

PaleoTax/Graph

Program Release 2.2 (1 May 2020)

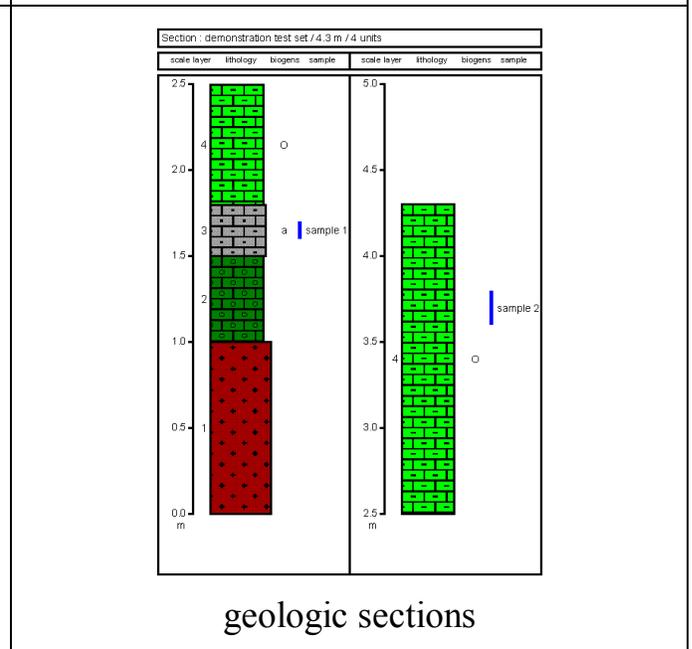
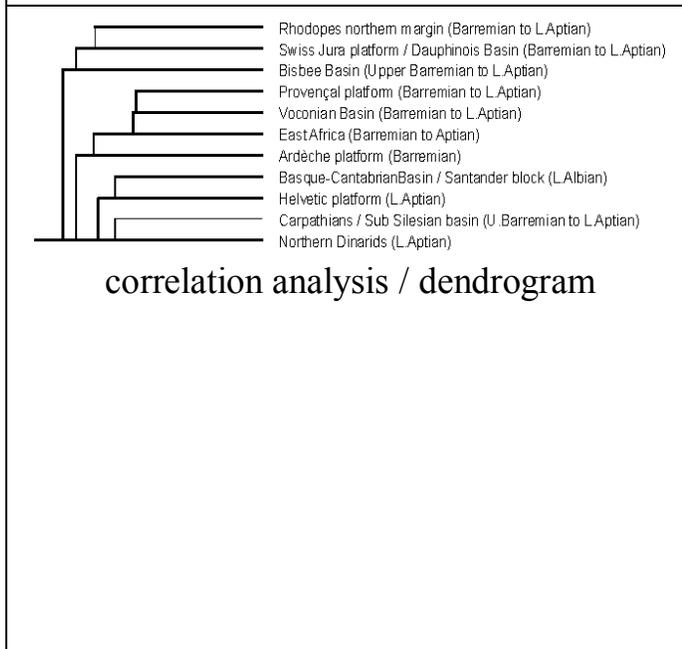
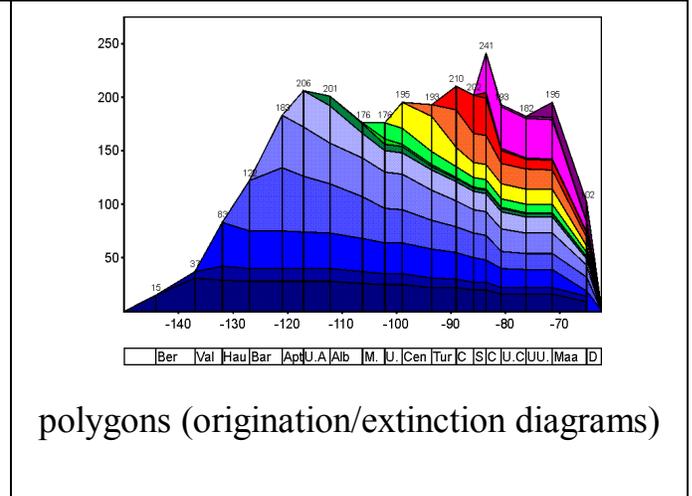
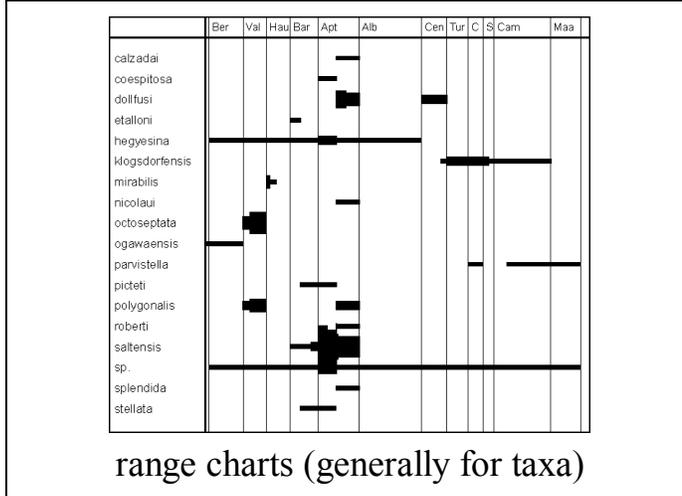
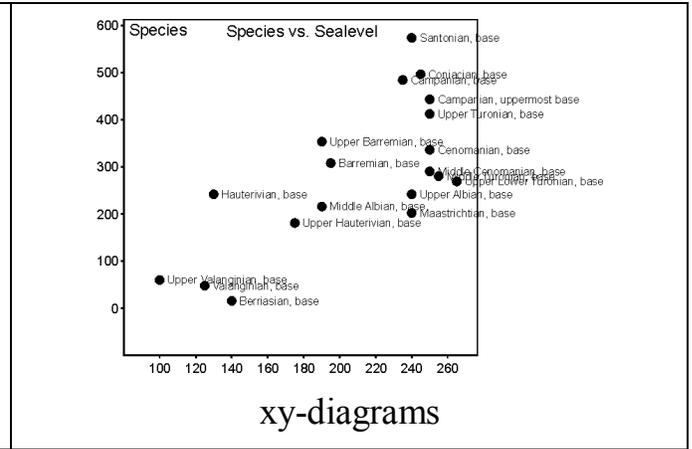
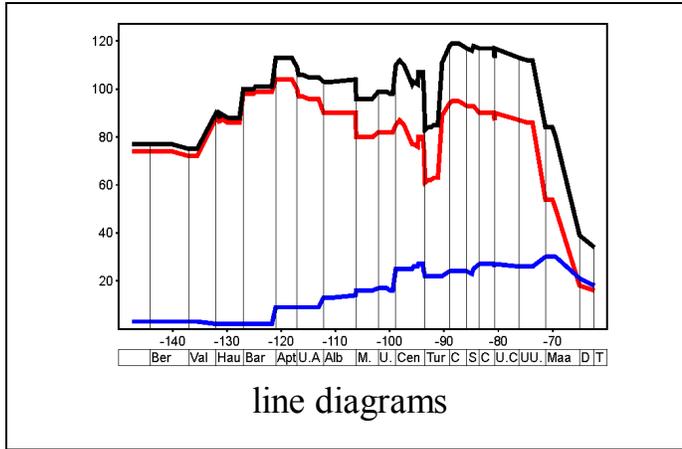
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1. Introduction

