



Magnifier

Image Resizing Without Quality Loss



AKVIS Magnifier

AKVIS Magnifier is a sophisticated tool to increase image resolution.

Featuring advanced enlargement algorithms, Magnifier enlarges digital pictures to super-high resolution for producing stunning enlargements and poster-size prints. The sophisticated algorithms keep edges smooth, sharp and clearly defined at the same time, while improving image appearance by removing unwanted noise and compression artifacts.

AKVIS Magnifier makes it easy for anyone to produce professional-looking enlargements out of any photo. The product is available for both Windows and Mac. No photo editor is required with AKVIS Magnifier, and no steep learning curve is involved. AKVIS Magnifier is easily configurable and allows fine-tuning the enlargements by allowing complete control over the image sharpness and edges. All settings can be quickly tried, adjusted and combined by simply clicking and sliding.

The photo enlargement product allows taking a photo and enlarging it to a super-high resolution of up to 30000x30000 pixels, making a 100x100 inch (2.5x2.5 meter) poster easily printable at typographic quality of 300dpi. Larger formats are viewed from the distance and often don't require that high a resolution, allowing even larger enlargements of 200x200 inch (a whopping 5x5 meter) to be printed.

Resizing pictures with AKVIS Magnifier yields a much higher quality than simple bicubic interpolation. Using sophisticated spline resize algorithms, AKVIS Magnifier is able to output enlargements with smooth, sharp and clearly defined edges. Depending on particular needs, AKVIS Magnifier can be fine-tuned to produce images that look exactly as required for a given purpose. The photo enlarger works great if a modest 1.1x, 2x or 4x enlargement is needed, but it truly shines if used to blow up a photo to 10x or 20x the original size.

Whether creating poster-size images or adding resolution for printing an enlargement, AKVIS Magnifier will add make your prints look sharper and better defined.

AKVIS Magnifier can work independently as a **standalone program** as well as a **plug-in** to Adobe Photoshop. Both variants support color modes RGB, Grayscale, CMYK, Lab; 8/16/32 bits per channel. The **standalone** program works with JPEG, PNG, BMP, TIFF formats. The program allows printing large images at a high resolution.

The **plug-in** version of Magnifier is compatible with Adobe Photoshop and Photoshop Elements. In Photoshop the Magnifier plugin supports Batch Processing that allows you to automatically convert a series of images. Just create an Action in Photoshop and apply the plug-in with the same settings to a folder full of images. The plugin works with any (one-layered) images which can be opened by Photoshop (in supported color modes: RGB, Grayscale 8/16 bits).

Installation on Windows

Attention! You must have administrator rights to install the program on your computer. Before installing the plugin version of **AKVIS Magnifier**, please make sure that the photo editor, where you want to install the plug-in, is closed. If the photo editor was open during the installation, you should re-launch it.

Please follow the instructions to install the software:

- Start the setup file **akvis-magnifier-setup.exe**.
- Select your language and press the button **Next** to launch the installation process.
- To continue the installation process you have to read and accept the **License Agreement**.

Activate the check box "**Yes, I agree with all the terms of this license agreement**", and press **Next** (pic. 1).



Pic. 1.

- To install the **Plugin version** you should select your photo editor(s) from the list.
If your photo editor is not in the list, activate the component  **Custom Plugins Directory** and choose the folder where you keep all plugins and filters, for example, **C:\My Plugins**. In this case you should set this folder as the plugins folder in the settings of your photo editor.
To install the **Standalone version**, make sure that the check-box **Standalone** is activated. To create a shortcut for the program on desktop, activate the component **Shortcut on Desktop**. Press the button **Next** (pic. 2).
- Press the button **Install** (pic. 3).



Pic. 2.



Pic. 3.

- The installation is in progress (pic. 4).
- The installation is complete. You can subscribe to the AKVIS Newsletter. Enter your e-mail address (pic. 5).
- Press **Finish** to exit Setup.

After installation of the **standalone** version of Magnifier, you will see a new line in the **Start** menu: **AKVIS - Magnifier** and a shortcut on desktop, if during installation the component **Shortcut on Desktop** was enabled.

Note: You can launch almost all AKVIS plugins from the menu **Filters**, except **AKVIS Magnifier**.

