BioCIS users manual

Version 0.3

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1. ABSTRUCT

This system provides the search refinement for taxonomic groups described by character matrix.

Taxonomic groups are refined by any specified characters.

The effective characters, which supports the effective identification process (to achieve the less number of the searching trials), are suggested every when the user selects the characters.

Identification is supported by the images of the character and species.

Diagnosis is available in any rank of higher taxa.

Multiple databases corresponding to English and Japanese are allowed in this system.

The searching function is open to all users but creating databases are allowed to only users who have been registered by administrator.

2 START－UP and END of the work

2.1. START-UP

Access to the following URL.

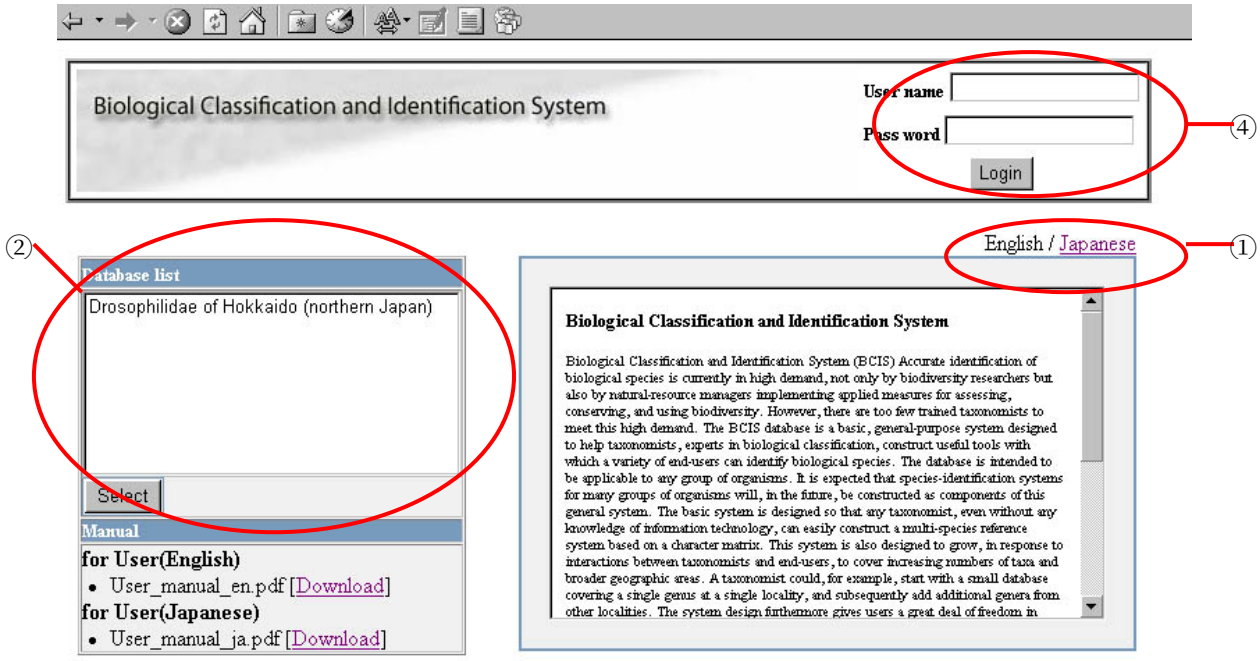
http://biokey.museum.hokudai.ac.jp/Classification/

2.2. END

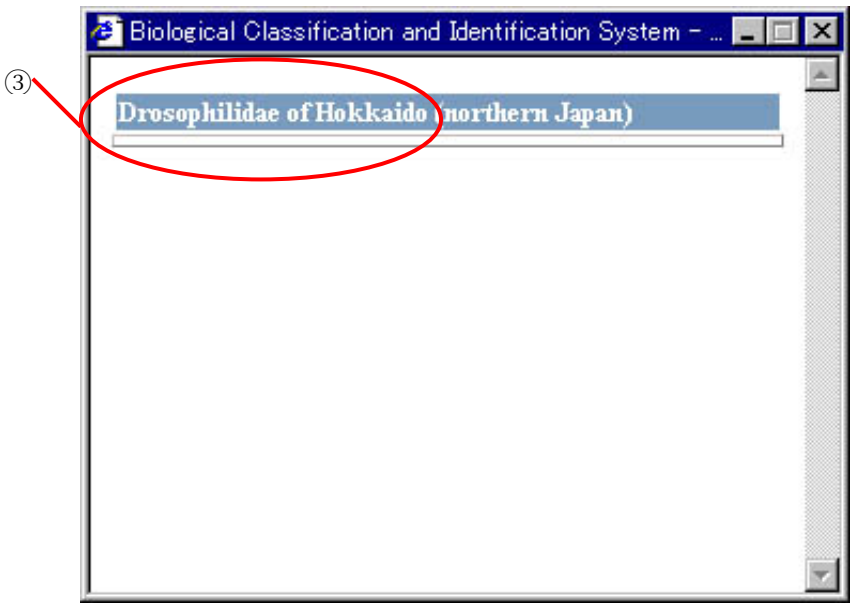
Close the browser's window.

3. TOP SCREEN

Start-up and TOP screen is opened (Fig.1-1), and select the language (Fig. 1-1-(1)),



<Fig.1-1: Top screen>



<Fig.1-2: Explanation of the database (pop-up window)>

3.1. Switch language

English (default), Japanese: Select the language of the labels on display.

3.2. Database select

The list of databases (open to public) is shown. Select the database for searching. On selecting the database, the explanation is shown in the new small window（Fig.2). Click the database name with Ctrl key if the pop-up window is blocked.

Click the “Select” bottom to open the SEARCH screen (Fig.3).