1.1. What is PaleoTax/Graph, what can it do?

PaleoTax/Graph is a tool to visualise the result of analysis or estimations carried out with PaleoTax. PaleoTax/Graph offers a wide range of tools, including the following,



Montnell Fm (65 Arten)

Amphiastraeina	Faviina	Microsolenina
Archeocaeina	Fungiina	Poritina
Caryophyllina	Heterocoeina	Rhipidogyrina
Dendrophyllina	Meandrinina	Stylinina

percentage bar

Work			Write a paper
			Examine material
	Beach		Kino
			San Carlos
		Cinema	Cinemax
			Other
No Work	City	Pub	7/11
			Verbena
	Stay at home		Watch TV
			Invite friends
			Watch a movie

tables

Image/Measure	Image/Measure	Image/Measure	Ir
Number	SubNo	Number	SubNo
GCO	.	GCO	.

Image/Measure	Image/Measure	Image/Measure	Ir
Number	SubNo	Number	SubNo
GCO	.	GCO	.

Image/Measure	Image/Measure	Image/Measure	Ir
Number	SubNo	Number	SubNo
GCO	.	GCO	.

Image/Measure	Image/Measure	Image/Measure	Ir
Number	SubNo	Number	SubNo
GCO	.	GCO	.

programmed vectors

Graphs are exported to files of the Windows Meta File format (WMF). This format can easily be imported by many applications and modified by vector programmes (such as CorelDraw).

PaleoTax/Graph is only a by-product and the Windows version of a MS DOS programme which has never been released to public. The reason to release it now, is to have a simple tool for visualising the results of data analysis in PaleoTax. Analysing data became with the increasing amount of data more and more interesting. PaleoTax and PaleoTax/Graph cannot replace sophisticated data analysis and presentation, but it can help to give a rough idea about the data. The used methods are simple but robust.

As for PaleoTax valid, this tool can only grow in its functionality when critical evaluated. Suggestions are therefore very welcome. Therefore check regularly for updates.

1.2. Conditions of use

PaleoTax/Graph is released as freeware. You may use the software without paying any fee, but you bear the risks involved: the author will not be responsible for their correctness or for agreement of the results of analysis with your expectations. Although it cannot be ruled out that updated versions will be sold or service contracts concluded. You will always have the right to work with the free version. At present you cannot advance any claims for support, for the elimination of faults, the improvement of the programme, or training, but the author will endeavour to improve the programme, to speedily remove faults and to advise its users.

1.3. The programme

PaleoTax/Graph does not form part of the Hdb2Win database programme and is delivered as an independent programme which will be installed in the Hdb2Win programme folder (but some functions are built into Hdb2Win from version 2.4.2 on). PaleoTax/Graph expect input files with the extension PGR in the simple text format (ASCII/ANSI). These files are normally produced by PaleoTax, but can be also produced by any other programme. The first lines of the files contain information about the data and the way how to be processed by PaleoTax/Graph.

1.4. The manual

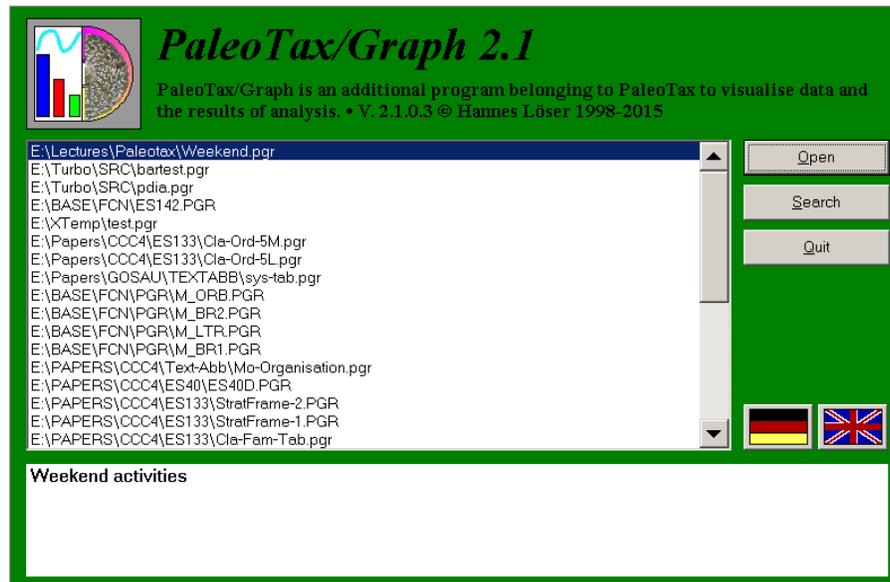
This manual is only a preliminary version since it encompasses only the description of a small part of the functions of PaleoTax/Graph. Check regularly not only for programme updates but also for updates of the manual. New versions of the programme and the documentation are released with new versions of Hdb2Win.

1.7 Installation

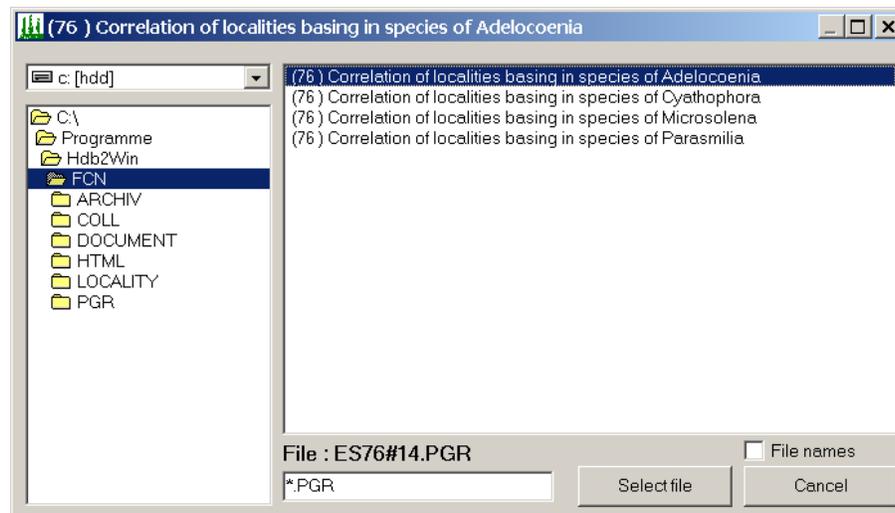
PaleoTax/Graph 2.2 will be installed together with the Hdb2Win package.