To call the Magnifier plugin in **Photoshop** please use the command **File -> Automate -> AKVIS Magnifier**, in **Photoshop Elements**: **File -> Automation tools -> AKVIS Magnifier**. The plugin does not work with other image editors.

Unlike other AKVIS plugins, to make the Magnifier plugin work you must have two files in the Plug-Ins folder: **Magnifier_Automation.8li** and **Magnifier_Filter.8bf**.



Pic. 4.



Pic. 5.

Installation on Macintosh

Attention! You must have administrator rights to install the program on your computer.

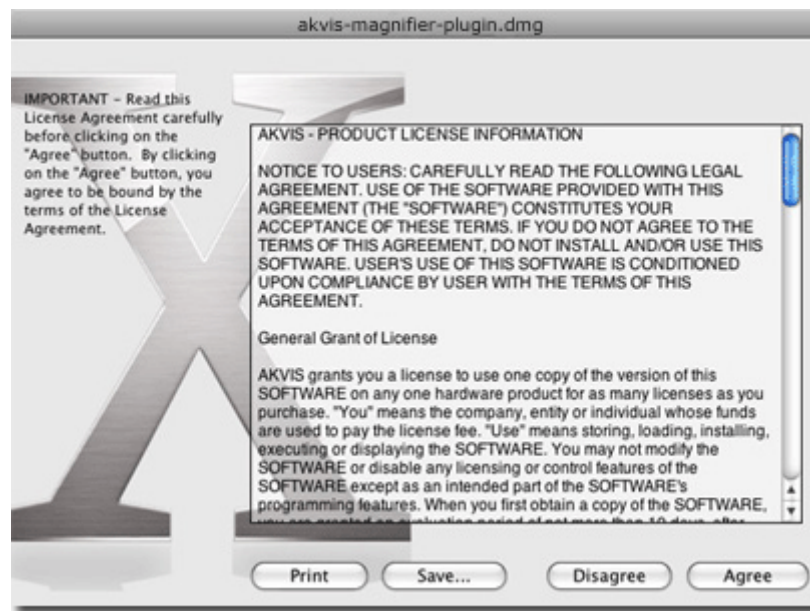
Before installing **AKVIS Magnifier** Plug-in, please make sure that the photo editor, where you want to install the plug-in, is closed.

Follow the instructions to install **AKVIS Magnifier** in Macintosh:

- Open the virtual disk **dmg**:
 - **akvis-magnifier-plugin.dmg** if you use **Photoshop CS3-CS4, Photoshop Elements 6-8**;
 - **akvis-magnifier-legacy.dmg** for **older versions** of **Photoshop** and **Photoshop Elements** or **other** compatible image editors;
 - **akvis-magnifier-app.dmg** to install the standalone version of **AKVIS Magnifier**.

You will see a dialog box with the **License Agreement** (pic. 1).

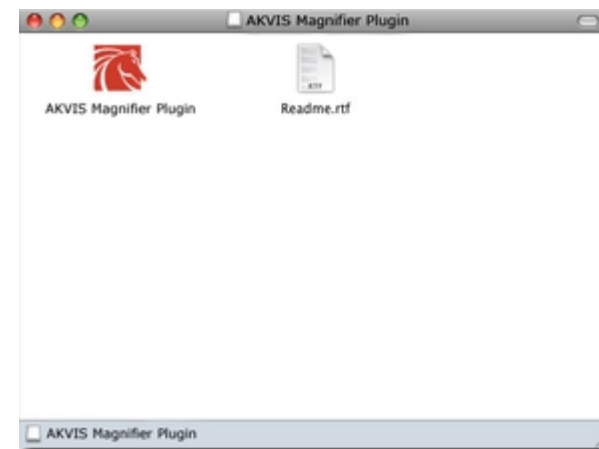
- Read the **License Agreement** and press **Agree**, if you agree with the conditions.
- Finder will open with **AKVIS Magnifier** Application (pic. 2) and **AKVIS Magnifier PlugIn** folder inside (pic. 3).



Pic. 1.



Pic. 2.