3.3. Download the manual

English version: User_manual_en.pdf

Japanese version: User_manual_ja.pdf

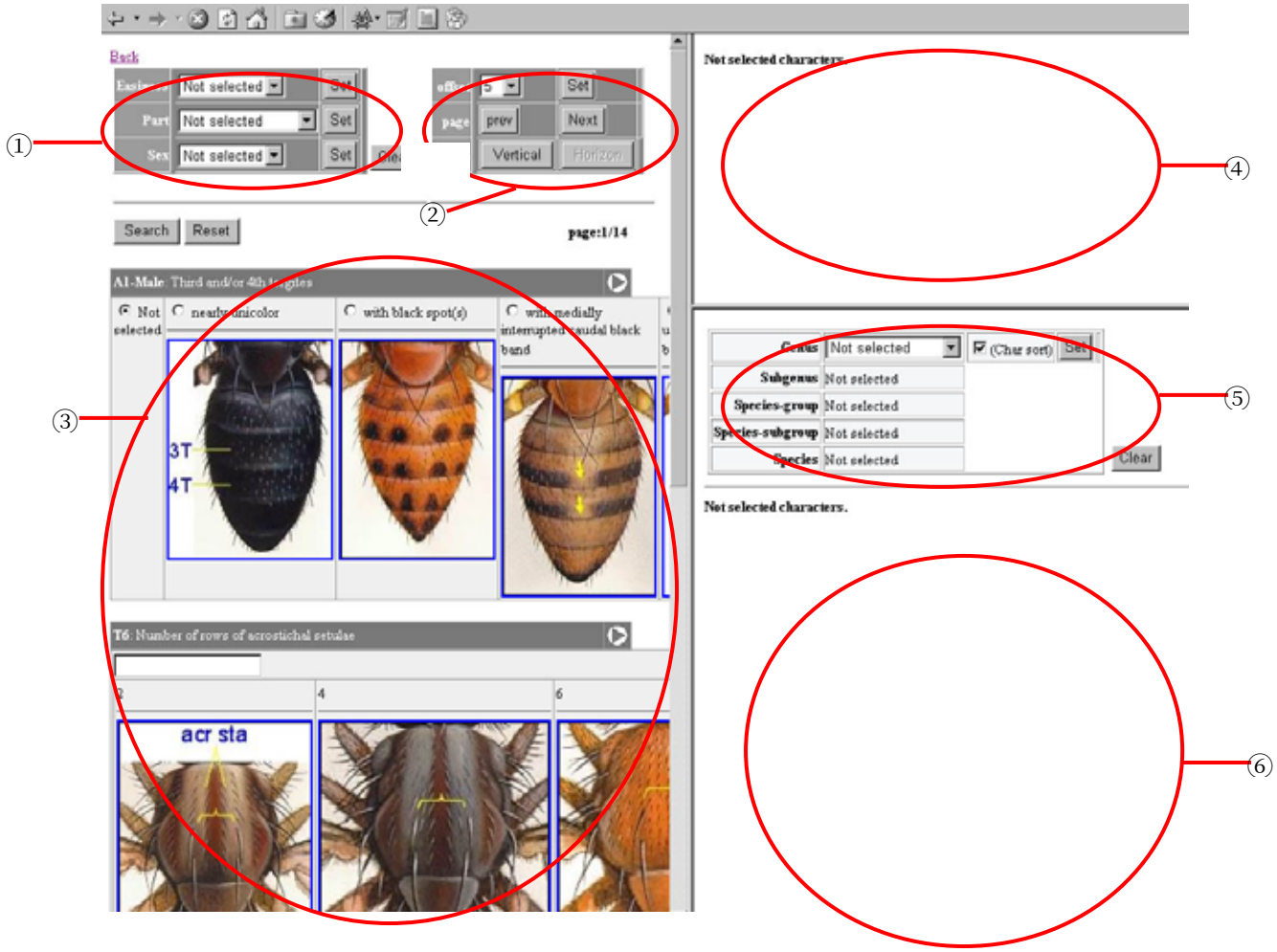
are available to download from the each link

3.4. Login for registered user

Only for registered users.

4. SEARCH screen

SEARCH screen (Fig.3) is shown by selecting the database on TOP screen (Fig.1).



<Fig.3: SEACH screen (initial screen)>

① Selection of the character group

The character groups to be selected can be limited by, for example, part, sex and other character groups in which characters are grouped dependently on the database.

② Display switch for the character list

Users can set the number of characters to be listed, jump to the next or previous page and set the images to be arranged vertically or horizontally.

③ Selection of the character state

Select the character state of any (multiple) character(s). The coded characters offer the alternative choice. The numerical characters require the direct input of the figure.

The characters are ordered by the effective index which means the expected times of the trials of the searching process and which is re-estimated every after the selection of the character group, the selection of the higher taxa and the searching.

④ List of the input character stats

The input character stats are listed here. The listed items are removable.

⑤ Selection of the higher taxa

Users can set the higher taxa within which the search should be performed. The order of the effective character is re-estimated within the selected higher taxa.

⑥ Searching results

Taxon which have refined by the selection of the character sates and the selection of the higher taxa, are shown.

Also, the number of the entries grouped by the higher taxa, the list, the images and the diagnosis of the selected higher taxa, can be shown.

4.1. Selection of the character group

These are from the initial screens (Fig.4-1-1).

<Fig.4-1-1: Selection of the character group (initial screen)>

Example

Easiness: Characters are limited by the easiness of the observation (1>2>3).

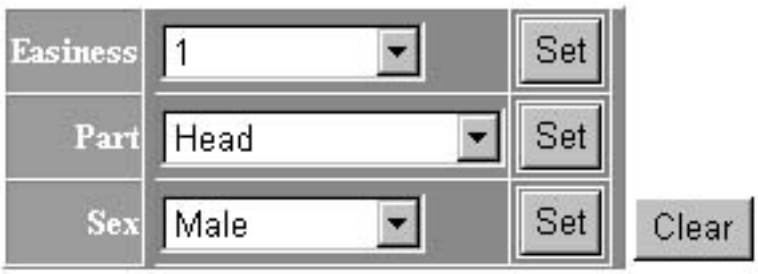
Part: Characters are limited by the part (Head, Thorax, etc.).

Sex: Characters are limited by sex.