2. Start PaleoTax/Graph

The programme is located in the HDB2WIN directory and its name is PGRAPH2.EXE. It may run in English and German. After starting, the following menu will appear:



You may switch the language clicking on one of the banners. When you click on **Search**, you may select a file :

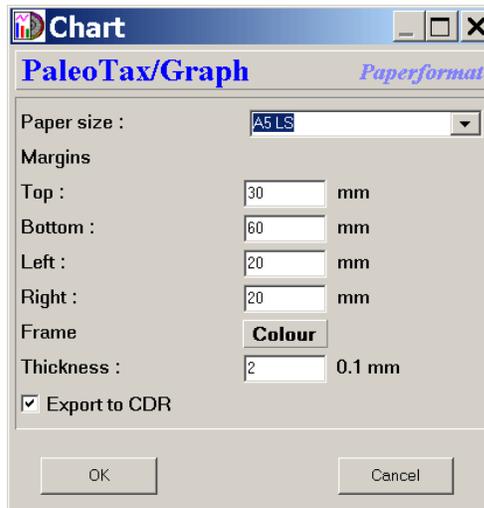
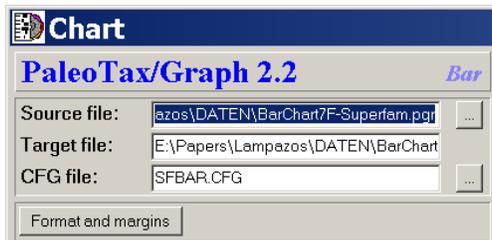


After selection of one or multiple files, the corresponding application of PaleoTax/Graph will be started. After terminating, the previously selected file will be kept in the file window of PaleoTax/Graph. When terminating the programme and starting again, the list will be reload (as far as the corresponding files are not deleted). **Open** would now display the graph again, **Search** opens again the load file dialog.

3. Applications

PaleoTax/Graph includes various applications as mentioned above. You cannot select the applications yourself since the programme start the application according to the information in the PGR files. The applications have not got a traditional menu, normally the windows is divided into a (left) option and a (right) preview part. Change the options and you see immediately the changes in the right portion of the window.

In most applications there is one button just below the files to modify the paper format and margins.



Clicking on this button shows the windows on the right.

On the top you can select the paper format, below of this the margins. It can be defined whether a frame should be placed around the graph, its thickness and colour. The last checkbox should be marked if the file will be imported later by CorelDraw, because this programme handles some objects from a WMF file other than e.g. WinWord or other Microsoft programmes.

3.1. Correlation

Correlation means to evaluate the similarity or dissimilarity of objects on the basis of their characteristics. For instance, localities of fossils can be more or less similar under the aspect of the fossils which are found there. Normally, localities in one and the same facies, which are geographically or stratigraphically closely related, may have also a similar fauna and will show a high correlation. In this example, the localities are the examined individuals (n), and the species are the characteristics (m).

The correlation bases on 1/0 values (species m exists on locality n or not). If two localities are compared, there is a certain number of joint species ("C"), and a certain number of species which do not occur at no one of the two localities ("A"). The easiest way ("simple correlation") is to look for a positive correlation, say, only to value the number of joint species. This may give a coarse idea, but it ignores that the absence of certain species may also deliver important information, and it ignores when small to large faunas are compared.

Therefore a high number of various Correlation Coefficients (a good overview give Cheetham & Hazel 1969) exists. PaleoTax/Graph offers only a small number. If your favourite correlation coefficient lacks, please do not hesitate to contact me. It is easy to incorporate it.

The following abbreviations are used:

C	number of species which occur in both localities
A	number of species which does not occur in no one of the both locality
N1	number of species present in the first locality
N2	number of species present in the second locality
Nt	number of involved species at all ($N1+N2-C$)
E1	$N1-C$
E2	$N2-C$

Of course, instead of localities, genera may be used and instead of species, regions. Any correlation can be applied.

The module expect a file (extension PGR) with the following data.

First line of the file :

```
;C: [Title in German]
;C: [Title in English]
;D: 4,[configuration file],[list file],0
```

e.g.

```
;C: Korrelation der Gattung X
;C: Correlation of genus X
;D: 4,AW29.CFG,AW29#11.LST,0
```

In the description line (;D:) the first number stands for the routine. In the configuration file options for the dendrogram (see below) are saved (and reloaded automatically the next time). It is not necessary that the configuration file exists. The list file contains the names of the individuals (in the example above, the localities). The last number is for further extensions and should be always zero.

The header may contain comments that will be printed in the graph with a different colour:

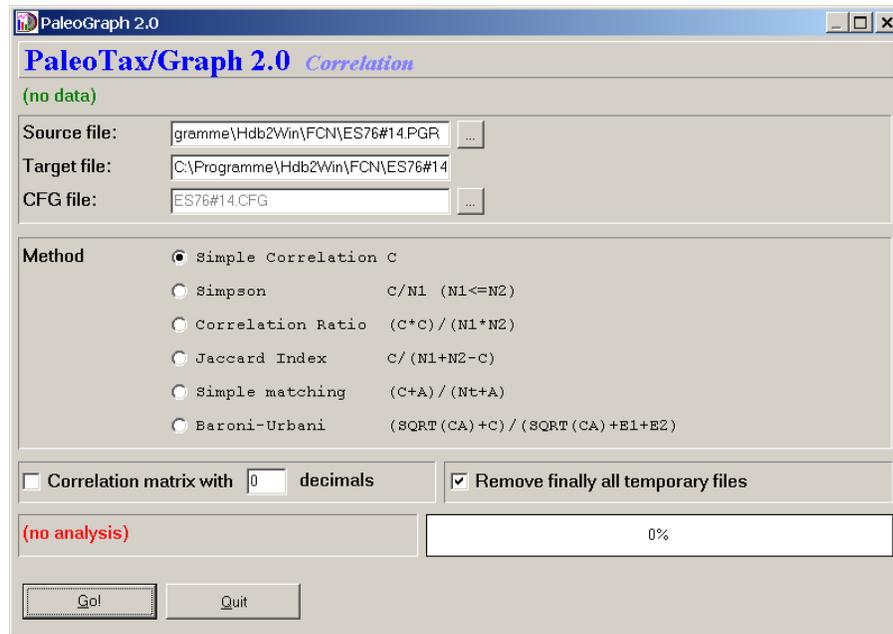
```
;I Correlation of areas with more than 4 species
;I March, 12, 2020
```

After the three heading description lines follow the data:

```
1 1155
2 1155
```

The first digit (five characters long) refers to the individuals in the list file; the item with the number 1 refers to the item in the first line of the list file. The second digit (5 characters long) is the characteristic (here, the number of the species). Bother digits are not separated ! The format of the line is 1111122222 where 11111 stands for the first digit and 22222 for the second digit.

