TURBOVEG WORKSHOP

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INTRODUCTION

TURBOVEG :

- Developed by Stephan M. Hennekans, The Netherlands.
- In 1994, TURBOVEG was standard computer package for the European Vegetation Survey.
- Used in more than 25 countries throughout Europe and abroad.

Uses:

- Storage: Relevé data, entered manually or imported from data files.
- Selection: Can build queries by selecting species and/or header data
- Export: Can format and export data to other programmes for further analyses.

Compatible programmes include:

Twinspan	Canoco,	Megatab,
Mulva,	MS Access	ArcGIS,
Syntax-5,	PC-ORD	GoogleEarth
Excel,	Juice,	Lotus123,
ArcView,	DMAP	

System Requirements:

- 486-processor with 8 Mb RAM (Pentium- processor with 16 Mb RAM recommended).
- Screen resolution: 800 x 600 pixels minimum.
- Supported operating systems: Windows (95, 98, ME, NT, XP, 7)

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Prices: (2010)

- Single user version: 450 EURO (VAT not included)
- Multi user version: 900 EURO (VAT not included)
- Free for private use students institutes or Universities.

Useful resources/publications:

- National Vegetation Database http://nationalvegetationdatabase.biodiversityireland.ie/
- Turboveg information: http://www.synbiosys.alterra.nl/turboveg/
- Download pdf file of manual: http://www.synbiosys.alterra.nl/turboveg/tvwin.pdf

- **Hennekens, S.M. & J.H.J. Schaminee (2001).** Turboveg, a comprehensive database management system for vegetation data Journal of Vegetation Science 12: 589-591.

1. Manual input of data in to TURBOVEG

To create a new file:

Open Turboveg

Database menu:	Click 'New'	Fill in database name, relevé range, select Irish dictionary

Set up datafields needed:

Database menu:	Click 'modify structure'	Fill in each additional datafield that is not already a default one Click 'Add' for each one, click 'Rebuild' when entry complete.
Entry of data:		
Open a relevé:	Click new relevé symbol	Fill in details of header data forms Cover scale is an obliged field, click on question mark to select cover scale code.
	Click 'Save'	Species input form will appear
Add species:		Type in 1st three letters of genus and species, possible names will appear in species box, select one needed. enter a cover abundance value , click 'Add'
Modify/remove species:		Can be done by selecting a species from entered list and clicking 'modify' or 'remove'
Adding remarks:	Click 'Remarks'	Type in details. This 'remarks' datafield is the same as that in the header data.
Adding additional relevés:	Click New relevé symbol	Choose 'yes' or 'no' to copying the data from the previous relevé and edit where needed.

2. Importing of Data from an Excel File

(i) Preparation of Excel File data

Species and header data must be imported separately, therefore the Excel table of relevé data has to be split in to a header table and a species table.

Header data:	Select and copy header data from the Excel file sheet named 'Relevé data' and paste on to adjacent blank sheet number 2 within the same excel file
Transpose data:	When pasting, use 'paste special' to transpose data so that header titles are in a row on top of table. **Note:** Header titles must be in a row on top rather than a column for import Rename sheet 2 'Header data' Delete any blank rows
TV releeve no.s:	Insert a relevé number column to left of table and number the relevés as they will appear in TV **Note:** This number will act as a 'key field' that is unique to each relevé in any dataset entered.
Date format:	Format date from 08/06/1998 to 19980608
Species Data:	Remove relevé numbers, headings, and blank columns

Each column on species sheet should correspond to header columns
Save excel file before proceeding

(ii) Importing Data

Species data must be imported first

Species Import: Create a TV file
Click 'Import free format species data table' on import menu
Select the excel file and the species data sheet
Relevé table appears

Relevé selection: Select relevés by clicking on column containing species and press space bar until all relevés selected. An '*' will indicate selected relevés.
Select column in which species are in (column 1) press 'Next '

Translation: Species will be translated in to species codes from dictionary in TV.
Any species that are not need to be done by hand (highlighted in blue)
Double click blue species and type in 1st three letters of genus and species and select correct species

Cover scale: Select cover scale from drop down menu, press next

Cover code: Will ask to replace ' ' with 'x' – ignore all; 1 with 1 – replace all; '.' with x – ignore all.
Continue until scale is complete
Species import complete

Species check: Check through relevés in TV to check for blue highlighted species. These need to be replaced with an updated name. Three methods to change species.

Method 1: Useful for species occurring once. Open species list of relevé, click the species that needs to be changed, click 'modify'. Type in species name required and click 'Replace'

Method 2: Useful if the species occurs in many relevés.
In edit menu, select 'Replace species', check range of relevés, click on ' old' and type in species that needs to be changed. Then click on ' New' and type in updated name. Click 'Replace'. Species will be changed in all relevés selected if present.

Method 3: Useful when changing all species at once. Select all relevés. In edit menu, select 'replace all synonyms with accepted names'

Header import Database menu in TV, select 'Modify structure' and check all datafields are entered that are needed.
Click 'Import free format header data table' on import menu. Select excel file, and 'Header data'sheet
Header table appears

Labelling columns: Click on each data field heading and select a TV datafield for each

Key Field: Make the TV relevé no. column the key field , this provides a unique number within TV for each relevé

New fields: Do **not** click 'add new fields automatically', then unlabelled datafields can be ignored if needs be.
Click complete, **importing of header data now complete.**

If New datafields need to be added after importing, there are two methods:

Method 1: Use if data is to be imported from the excel file.
Click on 'modify structure' in database menu and add new datafield.
Go through importing process again only selecting the new datafield to be imported

and the key field (TV relevé numbers), ignoring data fields already entered.

Method 2: Use if adding manually in to TV
Modify structure – add new data field
Click on the new datafield created when viewing relevé data in tabular form
A window appears: 'old' – leave blank; 'New' fill in information; Click 'Replace'
Useful if all relevés have the same information to be added.

3.Backing up and exchanging data

Backing up TV files

Use this function to backup your Turboveg files and store them in a secure external location.

Click backup/restore in database menu.
Select Backup relevé database
Select which database is to be backed-up
Press 'OK'
Select a destination file for saved data
Click 'OK'

Adding or restoring a TV file

This function is recommended for exchanging files between users, and can also be used to restore a previously backed up TV file

Click backup/restore in database menu.
Select 'restore'
Select which database is to be restored/added to TV
Press 'OK'

Exchanging TV files

This function can also be used to exchange Turboveg files between users but be careful if you use pop ups as all information may not be transferred.

Open the survey you want to exchange
Select –select all relevés in the current database
Export- standard XML file
Select a destination file for saved data
Click 'OK'

If you receive an XML file you will first need to create a new blank database before importing