OCEAN DRILLING PROGRAM

PALEONTOLOGY ANALYSIS LOG (PAL)

USER'S MANUAL

Delivered Leg 187

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Introduction

Paleontology Analysis Log (*PAL*) is a program designed to aid in the analysis and recording of fossil data. The data entered is subsequently saved to the central database. The main working window is a spreadsheet similar in appearance and function to Excel.

Document Layout

This document is broken up into five sections. "Shipboard Preparation and *PAL* Quick Guide" details how to prepare the *PAL* program before arriving at the first drill site. It also contains a quick guide to running *PAL*, with references to more in-depth explanations. *"Getting Started"* describes the login procedure and special features. *"Main Windows & Their Functions"* describes each window in depth and the functions each performs. *"Entering Data"* describes the multiple ways to enter data and any special do's or don'ts. Finally, *"Special Features"* describes, in-depth, how to import and export data, including troubleshooting tips.

Shipboard Preparation & PAL Quick Guide

Shipboard Preparation Procedures

The following are procedures to complete before the ship reaches the first drill site. These procedures will not only save you time, but also provide an opportunity to learn the program.

1. Bring your "Taxa", "Zone", "Age" and "Datum" lists to the ship with you.

2. Enter, import into, or select these lists in the *PAL* **"Test"** database. If you have the lists in a program such as Excel, import them into *PAL*. If not, enter or select them from the *PAL* program to make the tables of information (See "Importing" p. 32).

3. **Before reaching the first site**, export all the tables you made in the "Test" database to another program such as Excel (See "Exporting" p. 29).

4. After reaching the drill site, import all the tables back into the *PAL* **"Production"** database (See "Importing from Test to Production Mode" p. 36).

5. Be sure to enter all data into the **"Production"** mode of *PAL*.

Quick Guide to PAL

Setting-Up

1. Start the program by double clicking on the *PAL* icon.

2. Login to *PAL* by entering your User Name, Password and Host String in the "Login" window (See "Getting Started" p. 4).

3. Select the Fossil Group that you will be studying from the "Select Fossil Group" window. This becomes the title of your spreadsheet and links your information lists (zones, etc.) to your fossil group (See ""Select Fossil Group" Window" p. 10).

4. Select a list of datums that you think might occur during the leg (See ""Datums Dictionary" Window" p. 15)

5. Select one or more lists of taxa from the "Taxa Dictionary" window. Select all the taxa you might use in future spreadsheets. This list becomes your personal "User's Dictionaries" (See ""Taxa Dictionary" Window" p. 18).

> **NOTE: Skip the previous step if you have already set up**
> **your "User's Dictionaries" pre-leg or during transit.**

6. Select your list of zones from the "Select Zones" window. This list will be available for use at the main spreadsheet (See ""Select Zones" Window" p. 11).

7. Select your list of geologic ages from the "Select Geologic Ages" window. This list will also be available for use at the main spreadsheet (See ""Select Geologic Ages" Window" p. 13)

8. Select a list of taxa specific for the current spreadsheet you are working on. Select these taxa from one or more of your personal User's Dictionaries at the "Select Taxon" window (See ""Select Taxon" Window" p. 21).

9. Select the samples you want to analyze at the "Select Samples" window. These are samples that have already been entered into the Janus database. Once selected, the samples are exported to the spreadsheet (See ""Select Samples" Window" p. 23).

10. Enter data in your spreadsheet. Data can be typed in, or use the **List** button to display a list of choices for each cell. **Unsaved data is always underlined in red**. **Be sure to save the data before opening a new spreadsheet or exiting the program** (See "Entering Data" p. 24).

Reports

All data saved to the Janus database is accessible from reports in the Pre-defined Queries, which are available through JanusWeb. You can access a report at any time by using the **Reports** option on the spreadsheet menu (See "Menu Options" p. 6).

Import/Export

Data from Excel spreadsheets can be imported into the *PAL* program. Spreadsheets can also be exported from *PAL* to Excel. Use the **Import** and **Export** functions available from the **Paleo** menu (See "Special Features" p. 29).

> **Note: Several problems can occur during import and export, so be sure to read the, "Special Features" section, which describes all aspects of importing and exporting.**

Getting Started

Opening PAL

To start the program, double click on the *PAL* icon. This opens the "Login" window.

Figure 1.Login window for PAL

Login information

Enter your **User Name**, **Password** and **Host String** at this window. **PAL automatically remembers the last setup used on the current station**. You can also set it to remember your password by checking the "Remember Password" box.

After logging on, the program automatically defaults to the previous user's spreadsheet and fossil group at that station. If you were not the previous user, select your fossil group of choice (See ""Select Fossil Group" Window" p. 10).

Later, you will also select a list of zones, ages, taxa and datum for use during analysis. Once you select these lists, **they are automatically linked to your fossil group**. Whenever you login and select your fossil group, your default lists will automatically be available to you.

If more that one paleontologist is working on the same single fossil group, it is recommended that all scientists entering data for that fossil group use one common **User Name** and **Password**. This method allows all analyzed samples to be displayed together in *PAL*. If each user has their own ID, *PAL* displays <u>only</u> those samples the individual user analyzed. See the MCS to set up a common User Name/Password.

Main Windows & Their Functions

Once you login, the main *PAL* window opens. Like Excel, it is a spreadsheet into which all data is entered. It has several features, which are described below (See Figure 2).

\Spreadsheet Description

Figure 2 shows the default spreadsheet that opens after you login. Notice the title here "PAL: Planktonic Foramifers". **The title of <u>your</u> spreadsheet will be the fossil group that you select.**
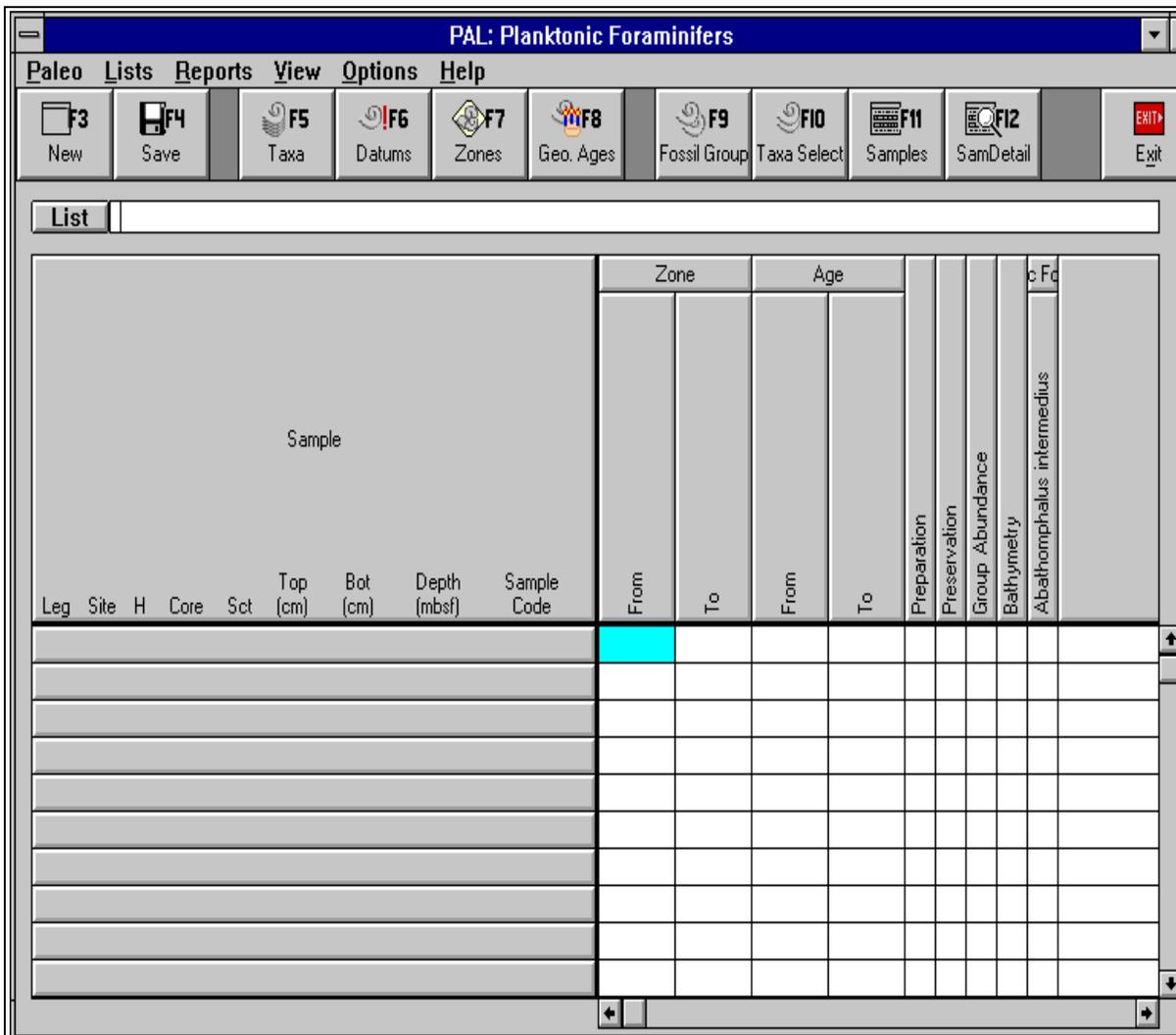

Figure 2.Main window and spreadsheet in the PAL program.