The maximal number of pairs is restricted to 15,000, the number of individuals to 1,000. The value of individuals and characteristics at all may exceed this value up to 10,000, say, they may not be current. But the maximum of items which can be correlated, is limited to 1,000.



The processing is easy: select one of the methods, and click on **Go!**. The programme offers also the output of a correlation matrix. You have to tick the box and select the number of decimals.

The programme does not only the correlation, it calculates also a cluster diagram using the agglomerative single linkage method (Shi 1993). If successfully processed, the programme outputs a ASCII file with the extension CLT which contains the description of the cluster diagram with the following format:

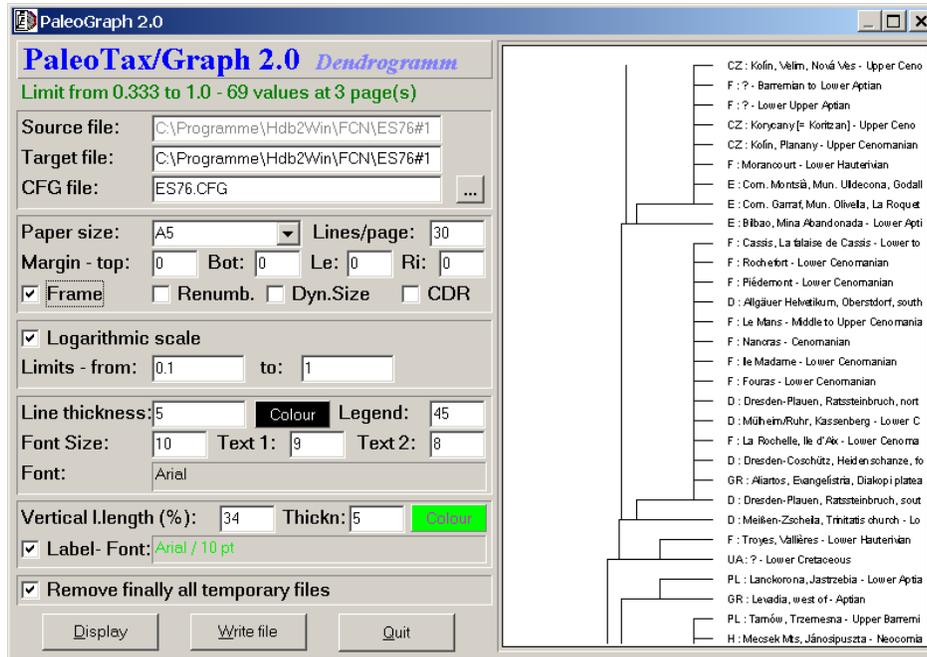
```
1  13  1.0000000  1
```

The first number (5 digits) indicate the first individual, the second number (5 digits) the second individual, which form a group (cluster) at the value indicated as third number (12 digits) resulting in the cluster indicated as fourth number (5 digits). The individuals are successively added to the diagram until it remains only one item.

The correlation module calls automatically the dendrogram module which opens the CLT file and calculates the dendrogram. At the present moment you have no influence on the methods used for building the tree.

3.2. Dendrogram

The dendrogram expects a file with the extension CLT which format is explained above, and the list file. The programme interprets the CLT file and constructs a cluster diagram (dendrogram). The diagram can have a maximum of 4096 individuals and can be distributed on 255 pages.

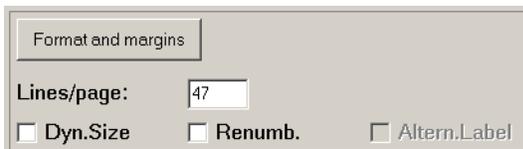


The window is divided into a left hand sided option part and a right hand sided preview part. When first called, the programme reads the input file and displays the dendrogram using default values.

The left hand option panel is subdivided in six sub panels. Above the first panel it shows the number of values, their range, and the number of pages.



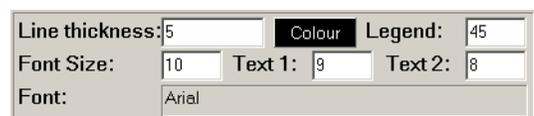
The first panel contains the source file (which normally cannot be modified since it comes from the dendrogram module), the target file and the configuration file.



The second panel defines the paper size and the margins (click on Format and Margins), and the lines per page. The first checkbox adapt the frame size to the number of items (if there are less items on the page than in "Lines/page" indicated) and the second checkbox changes the labels and number the items currently. The last checkbox can be marked if an alternative label file is available.



Normally the scale of the graph is linear, but by ticking this checkbox, it can be changed to logarithmic. Sometimes it results in a clearer graph. The limits are defined automatically, but can be set manually as well.



The fourth panel is dedicated to the lines and labels of the graph. The "Line thickness" is given in 0.1mm units. The colour can be selected in a dialog. The number behind "Legend" gives the percentage of the text on the right hand side of the graph. A low value gives more space to the dendrogram. The "Font size" applies when the text is undivided. When the text is separated by a tabulator into two parts, the font size in "Text 1" and "Text 2" are used, respectively. By clicking in the field behind "Font: ", the font can be selected.

Vertical l.length (%):	<input type="text" value="34"/>	Thickn:	<input type="text" value="5"/>	<input type="button" value="Colour"/>
<input checked="" type="checkbox"/> Label- Font:	<input type="text" value="Arial / 10 pt"/>			

labels for the lines are desired; the font can be selected by clicking in the field on the right.

For orientation, vertical lines can be drawn. The "Vertical line length" gives the percentage from the whole page length, measured from above. The thickness is as well in units of 0.1 mm. The colour may be select in a dialog. The checkbox "Label" should be ticked when

 Remove finally all temporary files

The programme creates a number of temporary files which normally can be removed.