Select the value from the pull-down menu on each attribute, and then press the “Set” bottom. More than one groups (e.g., both Head and Thorax) can not be set at once.

When the “Not selected” is selected, the selection of the character group is canceled.

The “Clear” bottom reset the all character groups to be not selected.



<Fig.4-1-2: Selection of the character group>

4.2. Selection of the character state

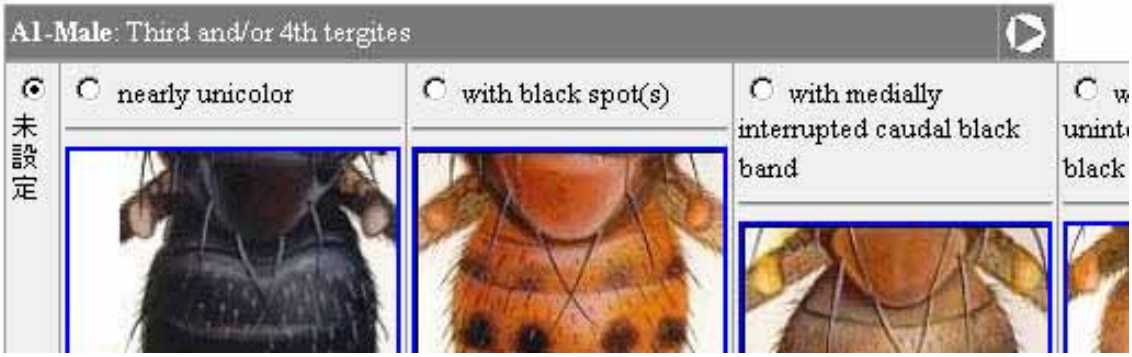
All input values are reserved even when the page would change. The “Reset” bottom resets all input values to be not input.

The coded characters offer the alternative choice by radio bottom.

The numerical characters require the direct input of the numerical values. Multiple values should be input using semicolon (;) (e.g. 3;4).

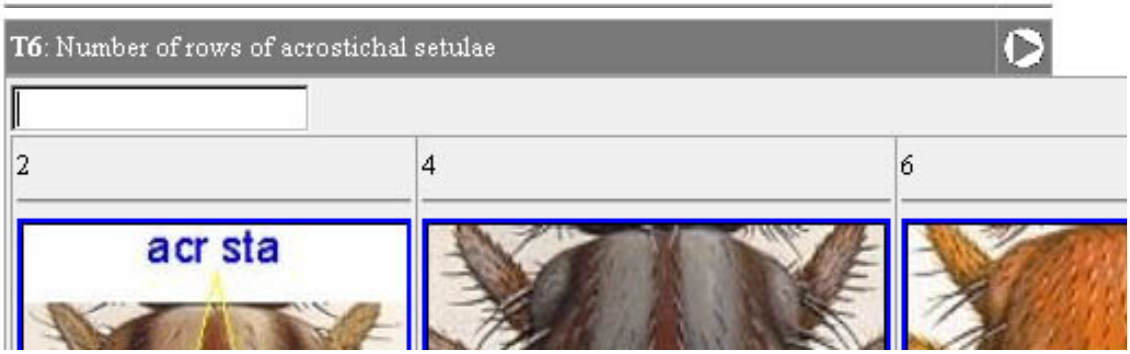
The “Search” bottom performs the searching for taxa.

All input values before clicking the "Search" bottom can be released when the "Clear" bottom is clicked on the "Selection of the character groups", "List of the selected character states" or "Selection of the higher taxa" area.

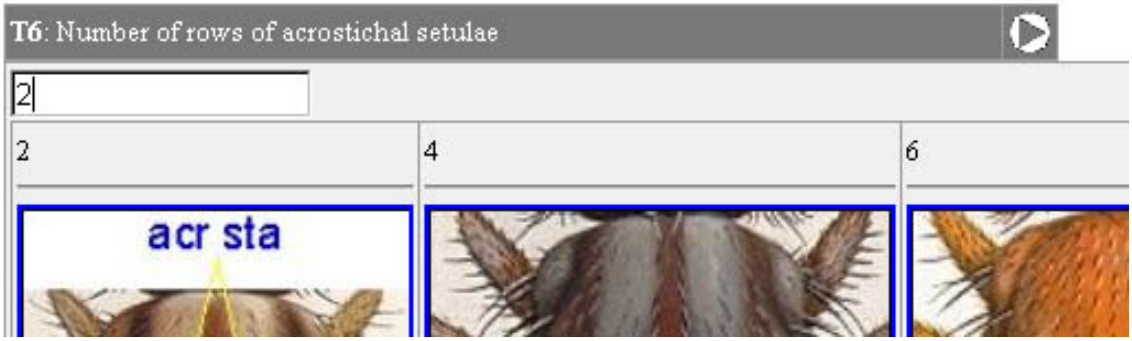


<Fig.4-2-1: Selection of the character states: The coded character: Not selected>

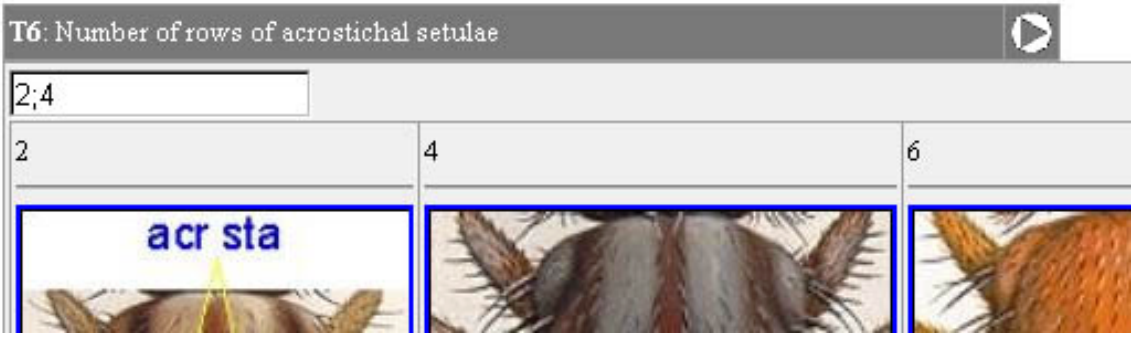
<Fig.4-2-2: Selection of the character states: The coded character: Selected>



<Fig.4-2-3: Selection of the character states: The numerical character: Not selected>



<Fig.4-2-4: Selection of the character states: The numerical character: Input: Single value>



<Fig.4-2-5: Selection of the character states: The numerical character: Input: Multiple values>

The characters are ordered by the effective index which means the expected times of the trials of the searching process and which is re-estimated every after the selection of the character group, the selection of the higher taxa and the searching.