1. The left side of the window is labeled **Sample**. Sample information is selected on the "Select Samples" window and exported here (See ""Select Samples" Window" p. 23).

2. The right side of the window displays all descriptors:

   - **Zone**, **age**, **preparation**, **preservation**, **group abundance**, and **bathymetry** are default columns.

   - **Taxa** are selected on the "Select Taxon" window and exported here. They will appear as columns on this spreadsheet (See ""Select Taxon" Window" p. 21).

3. A menu bar is displayed at the top of the window for selecting *PAL* options.

4. A toolbar with buttons of the most used functions is displayed under the menu bar.

5. An entry prompt appears under the toolbar. When typing data into a cell, the information is also displayed here. **Besides typing, you can also use the List button to display a list of choices for the highlighted cell.**

6. Enter any comments on the far right side of the screen.

Menu Options

⊟	PAL: Nannofossils
Paleo Lists Reports View Options Help	

Figure 3.The menu options on the PAL spreadsheet.

Click on a menu option to display its list of selections. Select an option by clicking on it with the mouse.

Under Paleo

- New Spreadsheet – opens a blank spreadsheet. Be sure to save before selecting New or any unsaved data (data underlined in red) from the current spreadsheet will be deleted.

- Save data – saves data to the central database.

- Export – exports data to another program such as Excel (See "Exporting" p. 29).

- Import – imports data back into *PAL* from another program (See "Importing" p. 32).

- Exit – completely exits from the *PAL* program.

Under Lists

- Fossil Group **–** opens the "Select Fossil Group" window. Same as the **Fossil Grp** button or the **F9** key (See ""Select Fossil Group" Window" p. 10).

- Taxa Dictionary - opens the "Taxa Dictionary" window. Same as the **Taxa** button or the **F5** key (See ""Taxa Dictionary" Window" p. 18).

- Datums - opens the "Datums Dictionary" window. Same as the **Datums** button or the **F6** key (See ""Datums Dictionary" Window" p. 15).

- Zones – opens the "Select Zones" window. Same as the **Zones** button or the **F7** key (See ""Select Zones" Window" p. 11).

- Geologic Ages - opens the "Select Geologic Ages" window. Same as the **Geo Ages** button or the **F8** key (See ""Select Geologic Ages" Window" p. 13).

- Taxa Select – opens the "Select Taxon" window. Same as the **Taxa Select** button or the **F10** key (See ""Select Taxon" Window" p. 21).

- Samples – opens the "Select Samples" window. Same as the **Samples** button or the **F11** key (See ""Select Samples" Window" p. 23).

Under Reports

- Range Chart
- Investigations
- Age Model
- Age Profile
- Dictionary
- Species

Information about reports can be accessed from "Predefined Queries" on Janus Web.
http://www-odp.tamu.edu

> **Note: Click on a report to open Netscape and the report in JanusWeb. Once you open one report, it should be much faster to open a second, as Netscape is already running.**

Under View

- Sort by Alpha – sorts all taxa columns in the spreadsheet by alphabetical order.

- Sort by FO – sorts all taxa columns by first occurrence.

- Sort by LO – sorts all taxa columns by last occurrence.

- Abbreviated View - basic view; shows general data for each taxa.

- P/A Det. Sam. Col. - shows only the presence or absence of each taxa in the samples.

- R/C Det. Sam. Col. - shows only whether each taxa has been reworked or contaminated for the samples.

- Rel. Abundance Col. - shows only the relative abundance of each taxa in the samples.

- Percent Col. - shows only the percent of each taxa in the samples.

- Count Col. - shows only the count of each taxa in the samples.

> **Note: Whichever view is selected when you exit the program remains selected when it is re-opened.**

Under Options

- Setup reports – opens the "Setup Reports" window (See Figure 4). This is where the web browser and report URLs are entered for accessing the reports in JanusWeb. These should already be set, so you should never need to use this window. If you have problems, contact your MCS.
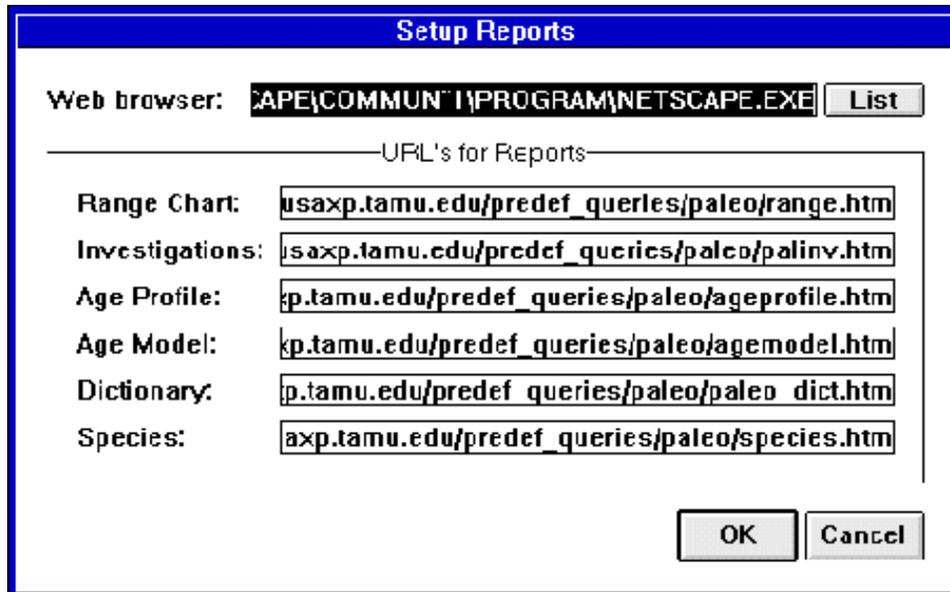

Figure 4.The "Setup Reports" window.

- Change Header Font – changes the font size on the spreadsheet.

Under Help

- Index – this selection not developed yet.

- About Paleo – displays copyright information about the *PAL* program.

Toolbar Features

Figure 5.Toolbar buttons on the "PAL" spreadsheet.

- **New** or **F3**– opens a new spreadsheet. Clicking on **New** displays the message shown below only if you have any unsaved changes on the current spreadsheet. Click on **Yes** to save the unsaved data (data underlined in red). Click on **No** to delete the unsaved data.

- **Save** or **F4**– saves all data to the central database.

- **Taxa** or **F5** – opens the "Taxa Dictionary" window (See ""Taxa Dictionary" Window" p. 18)

- **Datums** or **F6** - open the "Datums Dictionary" window (See ""Datums Dictionary" Window" p. 15).

- **Zones** or **F7** – opens the "Select Zones" window (See ""Select Zones" Window" p. 11).

- **Geo Ages** or **F8** - opens the "Select Geologic Ages" window (See ""Select Geologic Ages" Window" p. 13).

- **Fossil Group** or **F9** – opens the "Select Fossil Group" window (See ""Select Fossil Group" Window" p. 10).

- **Taxa Select** or **F10** – opens the "Select Taxon" window (See ""Select Taxon" Window" p. 21).

- **Samples** or **F11** – opens the "Select Samples" window (See ""Select Samples" Window" p. 23).

- **SamDetail** or **F12** - opens the "Sample Taxa" window (See "Viewing Samples in Detail" p. 27).

- **Exit** – closes the *PAL* program. Clicking the **Exit** button displays the message shown below. Click **Yes** to save any unsaved data (data underlined in red) on the spreadsheet. Click **No** to delete any unsaved data.
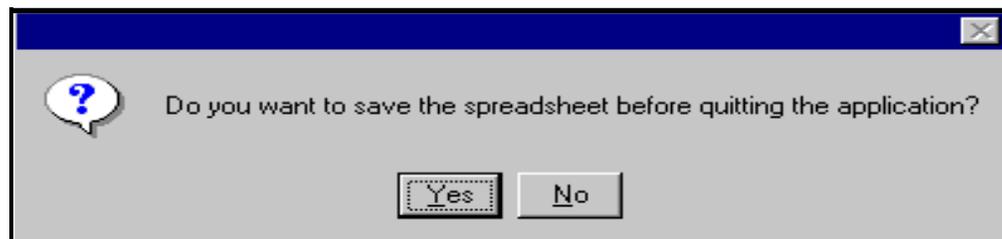
"Select Fossil Group" Window

