForLogReg/contour.sas";
%include "/home/u60760518/ForLogReg/scatmat.sas";
*goptions device=win;
%scatmat(data=Gyrinicola,var=TL EL BW NR EP SPI MW,group=Clade,anno=ellipse);
run;
* MANOVA using proc glm;
proc glm data=Gyrinicola;
  class Clade;
  model TL EL BW NR EP SPI MW = Clade;
  manova h=Clade / printh printe;
  manova h=Clade / canonical;
run;
* Canonical plots;
%include "/home/u60760518/sasuser.v94/NewEquate.sas";
%include "/home/u60760518/sasuser.v94/New_Canplot - Copy.sas";
%canplot(data=Gyrinicola,class=Clade,var=TL EL BW NR EP SPI MW);
run;
quit;

```