4.3. Referring the character images

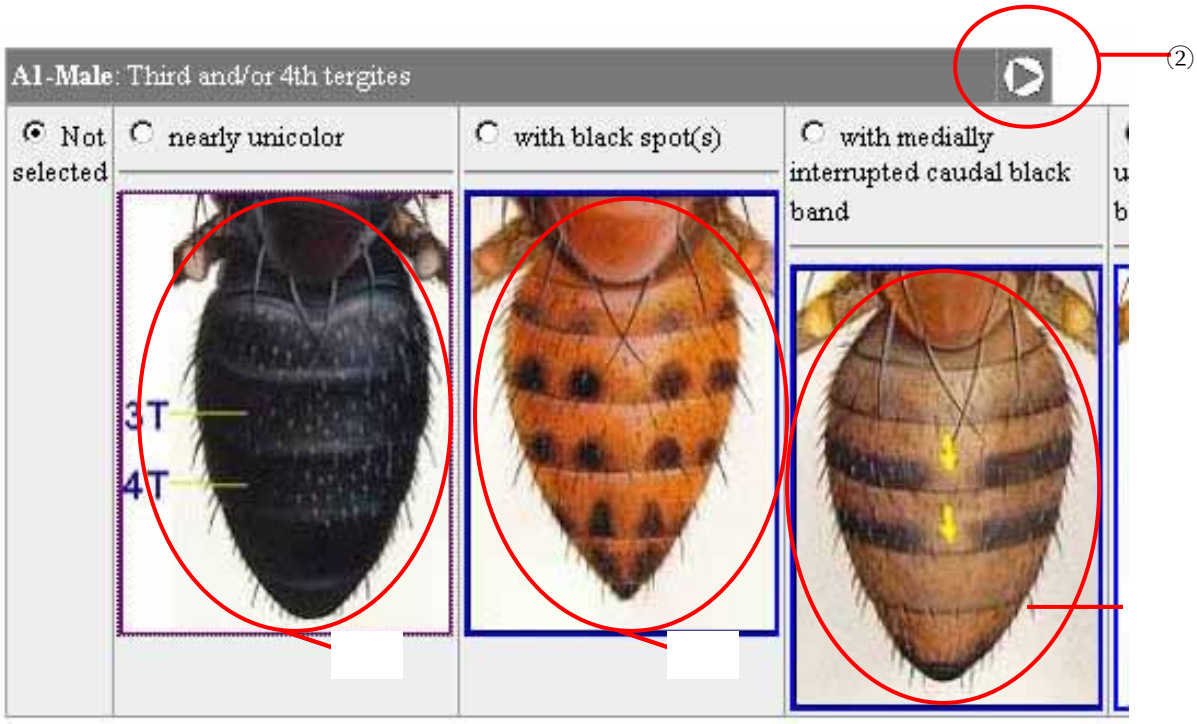
The images of the characters (or the character stats), if registered, are available when the selection of the character stats.

When more than one image has been registered, the first of them is shown.

In the case of the numerical characters, the representative pairs of the numerical value and the image have previously been registered to the system. Note that input values are not limited to the displaying values as for representative images.

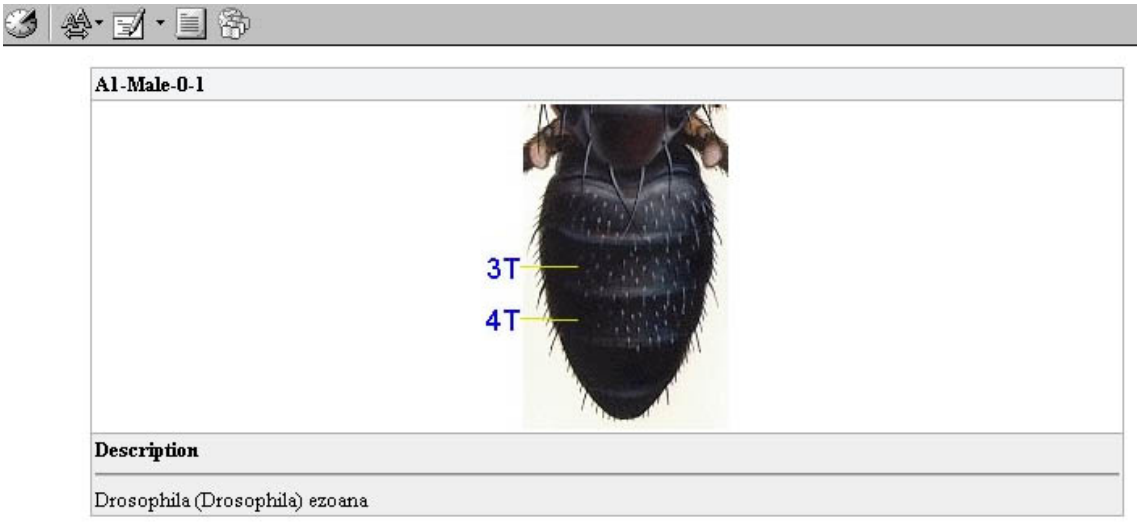
The images are shown as the thumbnails on which the mouse click refers to the original images (Fig.4-3-1(1), Fig4-3-2).

