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The beetle fauna of Germany by Christoph Benisch © 2007-2010

Short manual for the function „Search by appearance“ on kerbtier.de

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1. Introduction

You have been outdoors and observed a nice, colorful beetle and now you want to find out the species' name?

Today, there are plenty of opportunities to find the information on the internet. If you have made a photograph of the beetle, you can post it one of the numerous relevant internet forums.

Or you can search photo galleries on the internet. However, given the fact, that in Germany alone around 7000 beetle species are known to occur, this might be a Sisyphean task, especially if you have no clue, which family to start with.

That is exactly where the function „**Search by appearance**“ comes in. The basic idea is, to allow the user to describe the appearance of the beetle in a searchform as precisely as possible. Which color(s) did the pronotum, the elytra and the legs exhibit? Which body contour and length did the animal have? Using this information, the program searches those species from a database, which match the description given by the user.





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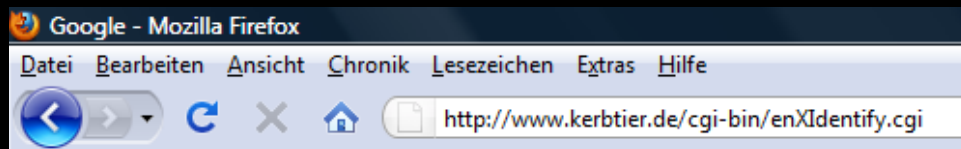
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2. Accessing the page

The function can be found on the website <http://www.kerbtier.de> in the menu „Search“ and can be started by clicking the menu entry „Search by appearance“:



Alternatively, you can call it directly under the following link: <http://www.kerbtier.de/cgi-bin/enXIdentify.cgi>











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3. Search criteria

- (1) Body shape / body contour
- (2) Color of pronotum, elytra and legs
- (3) Body length (measured from the front of the head to the apex of the elytra, without antennae)
- (4) Additional features of the elytra (pubescent, scaled, ...)

1 Body contour (required):

Closed body contour			Membered body contour		
					
<input type="radio"/> broad oval	<input type="radio"/> elongated oval	<input type="radio"/> elongate	<input type="radio"/> broad build	<input checked="" type="radio"/> less broad	<input type="radio"/> elongate

2 Color (max. 2 colors per body part, at least 1 color in total):

Pronotum:		Elytra:		Legs:	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Body length (mm):

Elytra:

Sort mode/Gender: alph. syst. length ♂ ♀

Actions:

3 4



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3.1 Search criterion body contour

The body contour is the first important search criterion and the selection of a shape is mandatory. Does the beetle exhibit a closed body contour or is it membered, i.e. it shows a marked indentation between pronotum and elytra? Is the body shape broad, less broad or even elongate?

You can select the body contour by clicking the radio button or by clicking the corresponding image of the contour.

Body contour (required):

Closed body contour			Membered body contour			
						
<input type="radio"/> broad oval	<input type="radio"/> elongated oval	<input type="radio"/> elongate	<input type="radio"/> broad build	<input checked="" type="radio"/> less broad	<input type="radio"/> elongate	
						

The species displayed are examples for each body contour, that can be chosen.



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3.2 Search criterion color

The color of pronotum, elytra and legs is the next important search criterion. Per part of the body a maximum of two color can be chosen. In total, at least one color needs to be selected for all parts.

Color (max. 2 colors per body part, at least 1 color in total):

Pronotum:	Elytra:		Legs:	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

unicolored

metallic

blue

brown

yellow

green

red

black

purple

white

The options **unicolored** and **metallic** are control words and are available only in the left of the two drop down menus. You can combine them with a color selected in the corresponding right dropdown menu. If no colors are selected at all, the coloration of the respective part of the body is ignored. The following table illustrates for the pronotum, how the color selection works:

color 1	color 2	yields species with...
.	.	all possible colors of the pronotum
red	.	totally or partially red pronotum
unicolored	.	unicolored pronotum, regardless what the color is
unicolored	green	unicolored green pronotum
metallic	.	shiny metallic pronotum , regardless of the color
metallic	red	metallic red pronotum
black	yellow	black and yellow colored pronotum, other colors might be present as well



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3.2 Search criterion color (contd.)

When selecting the colors, please keep in mind that every person has its own subjective sense of color. To distinguish between brown, red and yellow is particularly problematic. On this account, the color “orange” has not been included in the selection of colors, as this would further complicate the differentiation.

A series of examples will show, how the coloration has been stored in the database:



unicolored
brown



unicolored
red

yellow,
black



unicolored
red

red, white,
black



unicolored,
black

yellow, black

If you experience difficulties to find a picture matching the beetle you’ve seen, please try to switch your color selection between yellow, brown and red. The same applies for green and blue, as some species exhibit greenish blue coloration, which is difficult to assign to one of the two colors.

Cupreous and bronze colors are best searched for with the combination of the search words *metallic* und brown.



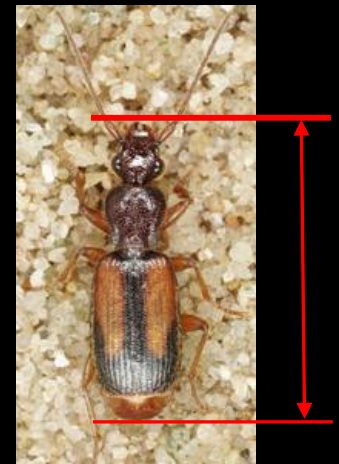
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3.3 Search criterion body length

As another search criterion, the body length in millimeter can be used. The body length is measured from the front of the head to the apex of the elytra. The antennae are not relevant for the measurement of the body length.

In case you've just estimated the body length, this criterion should not be used. From experience we know, that, when estimating the body length, the deviation can be rather large, especially if the person is not an experienced coleopterist.



Body length (mm):

Elytra:

- no input
- no input
- pubescent
- scaled
- glabrous

3.4 Additional features of the elytra

In quite a few cases, the elytra are pubescent/velvety. Many weevils and other species exhibit scaled elytra. These features can be used optionally as additional search criterion.



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4 Display of matches

After entering the search criteria, the database can be searched by clicking the button “Search”. All beetles matching the description given will be displayed as thumbnails in an overview, that can be either sorted alphabetically, systematically or by body length. The preferred sort mode can be permanently saved by clicking the button “Save” (cookies must be allowed). By clicking the button “Reset form”, all entered criteria can be erased.

Body length (mm): Elytra: Sort mode/Gender: alph. syst. length ♂ ♀ Actions:

Number of matches: 13





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5 Closing remarks

I hope, that the new function „Search by appearance will be useful to the visitors of kerbtier.de.

However, there are a few limitations, you should always keep in mind:

- kerbtier.de covers only 34% of the German beetle Fauna (on January 1st, 2011).
- A certain determination by using photographs only is often impossible, especially if the user is not familiar with similar species that can be easily confused.
- The choice of colors is subject to everyone's own subjective sense of color. This can lead to the situation, that certain species are not found and displayed (false negative) or that pop up unwanted (false positive).

Feedback of the users, which helps to improve this module is highly welcome.

The best way to send your feedback is via the contact form at <http://www.kerbtier.de/cgi-bin/enKontakt.cgi>.



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6 Revisions

- | | |
|------------|---|
| 14.12.2009 | Initial version online on kerbtier.de |
| 22.02.2010 | Sorting by body length implemented |
| 05.03.2011 | Selection of gender-specific photos added |