CRETIA.* = Microfossil and paleomagnetic data in 13 DSDP and ODP Sites, Cretaceous of Indian and Atlantic Oceans

Problem: Create an integrated zonation, using all types of microfossils and geomagnetic events in the Cretaceous coring record of the Indian Ocean.

Data: The data set consists of first and last occurrence events of 347 taxa and geomagnetic events in cores in drill deep sea drilling 13 sites; several sites were analyzed by ourselves; all sites are in the DSDP/ODP literature. Since the dataset in the Indian Ocean has few sites only, it includes some classical Atlantic DSDP sites; this addition helps to increase the stability of the zonation.

Name: CRETIA.*   (Cretaceous Indian and Atlantic Ocean)

Runs: The relatively small data set only allow lows threshold values; each event in the optimum sequence occurs in at least 3 wells, and each pair of events in the scaled optimum sequence in at least 2 wells.

Zonation: The Late Jurassic-Cretaceous optimum sequence includes 56 taxa; in addition one unique event was inserted, the first stratigraphic occurrence of *Lenticulina busnardoi* (= FO).

```
SUMMARY OF DATA PROPERTIES AND RASC17 RESULTS:

  NUMBER OF NAMES (TAXA) IN THE DICTIONARY           347
  NUMBER OF WELLS                                     13
  NUMBER OF DICTIONARY TAXA IN THE WELLS             135
  NUMBER OF EVENT RECORDS IN THE WELLS               378
  NUMBER OF CYCLES PRIOR TO RANKING                   10
  NUMBER OF EVENTS IN THE OPTIMUM SEQUENCE            56
  NUMBER OF EVENTS IN OPTIMUM SEQUENCE WITH SD < ave SD 37
  NUMBER OF EVENTS IN THE FINAL SCALED OPTIMUM
     SEQUENCE (INCLUDING UNIQUE EVENTS SHOWN WITH **)   57
  NUMBER OF STEPMODEL EVENTS WITH MORE THAN
     SIX PENALTY POINTS AFTER SCALING                  0
  NUMBER OF NORMALITY TEST EVENTS SHOWN WITH * OR **   24
  NUMBER OF AAAA EVENTS IN SCALING SCATTERGRAMS         7
```

Summary of work: The study was performed after ODP Leg 123, offshore NW Australia and is reported in the ODP scientific results: Gradstein, F.M., Huang, Z., Merrett, D. and Ogg, J.G., 1992. Probabilistic zonation of Early Cretaceous microfossil sequences, Atlantic and Indian Oceans, with special reference to ODP Leg 123. In: F.M. Gradstein, J. Ludden et al., Proceedings ODP, Scientific Results, Leg 123, p. 759-777.

RASC run data: cretia.inp   - parameter file
                      cretia.dat   - event data file
                      cretia.dep - event depth file
                      cretia.dic - dictionary of fossil names

Listing of data: cretia.lst

RASC results in Ascii text format: cretia*.out

RASCW results in visual basic graphics format: cretiaden.oc2
                                                 cretiaopt.oc2