All original registered images of the character are available by clicking the triangle mark at the end of the explanation of the character (Fig.4-3-1(2), Fig.4-3-3, Fig.4-3-4).



<Fig.4-3-1: Referring the character images: Thumbnails>

The original registered images of the character are available by clicking the thumbnail.

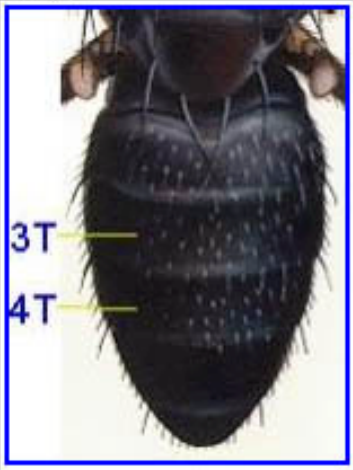


<Fig.4-3-2: Referring the character images: Single-original image>

selected character

A1-Male : Third and/or 4th tergites

Image List

Values	Images	
nearly unicolor		
with black spot(s)		

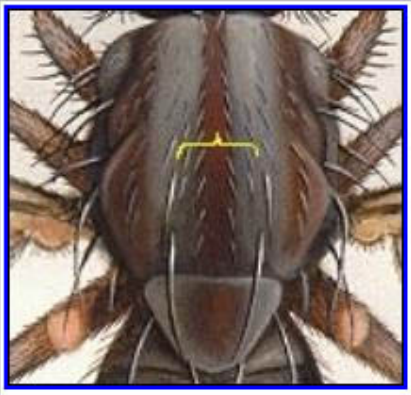
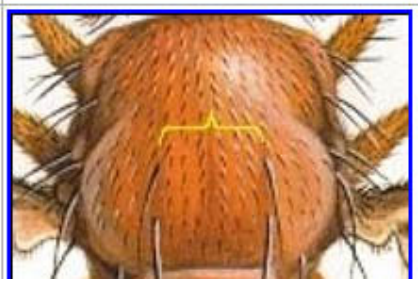
<Fig.4-3-3: Referring the character images: All thumbnails: The coded characters>

The original registered images of the character are available by clicking the thumbnail.

selected character

T6 : Number of rows of acrostichal setulae

Image List

Values	Images
value[2]	
value[4]	
value[6]	

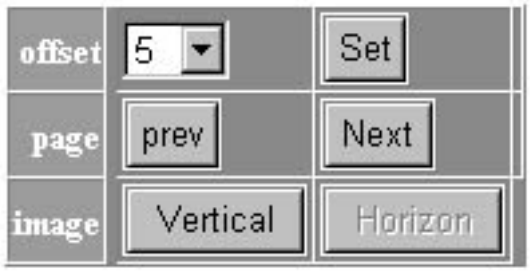
<Fig.4-3-4: Referring the character images: All thumbnails: The coded characters>

The original registered images of the character are available by clicking the thumbnail.

4.4. Display switch for the character list

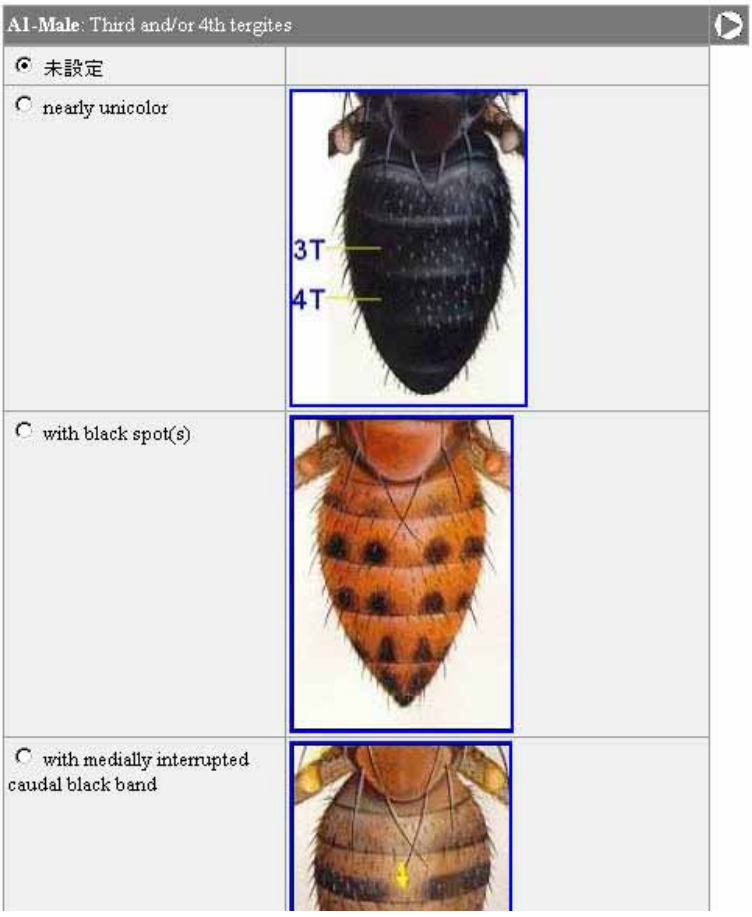
Users can set the number of characters to be listed, jump to the next or previous page and set the images to be arranged vertically or horizontally. Default values

are: number of characters per page =5, images arrangement=horizontal (Fig. 4-4-1).



<Fig. 4-4-1: Display switch for the character list: initial screen>

The number of characters on a single page can be set as between 1 to 10. The "Set" bottom applies the change.
The paging navigation is offered by the "Back" bottom to the previous page and "Next" bottom to the next page. The "Vertical" bottom change the arrangement of the images to be vertical (Fig. 4-4-2).