First you must select a Fossil Group. Open this window by clicking on the **Fossil Grp** button or the **F9** key, or by selecting it from the **Lists** menu.
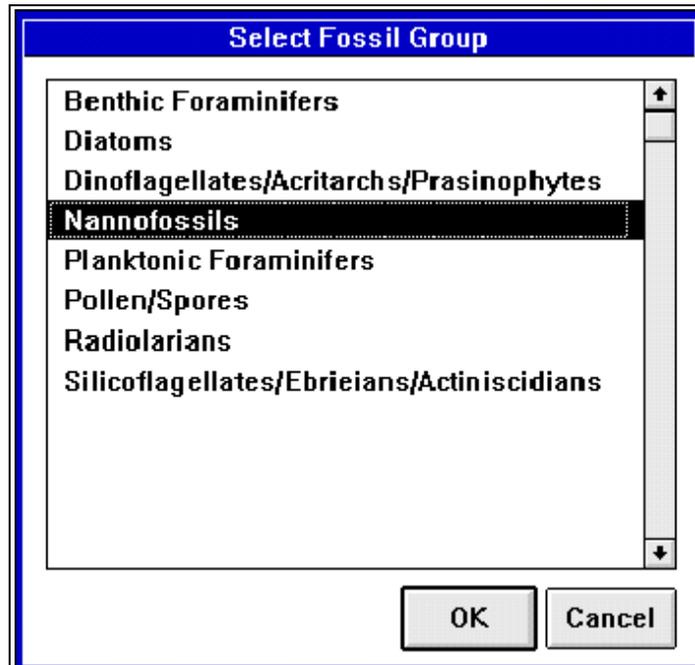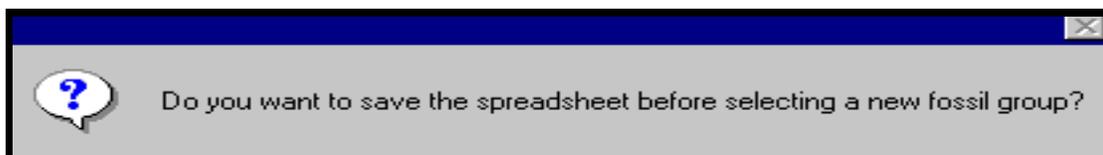

Figure 6.The "Select Fossil Group" window.

This window lists the database **Fossil Groups**. Select a group by double clicking on it, or by highlighting it first, then pressing either the <**Enter**> key or the **OK** button.

After selecting the fossil group, you will next select zones, ages, taxa, datums and samples (future windows). These selections are attached to your fossil group and your login ID. The next time you log in and select a fossil group, these selections will automatically appear on your spreadsheet, and will be available at their respective windows.

If you click on the **Fossil Grp** button before saving any data on the current spreadsheet, the following message will appear. Be sure to save before selecting a new fossil group or else all unsaved data (data underlined in red) will be lost.

"Select Zones" Window

After your Fossil Group, you must next select Zones. Open this window by pressing the **Zones** button or the **F7** key, or by selecting it from the **Lists** menu.
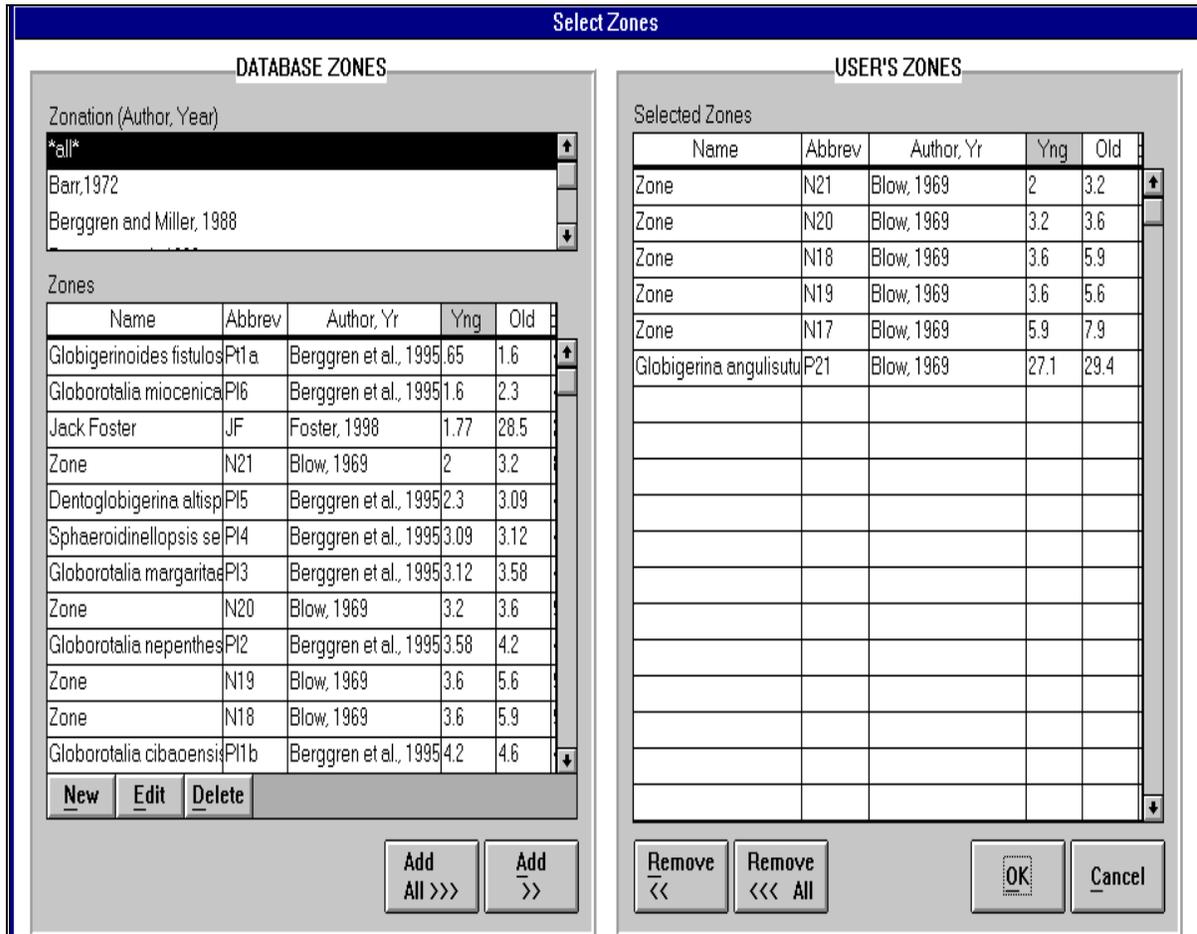

Figure 7. The "Select Zones" window.

- All possible **Zones** and **Zonations** (author, year) for your fossil group are listed under the **Database Zones** heading.

- Select a zonation by clicking on your choice. Use the up and down arrow keys to scroll through the list. Selecting a zonation causes a list of zones to be displayed in the **Zones** box.

- By default, the zone list is sorted by **Name**. You can also sort the zones by **Abbrev., Author/Yr., Yng** (youngest to oldest), or **Old** (oldest to youngest) by clicking on the top of the column. For example, if you want to sort by Old, click on the word "Old."

- Select the zones that you want to be available as choices at the spreadsheet by either double clicking on them, or by highlighting one first and then clicking **Add**. Use the

up and down arrow keys to scroll though the list of zones.

> **Note: highlight multiple zones by holding down the shift key
> while clicking on individual zones.**

• Select all zones displayed by clicking **Add All**.

• The zones you select appear on the right side in the **User's Zones/Selected Zones** box. You can also sort the selected zones by Name, Abbrev, Author/Yr, Yng, or Old.

• Remove a zone at any time by highlighting it and clicking **Remove** for one, or **Remove All** to de-select all zones.

• Once you've selected the zones you want, click **OK** and they are exported to the spreadsheet. There they are saved as a list, which is displayed by clicking on the **List** button while a zone cell is highlighted (See "Entering Data" p. 24).