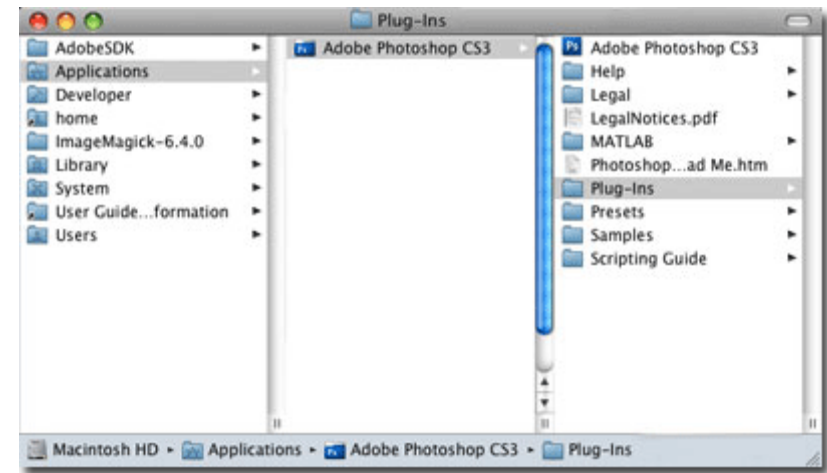
Pic. 3.

- To install the standalone version just drag the **AKVIS Magnifier** application into the folder **Applications** (or any other place you like).

To install the plugin version drag the entire **AKVIS Magnifier Plugin** folder into the **Plug-Ins** folder of your graphic editor. For example, if you use Photoshop CS3 you should move the folder **AKVIS Magnifier Plugin** into: **Applications/Adobe Photoshop CS3/Plug-Ins** (pic. 4).

Note: You can launch almost all AKVIS plugins from the menu **Filters**, except **AKVIS Magnifier**. To call the Magnifier plugin in **Photoshop** please use the command **File -> Automate -> AKVIS Magnifier**, in **Photoshop Elements**: **File -> Automation tools -> AKVIS Magnifier**. The plugin does not work with other image editors.

The standalone version is run by double-click on the application.



Pic. 4.

Program Registration

To **buy a license** you should fill in the form on the product buy-page and order the software using a secure payment system. We offer a number of payment options (credit card, bank transfer, etc). When the form is filled in and the payment is made, the serial number will be sent to you within minutes. Having received the serial number you can proceed to the program registration.

Attention! During the activation process your computer must be connected to Internet. If it is not possible, we offer you **an alternative way (see below for Offline Activation)**.

Follow the steps below to register the program:

1. Open the window **About the program** of **AKVIS Magnifier** (pic. 1).

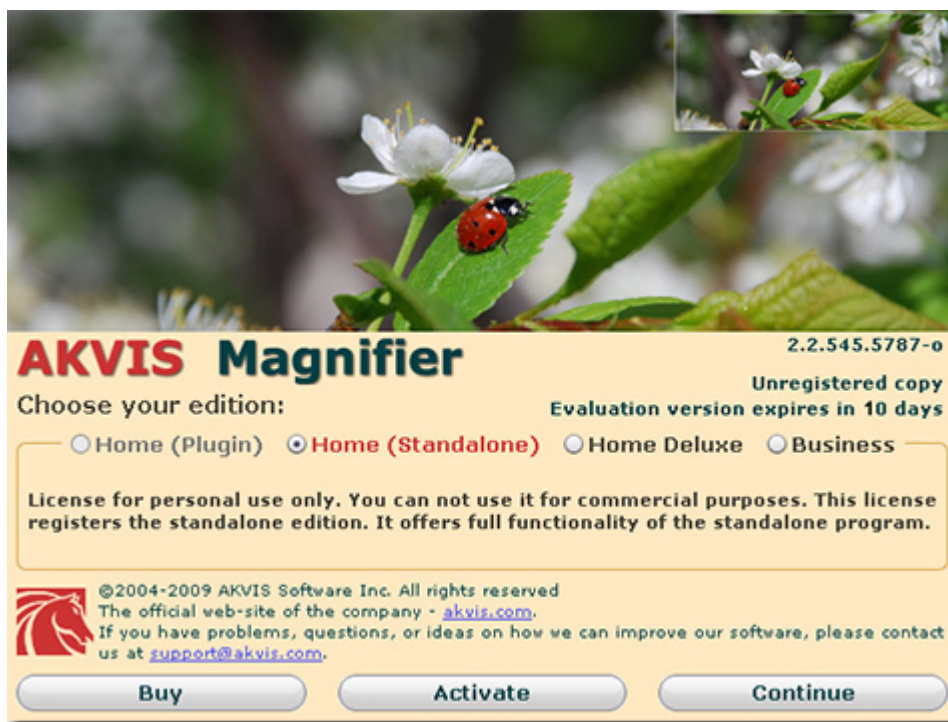
This window appears when you launch **AKVIS Magnifier**.