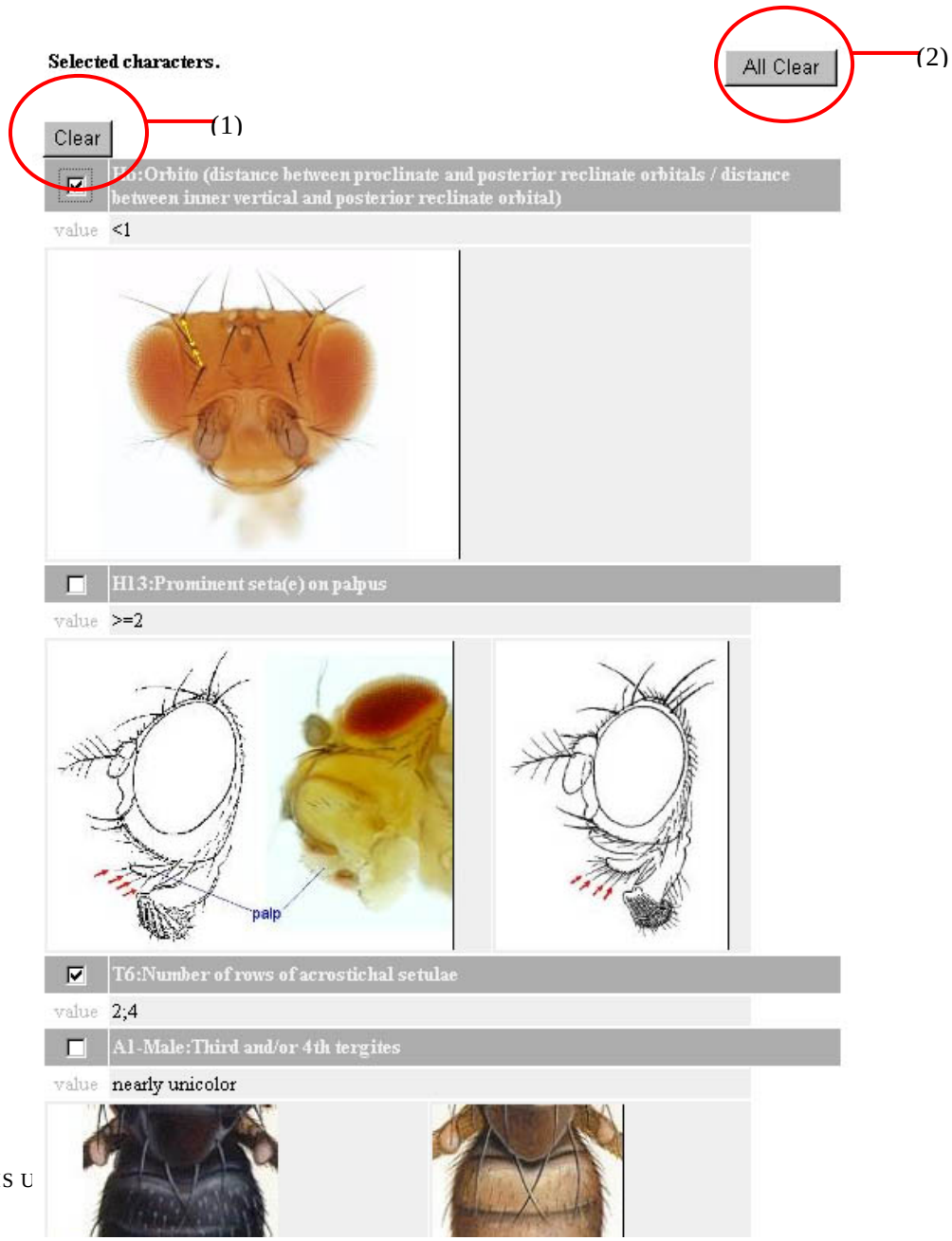


<Fig. 4-4-2: Arrangement of the images: Vertical>

4.5. List of the input character stats

The input character stats are listed here in the order of the searching operation. In the case of the numerical characters, the representative images are shown only when the input value is a single, while not when the input values are multiple.

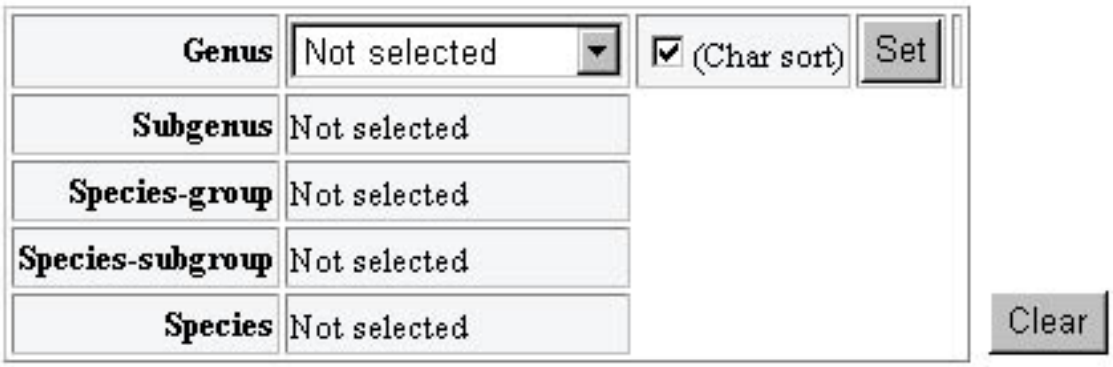
The selected characters are removable from the list either by individual or by all. The released character will appear again on the area of the selection of the character stats (Fig.3-(3)). The "Clear" bottom releases the individual selected character after the selection of the target character (Fig. 4-5-1(1)), while "All clear" bottom release the all characters (Fig.4-5-1(2)).



<Fig. 4-5-1: List of the selected character stats>

4.6. Selection of the higher taxa

Users can set the higher taxa within which the search should be performed when the target taxa has already been known. The target taxa should be selected in the order from the higher taxa to the lower taxa.