"Select Geologic Ages" Window

After selecting zones, next select the geologic ages. Open this window by clicking on the **Geo Ages** button or the **F8** key, or by selecting it from the **Lists** menu.
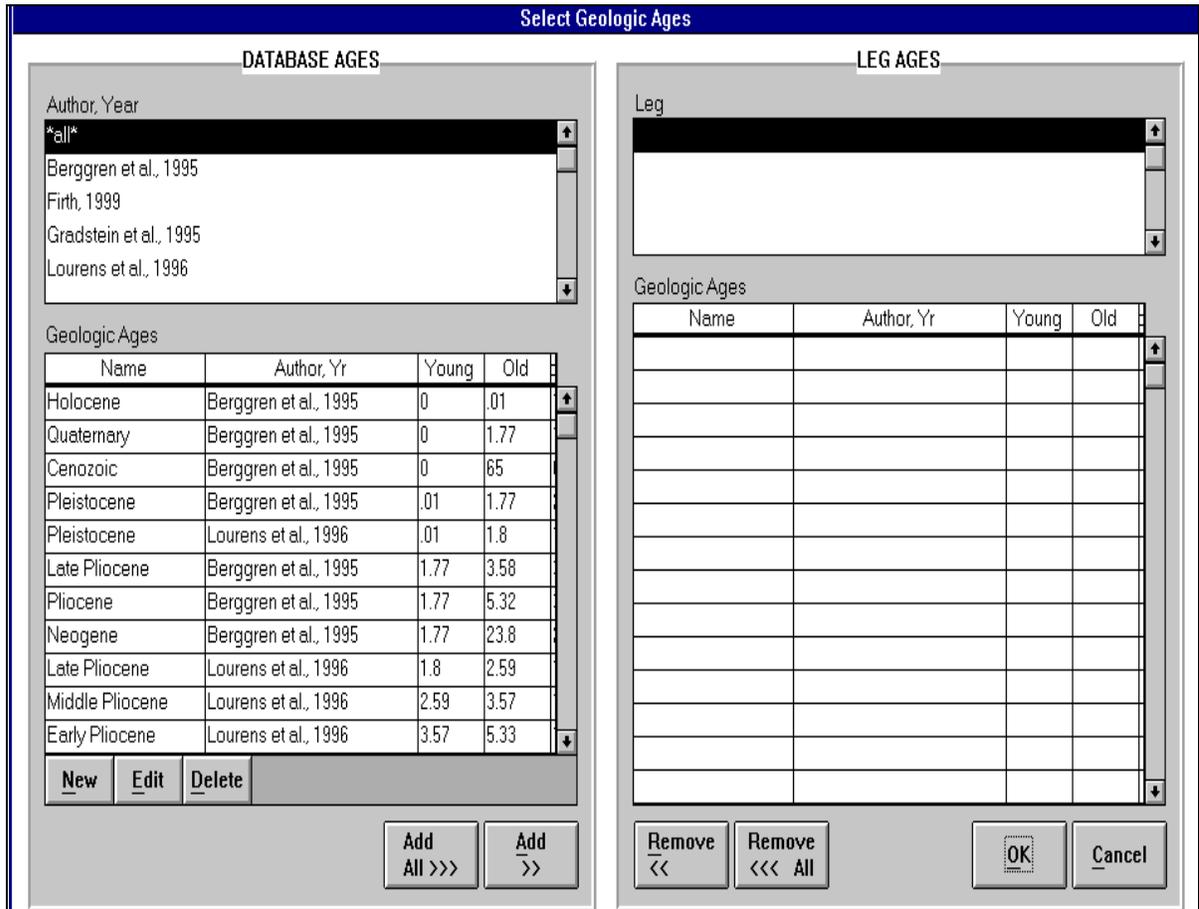

Figure 8. The "Select Geologic Ages" window.

- First, select the **Author, Year** from the **Database Ages** box. Select one by clicking on it once. This displays a corresponding list of **Geologic Ages** in the lower left box.

- **By default, the geologic ages are sorted by age, from youngest to oldest** (see the "Young" column in Figure 7). You can choose to sort the geologic ages by **Young** (youngest to oldest), **Old** (oldest to youngest), **Name**, or **Author, Yr**. Do this by clicking at the top of the **Geologic Ages** column that you want to sort by (e.g. if you want to sort by name, click on the word "Name" at the top of that column).

- Select a geologic age by either double clicking on it, or by highlighting it and clicking **Add** to select one. Click on the **Add All** button to select all ages listed. The selected ages are displayed in the **Geologic Ages** box under the **Leg Ages** heading.

- Select the current leg number from the Leg box. This assigns the selected geologic

ages to that leg. Use the up and down arrow keys to scroll through the list.

- Remove an age at any time by highlighting it and clicking **Remove** for one, or **Remove All** to de-select all ages.

- Clicking **OK** exports all ages to the spreadsheet as a list. You can view this list by highlighting a cell under the **Age** columns and clicking the **List** button (See "Entering Data" p. 24).

Adding, Editing or Deleting Geologic Ages

1. **Add a new geologic age** by clicking on the **New** button. This opens the "Geologic Age Entry" box (See Figure 8). Enter all pertinent information and click **OK**. This adds the new geologic age to the database and can now be selected from the "Select Geologic Ages" window.
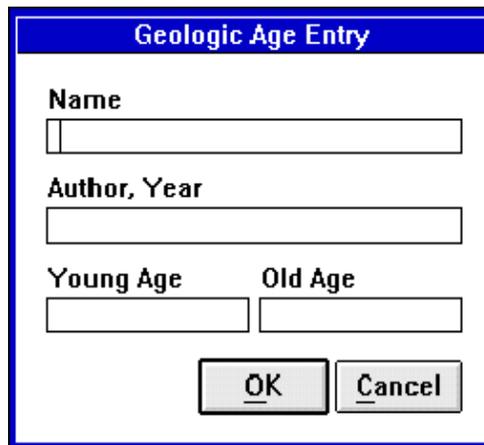
Figure 9. Enter new geologic age information here.

2. **Edit an existing geologic age** by clicking on an age, then the **Edit** button. If you did not enter the geologic age that you wish to edit, a warning is displayed (see below). Click **OK** to continue or **Cancel** to stop. Clicking **OK** opens the geologic age's entry box (See Figure 8). Edit the age and click **OK**.

3. **Delete an existing geologic age** by clicking on an age, then the **Delete** button. If you did not enter the geologic age that you wish to delete, the same warning as above is displayed. Click **OK** to continue or **Cancel** to stop. Clicking **OK** immediately deletes the age.

"Datums Dictionary" Window

Before reaching a drill site, select a list of datums that might occur during the leg. Open this window by clicking on the **Datums** button or **F6** key, or by selecting it from the **Lists** menu.

Figure 10. The "Datums Dictionary" window.

1. First, select a **Subdivision** by clicking on it once. Use the up and down arrow keys to scroll through the list. Selecting a subdivision causes a list of corresponding genus/ subgenus and species/subspecies to be displayed in their respective boxes.

2. Next, select either a genus or a species to display a list of all related datums in the **Datums** box. Use this list of possible datums to select those that you will use during the leg.

3. By default, the datums list is sorted by **Datum**. You can also select to sort them by **Type, Age,** or **Author/Yr** by clicking on the top of the column. For example, if you

wanted to sort by age, you would click on the word "Age."

4. Select a datum by either double clicking on it, or by highlighting it and then clicking the **Add** button. Click on the **Add All** button to select all the datums listed. All datums that you select are listed in the **Selected Datums** box.

5. Remove a datum from the **Selected Datums** box at any time by highlighting it and clicking the **Remove** button for one, or the **Remove All** button to de-select all datums.

6. Assign the selected datums to the current leg by selecting a leg number from the **Leg** box. Use the up and down arrow keys to scroll through the list.

Adding, Editing or Deleting Datums

1. **Add a new datum** by clicking on the **New** button. This opens the "Datum Entry" window (See Figure 9). Fill in and select all pertinent information (using the arrows to scroll up and down, or to display drop down lists) and click **OK**. The new datum is added to the database datum dictionary.

Figure 11. Enter new datum information here.

2. **Edit an existing datum** by clicking on the datum, then the **Edit** button. If you did not

enter the datum that you wish to edit, you will receive the warning below. Click **OK** to continue or **Cancel** to stop. Clicking **OK** opens the datum's entry window (See Figure 10). Edit the datum then click **OK**.

This datum was not entered by you. Press OK if you are sure you want to edit or delete it.
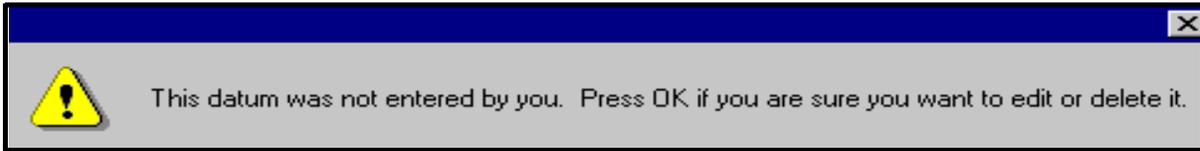
3. **Delete an existing datum** by clicking on a datum, then the **Delete** button. If you did not enter the datum that you wish to delete, you will receive the above warning. Press **OK** to continue or **Cancel** to stop. Clicking **OK** immediately deletes the datum.