You can also see this window by pressing the button  in the program. Also, **Adobe Photoshop** lets you call the **About the program** window right from its menu **Help -> About Plug-In -> Magnifier (Photoshop -> About Plug-In -> Magnifier** in Macintosh).

Note that the functionality of the program depends on the license type. During the **test period** you can try all options and choose the license you like. For this select in the window **About the program** one of the offered functionality types: **Home**, **Deluxe** or **Business** (below these is a brief description of the features of the license types). Your choice of license will affect which features are available in **AKVIS Magnifier**.

The button **Buy** redirects you to the order page, where one can continue to choose a program or proceed to registration.

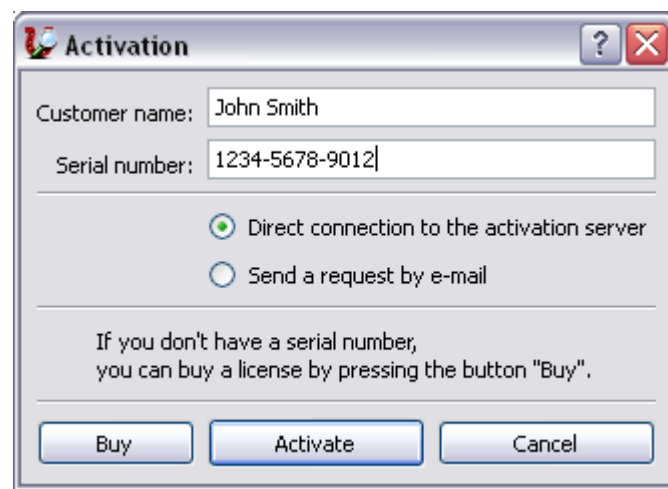
If you have a license you can improve it (for example, upgrade Home to Business) any time by paying the price difference. The process is begun by pressing the **Upgrade** button (it appears instead of **Buy** if the program is registered).



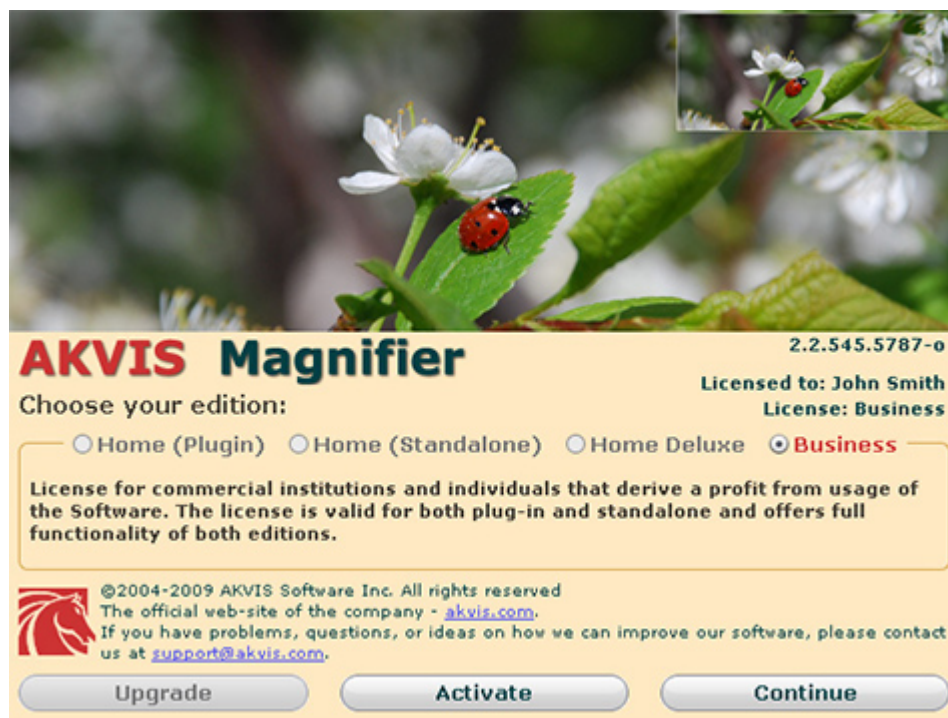
Pic. 1.