When clicking on **Display** or hitting **SPACE**, the programme displays the first page. Via **PgDn** and **PgUp**, other pages can be displayed. Clicking on **Write file** force the programme to write the graph in WMF files. For each page, a separate (numbered) file will be created. **Quit** terminates the application.

3.3. Chart

The Chart module displays the ranges of taxa in time. It offers a wide range of functions of which only a small part is used by PaleoTax outputs. The chart has the form of a table: on the left hand side is a list of taxa, on the right hand side is a field for graphs which indicates an extend in time. Everything can be adapted: the paper size, the margins, the portion of the legend, the thickness of lines etc.

Time raster

An essential element of the chart programme is a time frame, which is supplied in a separate ASCII file with the extension PSC. The standard PSC file (STANDARD.PSC) looks like this:

```
Pli           -5.1
Mio           -22.5
Oli           -27
Eoc           -54.9
Tha           -62.3
Dan           -65
Maa           -71.3
Cam           -83.5
S             -85.79
C             -89
Tur           -93.5
...
```

It follows the format <name><tab><-ma>, where the name of the stage or period is followed by a tabulator and the numeric value. The value always corresponds to the base (lower limit) of the unit. So in the above example, the base of the Danian (Dan) is -65 ma. Stages and periods are abbreviated; later you will see, why. You may modify, add or delete values, you can even create your own PSC (**PaleoTax/Graph Scale**) time raster file and load it when you are working with the programme. The standard scale will be installed with the programme. It is very important that you compare your own time frame (as recorded in the table AGEIUGS) with the PSC file. It is very probable that you need to adapt the PSC file to the time frame you use. Not doing so may looking the charts strange.

File format

The PGR file has as a header and data part. The contains contains the description of the file:

```
;C: Chart Verbreitung der Gattungen auf der Basis der Arten
;C: Chart Stratigraphical distribution of the genera based on species
;D: 5, GENER2.CFG, STANDARD.PSC, 0, 0, 0
```

The first lines described the file in German and English, below follows the instruction line for the programme: The first value describes the mode (1 for standard chart, 5 for abundance chart), the two file names the configuration and

raster file (see below), and the three values at the end are only for internal use.

Afterwards follow the data part:

```
Aulastraeoporidae   Aulastraeopora -117.07   -112.2
Aulastraeoporidae   Aulastraeopora -121   -112.2
Aulastraeoporidae   Aulastraeopora -121   -110.6
Aulastraeoporidae   Aulastraeopora -117.07   -112.2
Aulastraeoporidae   Aulastraeopora -117.07   -112.2
Aulastraeoporidae   Aulastraeopora -98.9   -93.5
Aulastraeoporidae   Aulastraeopora -112.2   -106.18
Aulastraeoporidae   Blothrocyathus -127   -121
Aulastraeoporidae   Budaia   -121   -117.07
Aulastraeoporidae   Budaia   -121   -112.2
Aulastraeoporidae   Budaia   -115.11   -97.39
...
```

The data line has the following format:

```
text1[<tab>text2]<tab><value from><tab><value to>[<tab>color[<tab>bar thickness]]
```

Text1 and text2 can be genus and species or family and genus. The second part may be absent. Both value (from - to) consists of two digits (always negative values) separated by a <tab> or comma, giving the range. Bar colour and bar thickness are optional (not applied by PaleoTax output). The values can be separated by tabulators or commas.

PaleoTax output

Actually exist with SR9 only four profiles which export PGR files showing charts.

Species

Stratigraphy from indications (Chart) [Stratigraphie aus Indikationen (Chart)] : Calculates the **range and abundance** for each species from the indications, say from the localities which are assigned to the citations in the literature. - The output is automatically sorted according to current genus and species name.

Stratigraphical distribution (Chart) [Stratigraphische Verbreitung (Chart)] : Displays **only the ranges** of each species as recorded in the species table. The user may decide whether the standard range (as calculated for each species based on the indications) or critical range is used. - The output is not automatically sorted and it makes sense, the sort the table according to your need before starting the output.

The difference between both is, that the first profile gives more information because it values the abundance (chart bars have a differing thickness), whereas the second profile just shows the range and not more.

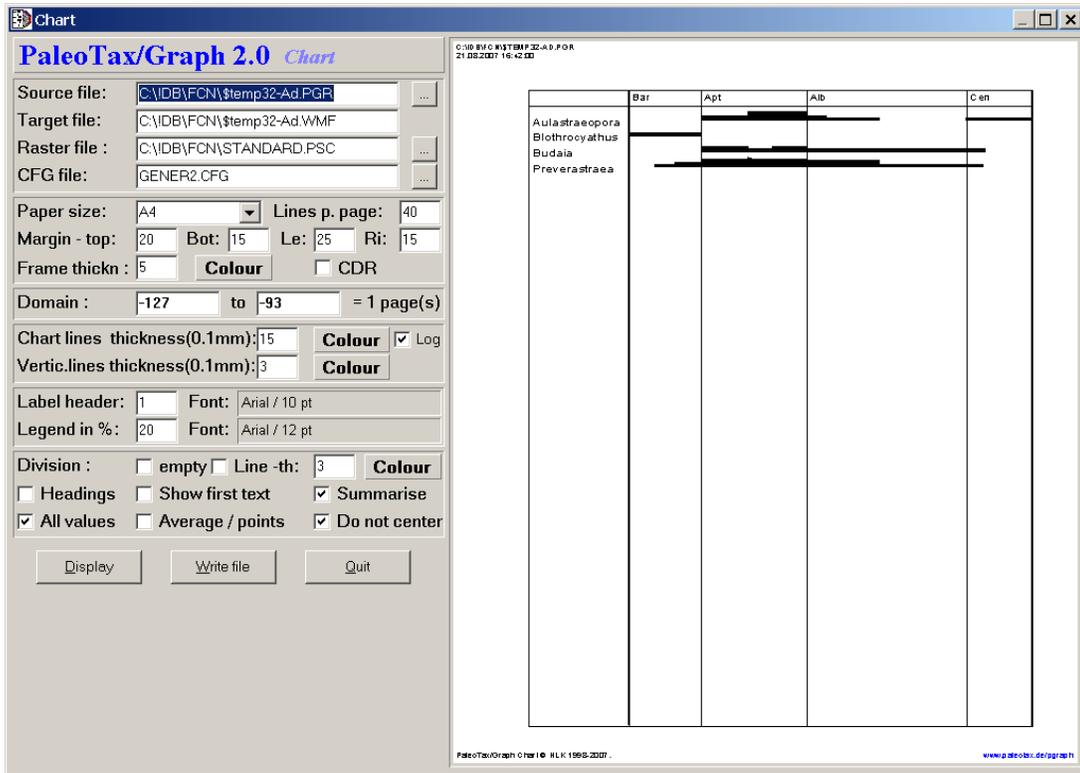
Genera

Stratigraphy based on species range (Chart) [Stratigraphie auf Arten basierend (Chart)] : Equivalent to above, the **range and abundance** for each genera is calculated on the base of the species. Also here, the user may select: the standard range (as calculated for each species based on the indications) or critical species range is used. Note that both may differ depending on data recorded. - The output is automatically sorted according to current family and genus name.