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"Taxa Dictionary" Window

Next, select one or more "User's Dictionaries" of taxa. At this window, select one or more lists of all possible taxa that you might use in a spreadsheet. These become your personal dictionaries. **Later, you will use your personal dictionaries to select taxa for individual spreadsheets**. Open this window by clicking the **Taxa** button or **F5** key, or by selecting it from the **Lists** menu.
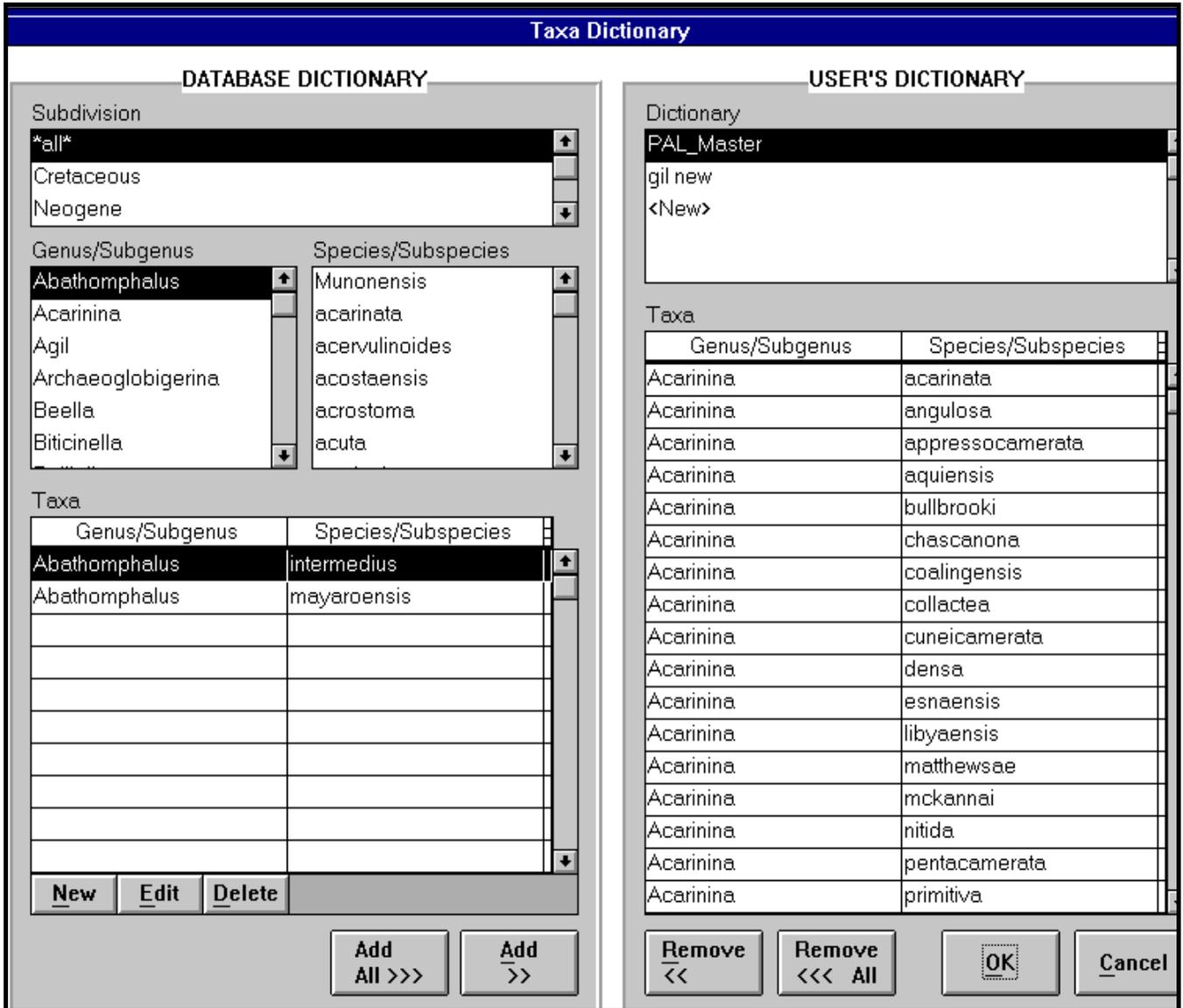

Figure 12. The "Taxa Dictionary" window.

Selecting a Dictionary Name

Before selecting taxa, you must indicate the name of the **User's Dictionary**. If you are editing a dictionary that already exists, click on its name in the **Dictionary** box. All taxa that are

already saved to that dictionary are displayed under the **Taxa** box on the **User's Dictionary** half.

If you want to start a new dictionary click on <**New**> in the **Dictionary** box. A blank list is displayed under **Taxa** on the **User's Dictionary** half. Follow the remaining instructions for selecting a **User's Dictionary**.

Under Database Dictionary:

The database dictionary contains all possible taxa choices. Because of the large number, it is helpful to select a list, or lists, of taxa that you foresee using in the future.

1. Select a **Subdivision.** This causes a list of corresponding Genus/Subgenus and Species/Subspecies to be displayed.

2. Select a **Genus/subgenus.** Notice that the corresponding species/subspecies is also highlighted (you may have to arrow down the list to see it).

3. Under **Taxa** all corresponding genus/subgenus and species/subspecies are listed.

4. From this list, add those taxa that you want in your User's Dictionary. Add one by either double clicking on it, or by highlighting the taxon and then clicking the **Add** button. Add all taxa by clicking the **Add All** button.

5. Once your User's Dictionary is complete, click **OK**. If this is a new list, a naming box is displayed (See below). Fill in the name of the dictionary and click **OK**.

```
┌─────────────────────────────────────────┐
│         User Taxa Dictionary Name        │
├─────────────────────────────────────────┤
│                                          │
│   Name │                            │    │
│                                          │
│   ┌──────────────┐   ┌──────────────┐    │
│   │     OK       │   │    Cancel    │    │
│   └──────────────┘   └──────────────┘    │
│                                          │
└─────────────────────────────────────────┘
```

6. Repeat this procedure until you have as many User's Dictionaries as you need.

> **Note: You can add new dictionaries or edit existing ones at any time.**

Adding, Editing or Deleting Taxa

You can add, edit or delete taxon from the central database at any time.

1. **To add a new taxon**, click on the **New** button. This opens the "Taxon Entry" window (See Figure 12). Fill in the blanks with the appropriate information and click **OK**. This adds the new taxon to the central database and makes it available on the "Taxa Dictionary" window.

Figure 13.The "Taxon Entry" window.

2. **To edit an existing taxon**, click on the taxon then the **Edit** button. If you did not enter the taxon that you wish to edit, a warning is displayed (See below). Click **OK** to continue or **Cancel** to stop. Clicking **OK** opens the taxon's entry window (See Figure 12). Edit the taxon and click **OK**.

3. **To delete an existing taxon**, click on the taxon, then the **Delete** button. If you did not enter the taxon that you wish to edit, the above warning is displayed. Click **OK** to continue or **Cancel** to stop. Clicking **OK** immediately deletes the taxon.
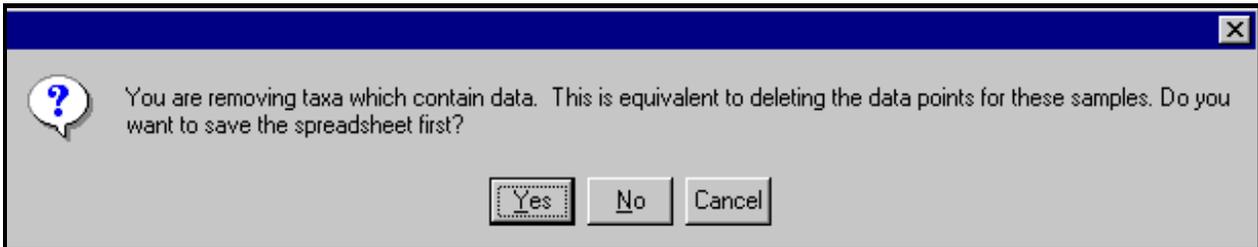
"Select Taxon" Window

Next, select taxa for each spreadsheet that you make from the "User's Dictionaries" you created. Do this at the "Select Taxon" window (See Figure 13). Open this window by clicking the **Taxa Select** button or **F10** key, or by selecting it from the Lists menu.

Figure 14. The "Select Taxon" window.

1. Select the user's dictionary that you want to select taxa from. Do this by clicking on one of the names in the **Dictionary** box. Use the up and down arrow keys to view all selections. A list of corresponding taxa is then displayed in the **Taxa** box.

    Note: you must already have set up your personal user's dictionaries in order to complete this process (See ""Taxa Dic-

tionary" Window" p. 18)

2. Select all the taxa you want for the *current* spreadsheet. Either double click on each choice, or highlight a taxon and click **Add**. To select all the taxa listed, click on the **Add All** button.

3. Your choices are now displayed in the **Spreadsheet Taxa** box. Remove a taxa by high-lighting and clicking **Remove** for one, or **Remove All** for all choices.

4. Click **OK** and each taxa on your **Spreadsheet Taxa** list is exported to become a col-umn on your spreadsheet.

Removing Taxa from a Spreadsheet

You can remove taxa at any time from your spreadsheet.

1. From the spreadsheet, click on the **Taxa Select** button. This opens the "Select Taxon" window.

2. From the "Spreadsheet Taxa" side of the window highlight the taxa you want to remove, then click on the **Remove** button.

3. Click **OK.** The following message will be displayed. If you want to save the data asso-ciated with the that taxa you are removing from the spreadsheet, click **Yes.** If not, click **No.**

Editing Your User's Dictionary

To edit your personal User's Dictionary, click the **Edit Taxa Dict** button on the "Select Taxon" window. This opens the "Taxa Dictionary" window (See ""Taxa Dictionary" Window" p. 18).

"Select Samples" Window

This is the final stage before data entry. Select specific samples from the Janus database to be analyzed. Open this window by clicking the **Samples** button or **F11** key, or by selecting it from the **Lists** menu.

Figure 15. The "Select Samples" window.