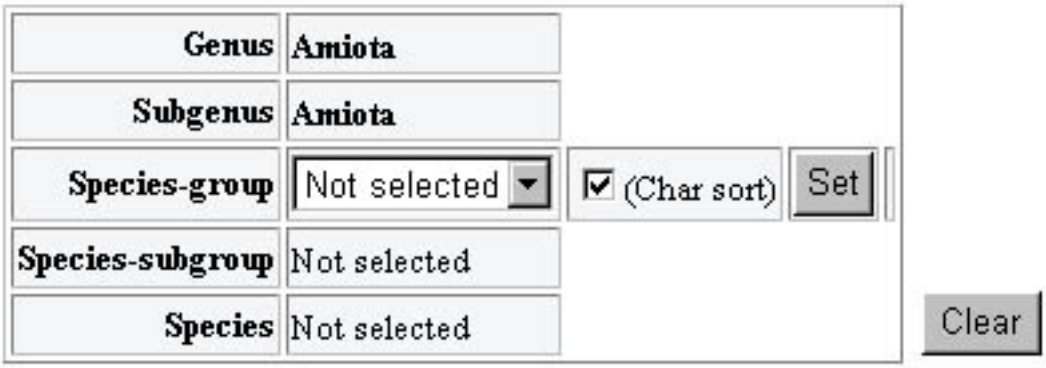
<Fig. 4-6-1: Selection of the higher taxa: Not selected>

The lower taxon becomes selectable only after the selection of the higher taxa and clicking the “Set” bottom.

The order of the effective characters is re-estimated within the selected higher taxa when the check box (Char sort) besides the “Set” bottom is checked. When the check box is not checked, the system does not re-estimate the order of the effective characters. In the case of setting more than one rank of the class (taxa), the operation with the check box off would improve the server response to be quicker, although the last taxa should be selected with the check box on.

The “Clear” bottom release the all previous selections of the higher taxon, bringing the operation back to the screen shown in the Fig. 4-6-1. The order of the effective characters is re-estimated.

In order to bring the operation back to the selection of the upper higher taxa, click the "Set" bottom after the selection of "Not selected" in the operating rank.



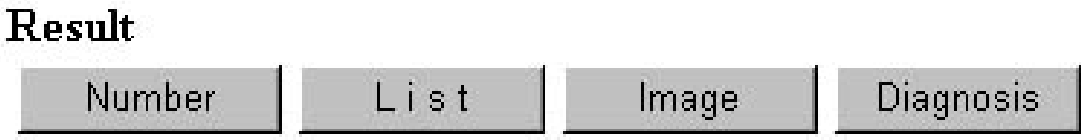
<Fig. 4-6-2: Selection of the higher taxa: Selection of the taxa in the second rank>

When the "Clear" bottom is clicked or the "Not selected" is selected at the highest taxa priory to the searching operation, all registered proximal taxon (e.g., species) are shown in the Searching results area, although the initial screen does not display them.

4.7. Searching results

The searching results are shown after the selection of the character stats following the search or the selection of the higher taxa.

The bottoms will appear on the upper area of the Searching results after the searching or the selecting (Fig. 4-7-1).



<Fig. 4-7-1: Searching results: Bottoms>

Each bottom is a switch to change the format of the results.

1 Number: The list of the numbers of the results grouped by the highest taxa.
2 List: The list of the proximal taxa (e.g. species).
3 Image: The list of the images of the proximal taxa.
4 Diagnosis: The diagnosis of the selected higher taxa.

The default format is "Number". When the "Number" bottom or the "List" bottom

is clicked, the result format will be kept along the searching operation.

4.7.1. Number

Example

合計 9

Genus	Number
Hirtodrosophila	9

<Fig. 4-7-1-1: Searching results: Number>

4.7.2. List

Example

TOTAL **9**

Set Unset

	Genus	Subgenus	Species-group	Species-subgroup	Species
☐	Hirtodrosophila		hirticornis	hirticornis	kangi
☐	Hirtodrosophila		hirticornis	hirticornis	nokogiri
☐	Hirtodrosophila		hirticornis	hirticornis	pseudonokogiri
☐	Hirtodrosophila		quadrivittata	quadrivittata	ellintosa

<Fig. 4-7-2-1: Searching results: List>

The refinement search limiting among the selected taxa can be performed when the proximal taxa is selected individually.

When the “Set” bottom is clicked after the check box besides the taxa is checked, the order of the effective character is re-estimated using only the selected taxon.

The “Unset” bottom will release the selection.

The list will include only the selected taxon after clicking the “Set” bottom (Fig. 4-7-2-2).

TOTAL 9

Set Unset

	Genus	Subgenus	Species-group	Species-subgroup	Species
☑	Hirtodrosophila		hirticornis	hirticornis	kangi
☑	Hirtodrosophila		hirticornis	hirticornis	nokogiri