Stratigraphical distribution (Chart) [Stratigraphische Verbreitung (Chart)] : Displays **only the ranges** of genera as recorded in the genera table. The user may decide whether the standard range (as calculated for each genus based on the indications) or critical range is used. - The output is not automatically sorted and it makes sense, the sort the table according to your need before starting the output.

The difference between both is, that the first profile gives more information because it values the abundance (chart bars have a differing thickness), whereas the second profile just shows the range and not more.

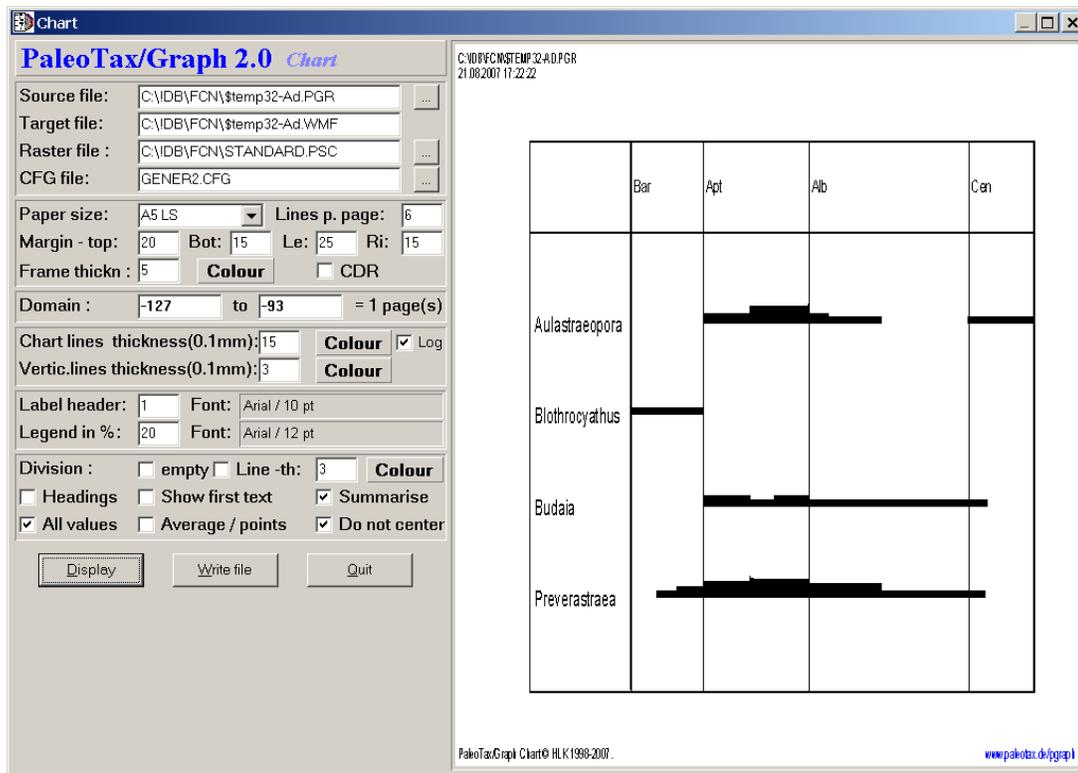
Depending on both methods (with and without abundance data) different procedures are applied.



Because the raster file was quite coarse for this chart, you can see some artefacts in the limit between Early and Late Aptian and in the limit between Aptian and Albian. It is therefore recommended to set the options "Adapt to the PSC raster file" on. What you can also see in the chart: the width of the columns correspond directly to the duration of the time span. Please compare directly below for details of the chart programme.

Only the ranges

The chart offers a wide range of options and the best way to use it, is to just try it. The result is immediately shown on the right hand side of the programme window.



The left hand option panel is subdivided in six sub panels. Above the first panel it shows the number of values, their range, and the number of pages.

Source file:	C:\IDB\FCN\temp32-Ad.PGR	...
Target file:	C:\IDB\FCN\temp32-Ad.WMF	...
Raster file :	C:\IDB\FCN\STANDARD.PSC	...
CFG file:	GENER2.CFG	...

The first panel contains the source file, the target file, the raster file and the configuration file.

The second panel defines the paper size and the margins as described above.

Domain :	-127	to	-93	= 1 page(s)
----------	------	----	-----	-------------

The third panel defines the time range of the chart and indicates the number of pages resulting from page size, lines per page and number of chart lines in the source file. You may modify the time range.

Chart lines thickness(0.1mm):	15	Colour	<input checked="" type="checkbox"/> Log
Vartic.lines thickness(0.1mm):	3	Colour	

You may change the colour and thickness of chart lines (in 0.1 mm) and vertical leading lines (in 0.1 mm). When the abundance function is used, the abundance can be linear (abundance multiplied with the base chart line thickness) or logarithmic. Tag the box Log to get the thickness logarithmically calculated.

Label header:	1	Font:	Arial / 10 pt
Legend in %:	20	Font:	Arial / 12 pt

'Label header' indicates the number of headlines, 'Legend in %' the percentage of space which will be occupied by the legend. Font, font size etc. may be modified by clicking in the boxes.

Division :	<input type="checkbox"/> empty	<input type="checkbox"/> Line -th:	3	Colour
<input type="checkbox"/> Headings	<input type="checkbox"/> Show first text	<input checked="" type="checkbox"/> Summarise		
<input checked="" type="checkbox"/> All values	<input type="checkbox"/> Average / points	<input checked="" type="checkbox"/> Do not center		

This panel contains offers various options.

‘Division’ defines how groups of taxa should be separated. This does not apply if the second text is empty. But normally, the first part is the family and the second the genus, or the first part is the genus and the second one the species. Let’s take the second case: species can be grouped by genera since the output is normally alphabetically classified. The separation between genera can be by a empty line (‘empty’) or by a horizontal line (‘Line’). In the latter case, line thickness (x 0.1 mm) and color can be defined.