1. Select the leg, site, hole, core, section, and sample code from the top left lists. **Notice that hole, core, and section default to "all" when no choice is made.** Once you've selected this information, the program will default to these settings until changed.

2. The bottom left box displays the **Samples** that correspond to the leg/site/hole information you selected.

3. Select samples for the spreadsheet by either double clicking on them, or by highlighting one and clicking **Add**. To select all samples shown, click the **Add All** button.

4. The samples you chose are now in the **Selected Samples** box. Remove a sample by highlighting and clicking **Remove** for one, or **Remove All** for all samples shown.

5. Add a sample that is not in the **Samples** list by entering the top and bottom depth and volume, and then clicking the **Add New** button.

6. Click **OK** and these samples are exported to the spreadsheet.

Entering Data

After selecting your fossil group, zones, taxa, and samples, you should have a spreadsheet similar to Figure 15. Notice that the selected samples are now on the left side of the spreadsheet and the taxa are columns.

Figure 16.The PAL spreadsheet after all selections are made.

For each sample:

1. Enter the **Zone** range. Highlight a cell under zone, then click the **List** button or the right mouse button to display the range of zones you selected earlier (See Figure 16). Click on a zone and it is entered into the highlighted cell. Do the same for **Age** (the process is the same, but a list of ages instead of zones is available by clicking on the **List** button or the right mouse button).

Figure 17.The list of choices for "Zone"

2. **Preparation**, **Preservation**, **Group abundance**, and **Bathymetry** have **List** choices that are part of the program. Highlight a cell under any of these columns, click the **List** or the right mouse button, and choose one of the selections.

3. Finally, enter data for each of your taxa. Click in the cell of choice and either:

   • Type in the value: if you are indicating a **percent**, the number must be followed by a period or the percent sign. If you are indicating a count, just enter the integer.

OR

   • Click on the **List** button and select one of the pre-programmed values (see below).

   • If you only want to indicate the presence or absence of a taxa, enter **P** or ***** for present, or **A** or **-** for absent.

   • If you want to indicate that a sample was reworked or contaminated, enter an **R** for reworked, or a **C** for contaminated (you can enter these symbols alone or along with integers or percents).

4. Your final spreadsheet should look similar to Figure 17.

Figure 18.PAL Spreadsheet with newly entered data.

- **Notice all the data underlined in red**. This is data that has **NOT** been saved to the central database yet. Saving the data erases the underlining.

- If you hit **Exit** or **New** before saving you will lose everything on the spreadsheet underlined in red. Be sure to **Save** before exiting or refreshing the screen.

- **In Figure 17**, the taxa are arranged by first occurrence. You can select alphabetical, first occurrence, or last occurrence order from the **View** menu.

> **Note: The next time you open the PAL program and select your fossil group, the same spreadsheet will appear,** *minus the samples and data***. If you select the same samples again, the data is displayed in the spreadsheet as it was saved to the central database.**

Viewing Samples in Detail

You can view the entries for a specific sample in detail. Do this by highlighting any cell in the sample row you want to view, then click the **SamDetail** button or the **F12** key. This opens the "Sample Taxa" window (see Figure 18).
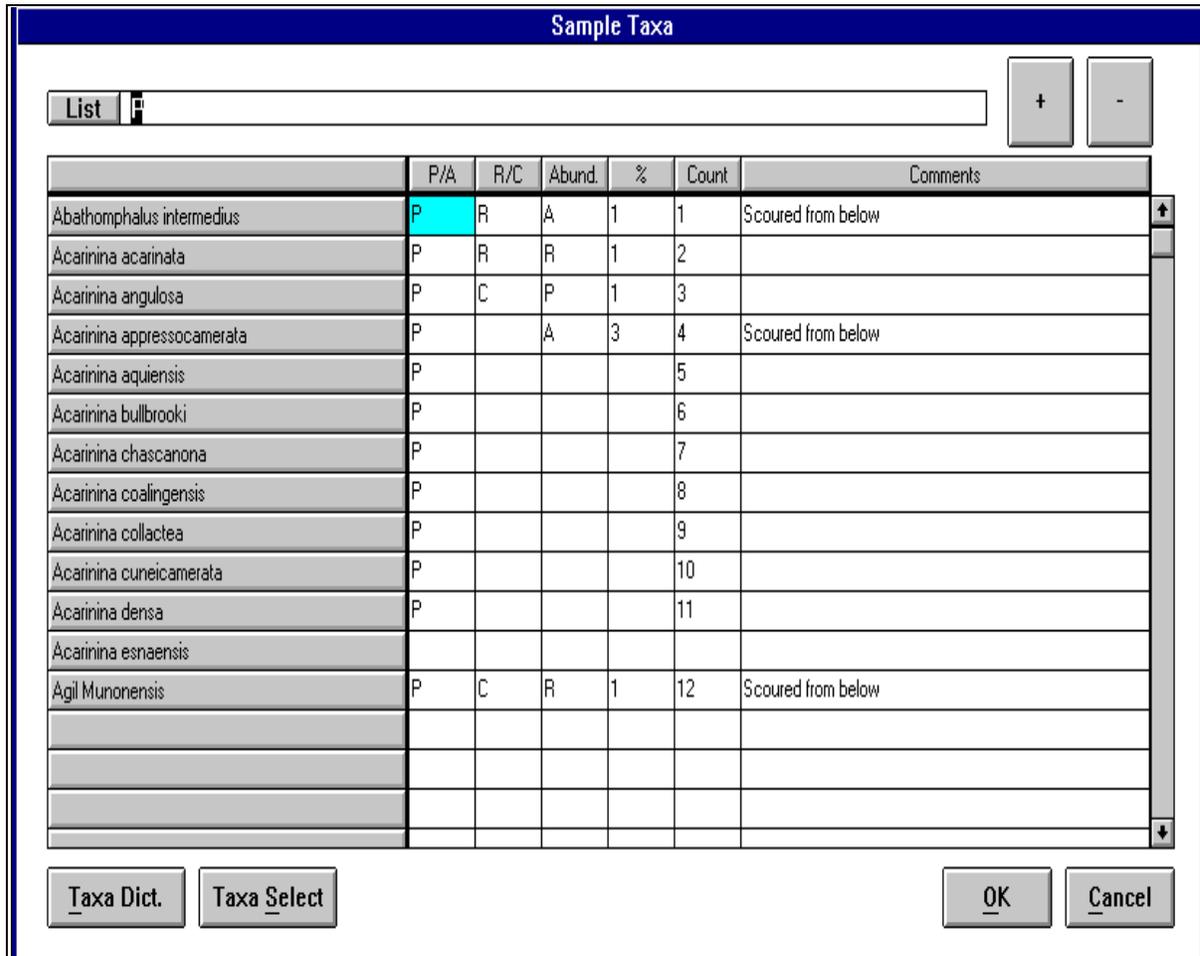

Figure 19. View samples in detail here.

- All taxa for the selected sample are listed on the left hand side in the gray boxes.

- The columns indicate the Presence or Absence of a taxon (P/A), whether it has been Reworked or Contaminated (R/C), its abundance (Abund), percent (%), or count, or any comments entered.

- The first three columns, P/A, R/C, and Abund, have lists of possible entries built into the *PAL* system. To open these lists, right click in the cell that you want to eneter a value for. A list of possible entries will pop up on the screen (See Figure 19). Select your choice from the list by left clicking on it with the mouse. That value is now entered into the cell and the next cell in the row is highlighted.

Figure 20. Possible selections for the "Abund" column.

- Enter a count into the "Count" column by using the + and - buttons on the screen or on your keyboard. The lowest count possible is zero.

- You can edit any of the entries already on the screen, or add new ones.

- Click **OK** to save any of the changes you made (this also re-opens the spreadsheet). Click **Cancel** to close this window and re-open the spreadsheet.

- If you want to edit the list of taxa, click the **Taxa Dict** button to open the "Taxa Dictionary" window, or the **Taxa Select** button to open the "Select Taxon" window.

Viewing Sample Details from the Main Spreadsheet

From the main spreadsheet you can view sample details such as "Abundance" and "Count" by selecting one of these details from the **View** menu. While your spreadsheet is in one of these views, the original data from the spreadsheet (Abbreviated View) won't be visible, but has not been deleted. Just select **Abbrev. View** from the **View** menu to return to the normal spreadsheet.

If you are in any view other than Abbreviated, the name of the view will be displayed in red on the main spreadsheet above the samples.

Special Features

Exporting

After entering your data into the *PAL* database, you can export it to Excel for your own spreadsheet. This is done from the main *PAL* window. Export files with or without samples.

1. From the **Paleo** menu, select **Export**. This opens the "Export to…" window (See Figure 20).

2. Enter a file name. You will want to save the file as a **Comma Delimited File**, so after the file name type **".csv"** (e.g. in Figure 20 the filename is "**mydata.csv**").