Set Unset

<Fig. 4-7-2-2: Searching results: List: Selection of the taxa individually>

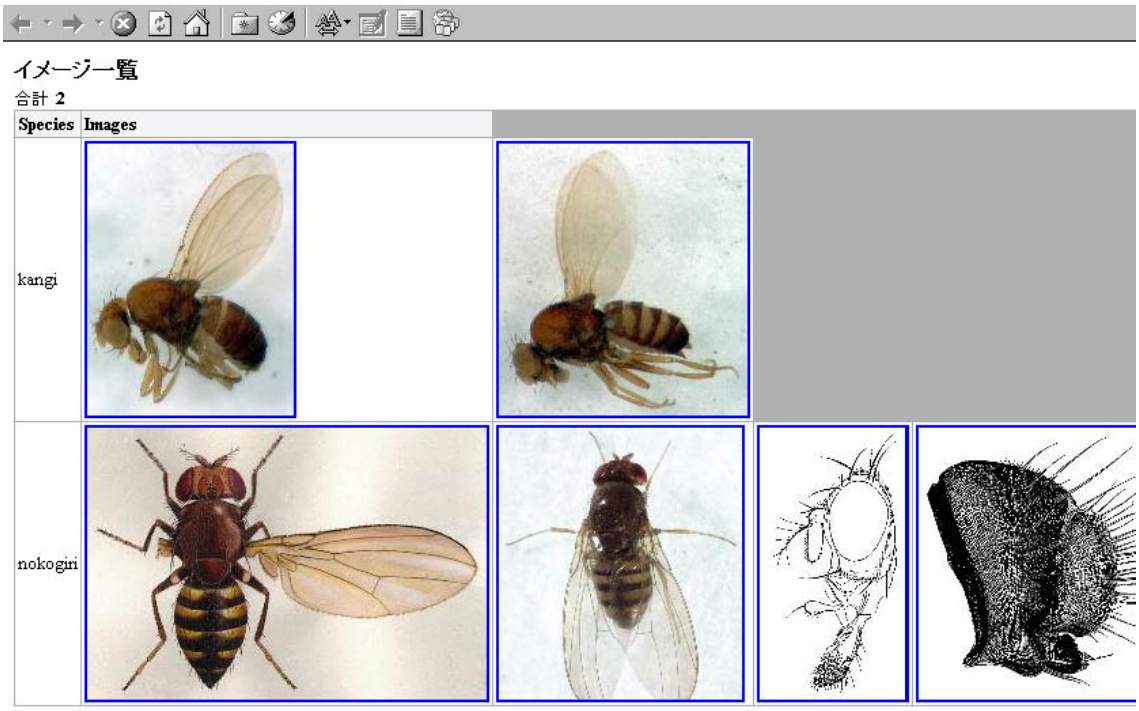
4.7.3. Image

User can refer the images grouped by the proximal taxa.

The images are shown on another screen. The original registered images are available by clicking the thumbnails.

All original registered images of the character are available by clicking the triangle mark at the end of the explanation of the character (Fig. 4-3-1(2), Fig. 4-3-3, Fig. 4-3-4).

The only images of the selected taxon are available when the specific taxon are selected in the “List”.

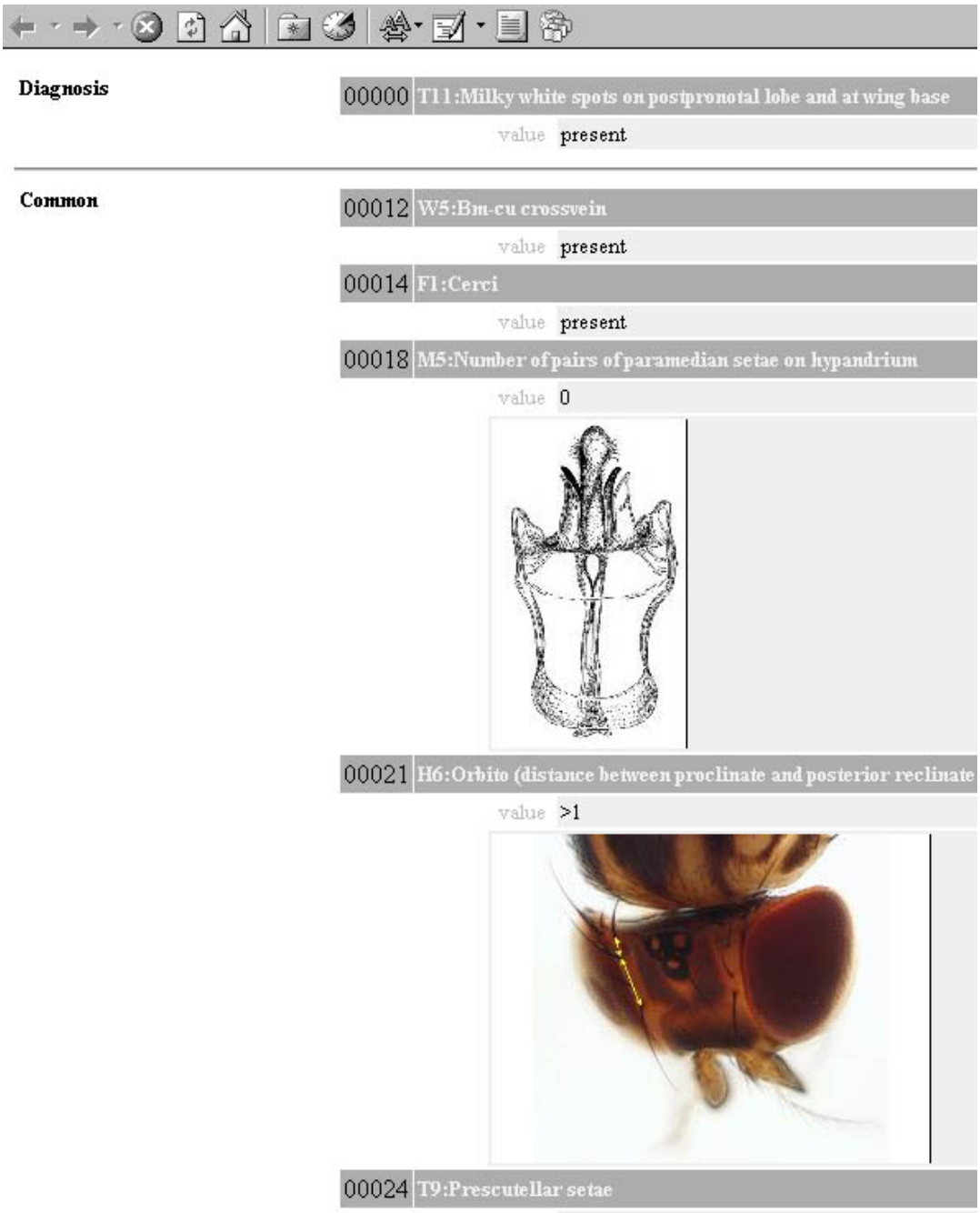


<Fig. 4-7-3-1: Searching results: Image>

4.7.4. Diagnosis

The diagnosis of the selected higher taxa is shown on another screen. Note that the diagnosis of multiple taxon selected in the “List” cannot be shown.

The diagnostic characters are listed followed by the common characters list.
The figure ahead of each character represents the count of the proximal taxa which has the identical character state in the whole taxon other than the selected taxa (i.e. zero for the diagnostic character).



<Fig. 4-7-4-1: Searching results: Diagnosis>