If first and second part are present, headings can separated the groups (‘Headings’). If first and second part are present, the first part can be suppressed in the list (this makes sense if heading is tagged).

3.4. X-Y-Diagram

The x-y-diagram file has the following format:

(1) Head lines

```
;C: XY Diagram Test
;D: 6,XYD.CFG,0
```

(2) Description

```
LABEL HEAD;X-Y-Diagram Test
LABEL X;X axis label
LABEL Y;Y axis label
```

(3) Data

Data point:

```
DATA POINT;x-value;y-value;label;colour as hex value
DATA POINT;15;150;Point 1;FF
```

Data line:

```
DATA LINE;x-start-value#x-end-value;y-start-value#y-end-value;label
ATA LINE;10#12;120#130;Line 1
```

Rectangle:

```
DATA AREA;x-start-value#x-end-value;y-start-value#y-end-value;label
DATA AREA;13#14;125#135;Area 1
```

See below the result of the above example data:

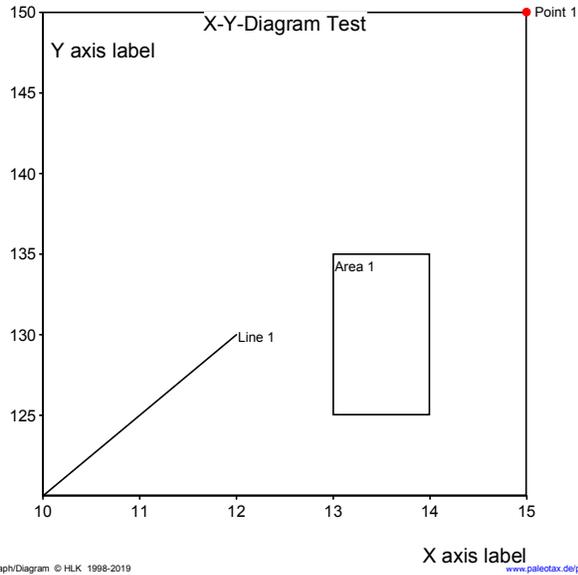
In the case of an abundance chart, ‘Summarise’ has to be tagged.

‘All values’ means, that all text lines printed, independently whether the bar is visible or not. This might be the case, when the range was manually adapted and one or various bars become out of range.

‘Average / points’ is only valid for non abundance charts: the average range is calculated and plotted as a dot.

‘Do not center’ is only useful for abundance charts: normally the bars are centred, but varying thickness are more obvious when the have a unique baseline, e.g. the bars are not centred.

E:\TURBODOKUM\PGGRAPHXYD-EXAMPLE.WMF
07.01.2020 17:49:41



PaleoGraphDiagram © HLK 1998-2019

www.paleotax.de/pggraph

3.5. Percentage Bar

The percentage bar file has the following format:

(1) Head lines

```
;C: Distribution (PGR BAR)
```

```
;D: 8, ORDBAR.CFG, dummy,
```

(2) Labels and colours

L, ID

First number, index

Name, Name of the unit

Second number (hexadecimal), colour

```
L<tab>2, Amphiastraeina, $800040
```

```
L<tab>4, Archeocaeniina, $FF0080
```

```
L<tab>9, Caryophylliina, $FF0000
```

```
L<tab>12, Dendrophylliina, $FF8000
```

```
L<tab>16, Faviina, $FFFF00
```

```
L<tab>17, Fungiina, $17FD96
```

```
L<tab>20, Heterocoeniina, $8000
```

```
L<tab>22, Meandrinina, $57F9B0
```

```
L<tab>23, Microsolenina, $FFFF
```

```
L<tab>27, Poritina, $80FF
```

```
L<tab>30, Rhipidogyrina, $FF
```

```
L<tab>34, Stylinina, $80
```

(3) Bars

V, ID

First number, number of bar (several bars can be displayed at the same time)

Second number, index referring to the above list

Third value, absolute value (percentage values are calculated)

V<tab>1,4,4

V<tab>1,16,8

V<tab>1,17,12

V<tab>1,20,4

V<tab>1,22,5

V<tab>1,23,16

V<tab>1,30,2

V<tab>1,34,1

(4) Label for bars

T, ID

First number, index referring to the bar

Text, name of the bar

T 1,Samples (52 Species)

3.6. Table

The table has the following format:

(1) Header lines

;C: Weekend activities

;D: 31,Weekend.CFG,,0,0,0

(2) Options

SET <keyword>,<column>,<value>

Font type

SET FONT, <column>,Font name

SET FONT,1,Arial

Font size

SET FSIZE,<column>,Font size

SET FSIZE,1,12

Font Style (bitwise coding: 1, bold; 2, italics; 4, underlined; 8, strike-out)

SET FSTYLE,<column>,Font Style

SET FSTYLE,1,2

Font Colour (hexadecimal or decimal)

SET FCOLOR,<column>,[&]Font Color

SET FCOLOUR,1,\$FF

Width of the column (in %), must be at least 3%, values for all columns must be indicated

SET WIDTH,ID,% value

SET WIDTH,1,10

(3) Data

```

Work                                Write a paper
                                    Examine material
No Work    Beach                    Kino
                                                San Carlos
                City    Cinema    Cinemax
                                                Other
                        Pub    7/11
                                                Verbena
                Stay at home                Watch TV
                                                Invite friends
                                                Watch a movie
    
```

Results in:

Work		Write a paper
		Examine material
No Work	Beach	Kino
		San Carlos
	City	Cinema
		Cinemax
	Pub	Other
		7/11
	Stay at home	Verbena
		Watch TV
Invite friends		
		Watch a movie

Text fields may have two lines. A line break can be forced with the character ~. A text starting with \\ addresses a JPG image file. The height of the image is adapted to the line height. The following source code

```

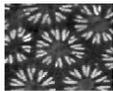
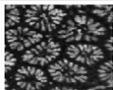
;C: (133) Test-Picture
;D: 31,TEMP.CFG,,0,0,0
SET FSTYLE,4,2
SET WIDTH,1,22
SET WIDTH,2,22
SET WIDTH,3,22
SET WIDTH,4,22
SET WIDTH,5,10
    
```

```

Ohne Pali                Coenosteum mit großen Trabekeln                Actinastrea
                        \\E:\Papers\GOSAU\DATEN\JPG\ABB1.JPG
                        Coenosteum mit Rippen                Stelidioseris
                        \\E:\Papers\GOSAU\DATEN\JPG\ABB439.JPG

Pali vorhanden                Columactinastraea \\E:\Papers\GOSAU\DATEN\JPG\ABB506.JPG
    
```

creates the following table:

Ohne Pali	Coenosteum mit großen Trabekeln	<i>Actinastrea</i>	
	Coenosteum mit Rippen	<i>Stelidioseris</i>	
Pali vorhanden		<i>Columactinastraea</i>	

3.7. *Vector programming*

Sometimes it is necessary to create labels that not only have text and numbers but also graphic elements. In this version, text files with specific commands are translated into graphs.