3. Select a folder to save the data in (e.g. in Figure 20 the folder is C:\ODP\Paleo) and click **OK**.
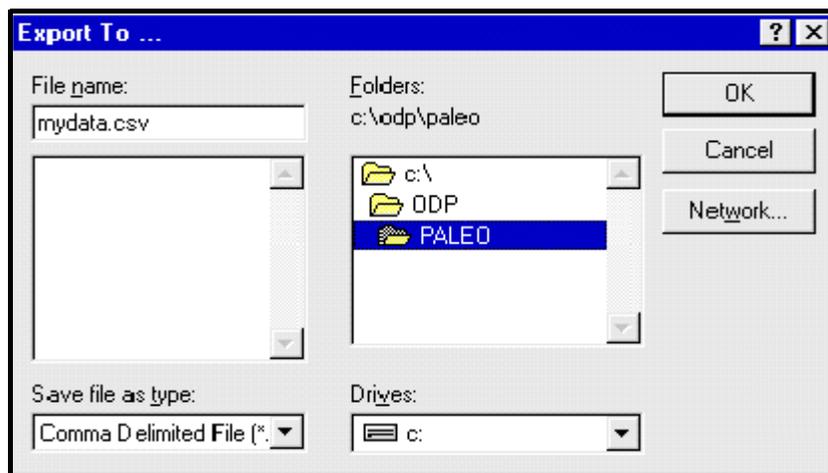

Figure 21.Enter file name of data to be exported here.

4. Open Excel, then open the "PAL" spreadsheet:

   • From the **File** menu select **Open**.

   • Under **Files of Type:** select "Microsoft Excel File".

   • From the **Look in:** box select the folder where *PAL* is installed. This is usually C:\ODP\Paleo

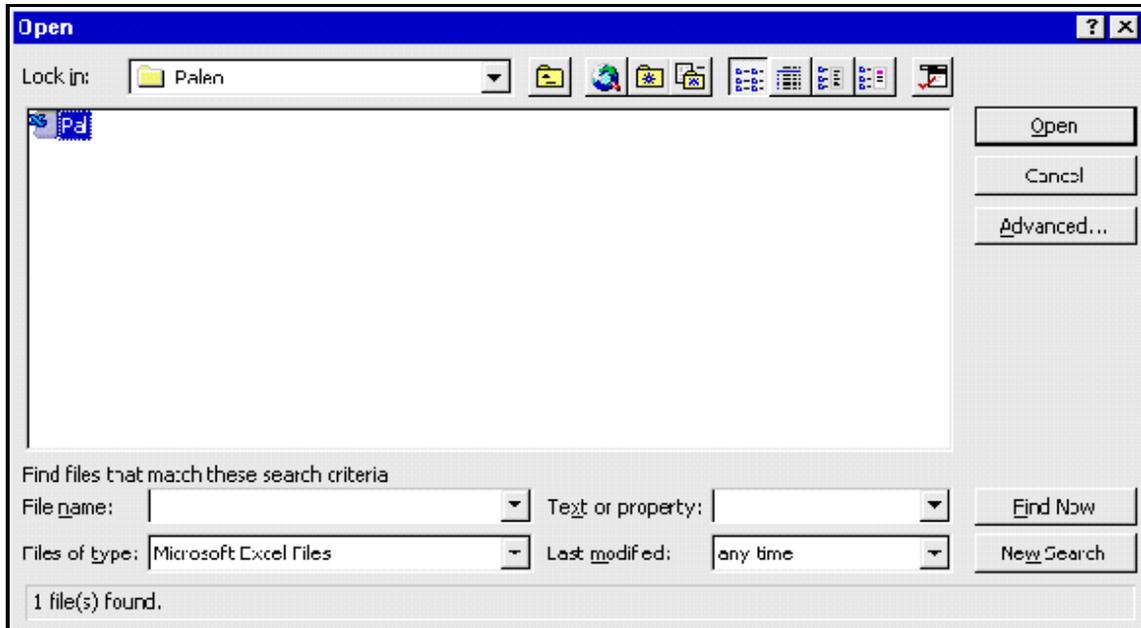   • Select the Excel "PAL" file from this folder (See Figure 21).

   • Click **Open**.

Figure 22.Open the Excel "PAL" file from here.

5. A window about Macros will open. Click **Enable Macros**. The macro function will put your data in a layout identical to the *PAL* spreadsheet after steps 6, 7, and 8 below.

6. Next, open your data

   • From the **File** menu select **Open**.

   • From **Files of Type:** select "Text Files" (see below).

   • From **Look in:** select the folder you saved the data to (e.g. in Figure 22 the folder is in C:\ODP\Paleo).
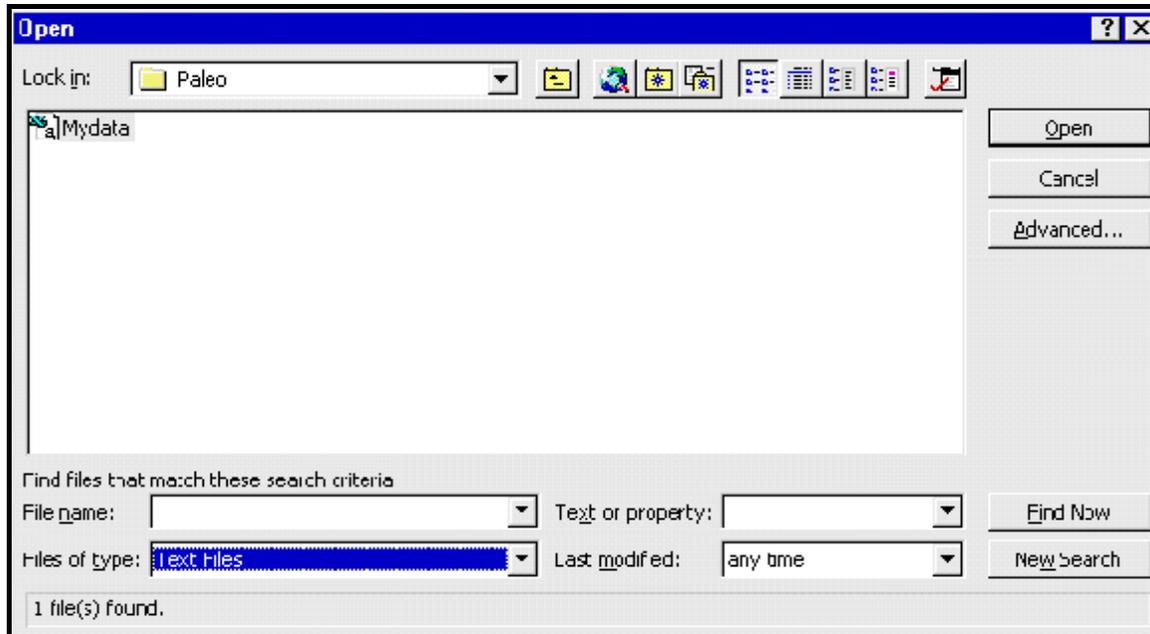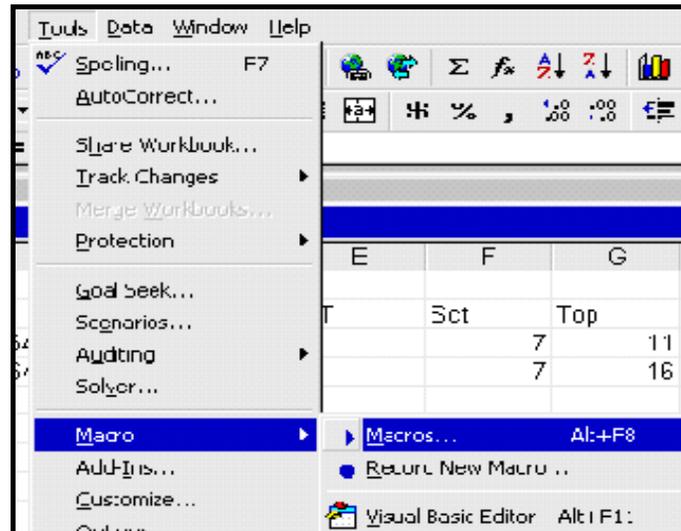
   • Highlight the correct file and click **Open**.

Figure 23.Open your Excel spreadsheet from this window.

7. From the **Tools** menu choose **Macro**, then **Macros** (See below).

8. You should now be at the "Macro" window. Click **Run**.

9. Your data is now in a format comparable to the *PAL* program. **Save** this.

Exporting From Pre-Defined Queries

If you are exporting data from one of the predefined queries in **JanusWeb**, you will need to send the data as a **Comma Delimited File**. On the query page, there is a drop down list box

for selecting "Output type" (See Below). Highlight the "Comma Delimited File" selection before proceeding.
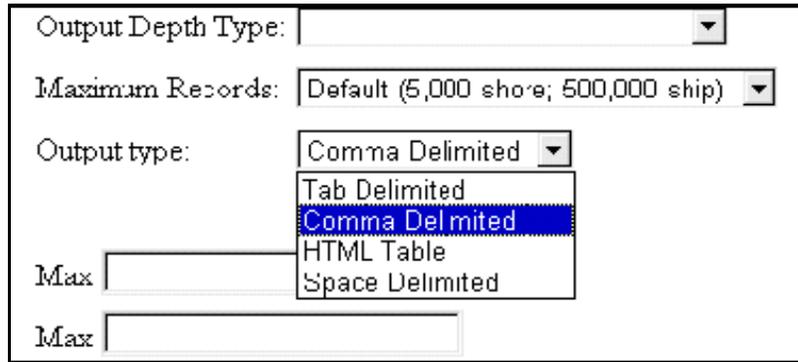

If you only want to see your data in a table format only, but not export it, select the **HTML Table** choice.

