

2. COLDAT: A FIELD-DATA CAPTURE PROGRAM FOR COLLECTOR'S DATA AND HERBARIUM LABELS

A plant specimen is rarely worth preserving unless the place and time of collection and the collector, preferably with a collecting number, are known. Information concerning the habitat and plant characteristics, not evident in the dried specimen, can enhance the value of a specimen considerably.

Initial recording of observations relevant to herbarium specimens should be recorded at the place and time of collection. However, the occurrence of errors and hence the reliability of the data, can be considerably influenced by the number of times the data are manually transferred, from initial recording, to the herbarium label. Writing herbarium labels for more than one specimen from a particular collecting site entails much duplication as only the plant characteristics and specimen numbers change. It should, therefore, not be necessary to record all data for each label, at a site, thereby saving on high-cost field time. Insertion of data at a later stage may lead to errors.

Computerized field-data capture can facilitate on-site data recording, overcome the problem of duplicating data and eliminate manual data transfer. The program

```
RH WESTFALL Coll no: 185
Specimen no: 2288
Grid ref: 2428AC Region: Transvaal
Date: 1987/11/14
No.1 loc: WATERBERG
Min loc: UGALWATER
Prep loc: 2421345288744E FARM HOLVEN
FONTEIN
Altitude: 1188 m Aspect: NE
Life form: Climber
Plant height: 18 cm
Habitat
SHORT CLOSED WOODLAND ON SANDY ROCK
Y SOILS. GENTLE SLOPE ON INTERFLUVE.
Plant notes
CREEPER WITH PURPLE FLOWERS AND TUB
ER.
Loc/Rel no: 878841 Bio effects: 18
Veg type: 7 Substrate: 2
Moist reg: 2 Soil type: 2
```

PLANT NAME:

FIGURE 3. —Mini label for collector's register with provision for later insertion of plant name.

BOTANICAL RESEARCH INSTITUTE, SOUTH AFRICA

```

-----
                2428AC Grid ref. Regio Transvaal
RH WESTFALL Legit      Anno  1987/11/14
                2288 No.      Alt.  1180 m
Name

Locality:
WATERBERG VAALWATER
242134S280744E FARM WOLWENFONTEIN
Habitat:      Aspect: NE
SHORT CLOSED WOODLAND ON SANDY ROCKY SOILS. GENTLE
SLOPE ON INTERFLUVE.
Notes: Climber 10 cm
CREEPER WITH PURPLE FLOWERS AND TUBER.
                Det. I Ref.
-----
Bio.eff. 10 Veg. type 7 Substrate 2
Moisture reg. 2 Soil type 2 Loc.no. 870041
-----

```

FIGURE 4.—Herbarium label from mainframe printer after computerized data transfer to B7900 computer.

COLDAT, written in BASIC for the Sharp PC1500A pocket computer is designed for field-data capture of herbarium label data, data transfer and label production.

Data input provides for the following: collector's name and number; region; grid reference; date; major, minor and precise localities; locality or relevé number; aspect; altitude; PRECIS (Morris & Glen 1978) codes for biotic effects, vegetation type, substrate, moisture regime and soil type; habitat notes; specimen number; plant height; PRECIS (Morris & Glen 1978) life-form code; and plant characteristic notes. Complete data are entered for the first label, thereafter, only data that change are entered. Specimen numbers are allocated automatically after the

first number. Mini labels (Figure 3) can be printed in the field. They form the original hard copy of the data and can be pasted into a book to form a collector's register. Provision is made on the mini labels (Figure 3) for later insertion of plant names. Data are transferred to cassette before the computer capacity of 40 labels is reached.

Data transfer from cassette to a host computer can be achieved with a suitable program. The program COLTRAN written in BASIC for the Sharp PC1500A pocket computer transfers data from cassette to the Burroughs B7900 mainframe computer. The transfer format required is the same as that used for printing large format labels (Figure 4) on the mainframe printer. The data can then be transferred to a data bank.

This procedure permits minimum data input and physical data handling with consequent increase in data reliability. Experience has shown that minimum data input leads to a greater concentration on plant characteristics and habitat recording on-site, with a corresponding increase in quality of herbarium label information, compared to manual methods used previously.

ACKNOWLEDGEMENTS

The author thanks Mr T.H. Arnold and Dr J.C. Scheepers for comments and suggestions.

REFERENCES

- MORRIS, J.W. & GLEN, H.F. 1978. PRECIS the National Herbarium of South Africa (PRE) computerized information system. *Taxon* 27: 449–462.

R.H. WESTFALL