The file has the following format:

```
(1) Header lines
;C: Vector Labels
;D: 33,MLABEL.CFG,,,
```

(2) Source code

All positions are given in millimetres. You should know your target format (the paper size).

Commands:

```
goto                x,y
```

Moves the graphic cursor to a specific position. Zero for both values is the top left of the page.

```
line                x,y
```

Draws a line from the present to the indicated position.

```
text                text,font pt,font name,font colour,font style
```

Writes a text at the present position with the given text attributes. If no attributes are given, the formerly applied attributes are used.

```
rect                x,y
```

Draws a rectangle from the present to the indicated position.

```
textbox            "text",x,y, font pt,font name,font colour,font style
```

Writes a text in a specified box (from the current position to the indicated position)

```
circle            diameter, line thickness, line color, fill colour
```

Draws a circle with the given attributes.

```
image            file name, width, line thickness, line color
```

Loads and displays an image.

Settings:

Settings are optional but may increase the speed and reduce files size.

```
setlinethickness  line thickness
```

```
setlinecolour    line colour
```

```
setfontcolour    font colour
```

```
setfillcolour    fill color
```

```
setfont          font name
```

```
setfontsize      font size
```

```
setfontstyle     font style
```

The colours are colour names, see the following table (created by the same vector programme).

 aliceblue	 darkorchid	 khaki	 mediumspringgreen	 sandybrown
 antiquewhite	 darkred	 lavender	 mediumturquoise	 seagreen
 aqua	 darksalmon	 lavenderblush	 mediumvioletred	 seashell
 aquamarine	 darkseagreen	 lawngreen	 midnightblue	 sienna
 azure	 darkslateblue	 lemonchiffon	 mintcream	 silver
 beige	 darkslategray	 lightblue	 mistyrose	 skyblue
 bisque	 darkslategrey	 lightcoral	 moccasin	 slateblue
 black	 darkturquoise	 lightcyan	 navajowhite	 slategray
 blanchedalmond	 darkviolet	 lightgoldenrodyellow	 navy	 slategrey
 blue	 deeppink	 lightgray	 oldlace	 snow
 blueviolet	 deepskyblue	 lightgreen	 olive	 springgreen
 brown	 dimgray	 lightgrey	 olivedrab	 steelblue
 burlywood	 dimgrey	 lightpink	 orange	 tan
 cadetblue	 dodgerblue	 lightsalmon	 orangered	 teal
 chartreuse	 firebrick	 lightseagreen	 orchid	 thistle
 chocolate	 floralwhite	 lightskyblue	 palegoldenrod	 tomato
 coral	 forestgreen	 lightslategray	 palegreen	 turquoise
 cornflowerblue	 fuchsia	 lightslategray	 paleturquoise	 violet
 cornsilk	 gainsboro	 lightsteelblue	 palevioletred	 wheat
 crimson	 ghostwhite	 lightyellow	 papayawhip	 white
 cyan	 gold	 lime	 peachpuff	 whitesmoke
 darkblue	 goldenrod	 limegreen	 peru	 yellow
 darkcyan	 gray	 linen	 pink	 yellowgreen
 darkgoldenrod	 grey	 magenta	 plum	
 darkgray	 green	 maroon	 powderblue	
 darkgreen	 greenyellow	 mediumaquamarine	 purple	
 darkgrey	 honeydew	 mediumblue	 red	
 darkkhaki	 hotpink	 mediumorchid	 rosybrown	
 darkmagenta	 indianred	 mediumpurple	 royalblue	
 darkolivegreen	 indigo	 mediumseagreen	 saddlebrown	
 darkorange	 ivory	 mediumslateblue	 salmon	

Text style is coded as follows,

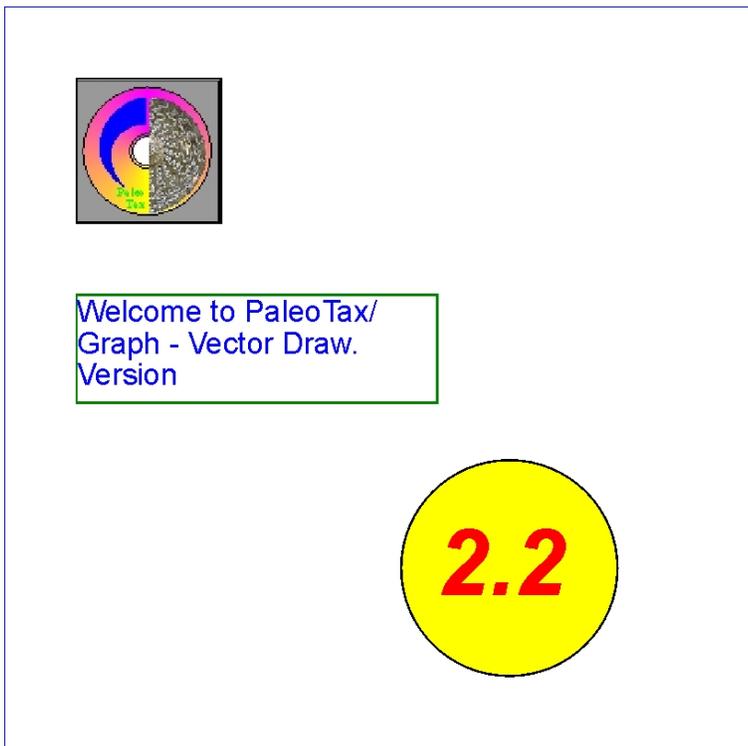
- 1, bold
- 2, italics
- 4, underline
- 8, strikeout

You may combine by adding the values. Bold and underline is 5 (1+4), italics and bold is 3 (1+2).

The following script

```
;C: Vector - Test
;D: 33,TEST.CFG,,
goto 10,10
image E:\Turbo\SRC\ptx_logo.jpg,20,0.2,black
goto 10,40
rect 50,15,0.25,green
textbox "Welcome to PaleoTax/ Graph - Vector Draw. Version
",50,15,12,Arial,blue,2
goto 70,78
circle 15,1,black,yellow
goto 60,70
text "2.2",36,Arial,red,3
```

creates the following image:



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E-Mail info@paleotax.de

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