DENT: A PASCAL PROGRAM FOR VEGETATION DATA ENTRY INTO MICROCOMPUTERS

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DENT is a 700 line Turbo Pascal program for the entry of vegetation and other ecological survey data into IBM/PC and compatible microcomputers. The program was designed for data transfer from field sheets to machine-readable form but is also easily run on lap-top computers that display 24×80 characters on the screen, for the direct recording of data in the field. With re-compilation the program can also be run on an Apple MacIntosh. The program forms part of the ECOSURVEY package, developed by the author, for the multivariate and graphical analysis of ecological survey data.

Microcomputers have increasingly assumed the role of mainframe computers in database management, analysis and graphical reporting in ecological survey work. A large number of variables, repetitive entry of name and/or the need to bypass many data fields are some problems associated with plant and animal community data input to commercial database packages. DENT emulates a prepared species list on a clipboard, with space for the addition of names of new species encountered in a survey (Mueller-Dombois and Ellenberg, 1974). The program reads a master species list file of names up to a maximum of 640. Species names are encoded following the Cornell Ecology Program (CEP) acronym format and each is associated with the full latin binomial, for reference, in the master file. Both acronyms and full latin binomials are displayed on the screen during a data entry session. Additions to this list can be made at any time during data entry and the new names are inserted in correct alphabetical position. The master species list file is updated with new names when data are saved to disk.

Data are progressively accumulated on a disk file to minimize the probability of data loss during an input session. The file consists of records each of which is composed of a stand acronym field, a species acronym field and a data field. This format is readily imported to many commercial relational database management programs. These are highly effective for storing, sorting, searching and summarizing the data (Wildi, 1986). In addition, the data may be converted to a two-dimensional or condensed, CEP array for multivariate analysis. Programs to perform these operations are included in the ECOSURVEY package but are also simple to write.

Unlike much distributed software for scientific purposes, careful attention has been given to the user interface with DENT. The program is easy to use and mistakes are readily corrected. Extensive debugging has been carried out using undergraduate laboratories in vegetation ecology as a testing ground.

DENT is available free of charge, in executable file form, from the author on request. Please send a blank, formatted diskette in a stamped, self-addressed envelope. It will run on an IBM/PC or compatible, with a minimum of 128K memory, under MSDOS or PCDOS version 2.0 or greater. The IBM graphics card adapter (CGA) is recommended. For Apple MacIntosh users who are licence holders of Turbo Pascal, version 3.0 or greater, the source code can be supplied on request. The ECOSURVEY program package is available as a set of 6 diskettes, including 26 compiled programs plus sample datasets, and a manual at a cost of CAN S 150.00. The minimal configuration is an IBM/PC or compatible with 250K RAM and one floppy disk drive. The recommended configuration is 640K RAM, an 8087 numeric coprocessor and a colour graphics card. A hard disk is not necessary.

REFERENCES

MUELLER-DOMBOIS, D. and H. ELLENBERG. 1974. Aims and Methods of Vegetation Ecology. Wiley, New York.

WILDI, O. 1986. The relational model for databases in community studies. Coenoses 1: 29-34.