Importing

If you make changes to your data while in Excel, the changes should also be made in the central database. Do this by importing your altered data back into the *PAL* program. You can import files with or without samples to the program.

1. **Save** your data in Excel as a **".csv"** file (Comma Delimited File).

2. **Close** your file and Excel (*PAL* won't work while the file is open in Excel).

3. **Open** *PAL*. It will open to the spreadsheet window.

4. From the **Paleo** menu select **Import**. Selecting Import displays the message shown below. Be sure to save the data of the current spreadsheet before importing a spreadsheet or any unsaved data will be lost.
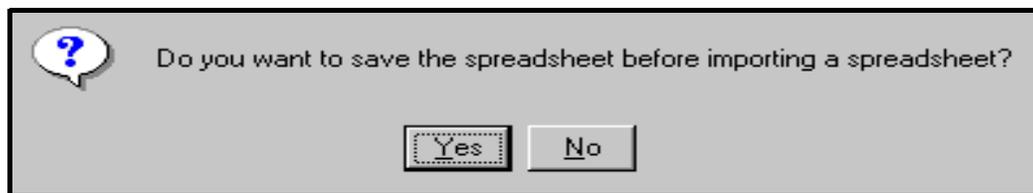
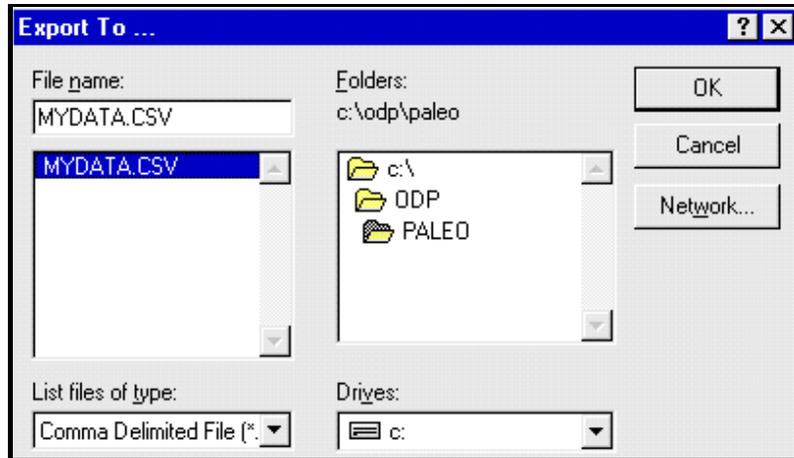5. This opens the "Export to…" window (See Figure 23). Highlight the file you want to import and click **OK**.

Figure 24.Import back to PAL program from this window.

Import Errors

The *PAL* program checks for discrepancies between the taxa names you import and those already in the central database. If it detects **none**, the spreadsheet displays all added or changed data with a red underline. Save this to the central database.

If *PAL* <u>does</u> detect a discrepancy, the "Find Taxon" window will open and one of the following possible scenarios will then occur:

- **If you misspelled the taxon**, but at least the first letter is correct, the program finds the closest match(es) and displays it (see figure 24). Click on the correct one and press **OK**.
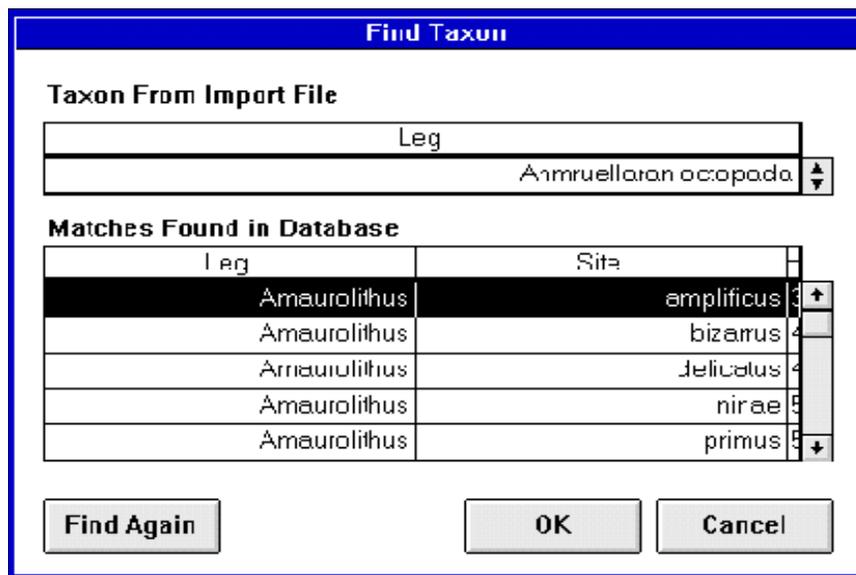

Figure 25.The "Find Taxon" window.

- **If the program does not recognize the taxon**, it still displays the closest match that beings with the same letter. If the matches are incorrect, click **Find Again**. If this still does not work, the next scenario will occur:

- **If the program can find no match at all**, it displays a window with the taxon and a warning (See figure 25). At this point you must either correct the taxon in Excel, or add it to the database at the "Taxa Dictionary" window (See ""Taxa Dictionary" Window" p. 18).

Figure 26. Warning displayed when no match is found.

1. First, click **Cancel**, to cancel the import. The program defaults to the spreadsheet, and from here you can make the appropriate changes.

2. Once you make the appropriate changes, import the file again and all changes should now appear on the *PAL* spreadsheet.

Import Troubleshooting

Several errors can occur when importing spreadsheets into the *PAL* program. The following is a list of spreadsheet requirements you must meet before you can import a file into *PAL*.

1. You must include **all columns** in the exact order as the *PAL* spreadsheet. Data doesn't have to be entered in each column, but the column titles must be entered.

2. If you don't close your file in Excel before importing, **or** if the spreadsheet is completely empty, you will receive the following warning:

> **No data found in the file, or unable to open the file. If this file is open in another application you might want to try closing it so PAL can have access to the file**. OK

3. You must have at least two lines of headers. The first line must include "Sample", "Zones", and "Age". The second line must have "leg", "site", "H", etc. from the *PAL* spreadsheet. If it does not contain two lines of headers, you will receive the following warning:


4. You must have at least 19 columns in the first line. If not you will receive the following warning.

5. The first line must contain the following words in their respective columns: "Sample" - column 1, "Zone" - column11, "Age" - column13, and your fossil group name in column 19. If not you'll receive the following warning:

6. The second row must have 19 or more columns (19 required columns plus however many taxa you've added), a title for each column, and "Comments" as the last column. If not you'll receive the following warning:
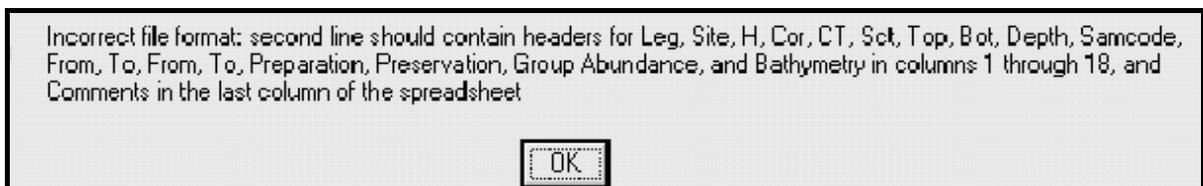
7. **If you've added all the correct columns and you're still getting this message, it is possible that you have a column activated past the "Comments" column**. Delete several of the columns after "Comments" and try to import again.

Importing from Test to Production Mode

Problems can occur when importing a spreadsheet that was made in "test" mode into the "production" mode.

Two possible scenarios you might encounter:

You export a spreadsheet with taxa to Excel from the "test" mode.

- While in Excel you add a new taxon name that isn't in the *PAL* dictionary.

- When you import into *PAL*, the program doesn't recognize the new name.

- The program searches for a match, but can't find one and gives you a warning telling you this.

- At this point you must terminate the import and add the new taxon into the database dictionary. See ""Taxa Dictionary" Window" p. 18 for directions on adding taxa.

You add a new taxon into the dictionary in "test" mode.

- You export the spreadsheet with the new taxon to Excel.

- You add the new taxon into the *PAL* dictionary while in "production" mode.

- You import the spreadsheet into the "production" mode of *PAL*.

- The program claims to not recognize the taxon you entered, then gives the closest match which is actually the same taxon.

- The reason the program does this is because an ID is attached to each added taxon. The ID attached under "test" mode is different than that in "production" mode. Thus, when it imported the new taxon, the program did not recognize the ID. Instead it shows the closest word match, which turns out to be the same taxon.