Please consult the **comparison table** for more details about license types and versions of the program.

2. Click on **Activate** in the window **About the program** to start the process of activation.
3. Enter your name (the program will be registered to this name).
4. Enter your serial number (license key) (pic. 2).
5. Choose an activation method – either through direct connection or by mail. We recommend activating the program through direct connection as it is the most comfortable way. At this step of activation your computer must be connected to Internet.
If you choose activation via email please put the lic-file into the folder AKVIS in Users' Shared (Public) Documents, and the program will be registered.
6. Press the button **Activate**. The registration is completed (pic. 3). You can start working with the photo editing software and building your unique photo collection.



Pic. 2.



Pic. 3.

Note: In case you have chosen **activation by mail**, you should put the file **Magnifier.lic** (that you will receive enclosed in the e-mail) into the folder "AKVIS" in Users' Shared (Public) Documents:

- For **Windows XP, Windows 2000:**
Documents and Settings\All Users\Documents\AKVIS
- For **Windows Vista, Windows 7:**
Users\Public\Documents\AKVIS
- For **Mac OS X:**
Users/Shared/AKVIS or your Home Directory (user's folder - with your username).

If your computer is not connected to Internet

If your computer can not be connected to Internet, follow the instruction below:

- Choose the option **Send a request via e-mail** as a method of activation. Your mailing program will create an activation letter with all necessary information.
- Save the message to a USB stick and transfer to the computer connected to Internet.
- Send the letter without changes.
- You will receive a reply with a .lic file attached (**Magnifier.lic**).
- Save the file to a USB stick and move it to your computer.
Put the file in the corresponding folder (see above).

Workspace

AKVIS Magnifier can work independently as a **standalone program** as well as a **plug-in** to Adobe Photoshop and Photoshop Elements. The plug-in version supports the "automate" function.

Unlike other AKVIS plugins, to call the Magnifier plugin in **Adobe Photoshop** select the menu item **File -> Automate -> AKVIS Magnifier**. To call the Magnifier plugin in **Adobe Photoshop Elements** use the command: **File -> Automation tools -> AKVIS Magnifier**. The plugin does not work with other image editors.

Attention! It is imperative that the layers must be merged before calling the plugin.

To launch the standalone version of **AKVIS Magnifier**, do the following:

- On **Windows**:
 - In Main menu: press the button **Start** and select **AKVIS -> Magnifier** in the pop-up menu **All Programs**.
 - Using the program's shortcut on the Desktop: put the cursor on the icon of **AKVIS Magnifier** and double-click it with the left button of the mouse.
- On **Macintosh**:
 - Using **Finder**: open the **Applications** folder on the side bar of **Finder**, select **AKVIS Magnifier** Application and double-click on it.

The workspace of **AKVIS Magnifier** looks like that (pic. 1):



Pic. 1.

Parts of the program's window:

The left part of **AKVIS Magnifier**'s workspace is taken by the **Image Window** with two tabs **Before** and **After**. The **Before** tab displays the original image, the **After** tab shows the result. You can compare the original and the resulting images by just left-clicking on any point of the image.

Attention! When switching between the tabs you can notice a slight distortion of the image proportions. This visual effect is a result of simultaneous scaling of two images; it will have no influence on the final result. To minimize this effect, it is recommended to work with images using certain scale (50%, 100%, 150% etc).

In the upper part of the window you can see a **Control panel** with the following controls:

- The button  (only in the standalone version) allows opening an image for processing.
- The button  (only in the standalone version) allows saving the image to the disk.
- The button  (only in the standalone version) allows printing the image.
- The button  (only in the plugin version) allows applying the result. When you press the button, the changes are applied to the image and the **AKVIS Magnifier** window closes.
- The button  initiates the image processing with specified set of parameters.
- The button  calls information about the program.
- The button  calls help files to the program.
- The button  calls the **Preferences** dialog box.

Navigate and scale the image using the **Navigation window** (pic. 2). In the **Navigation window** you can see the reduced copy of the image. The red frame shows the part of the image that is now visible in the **Image Window**; the areas outside the frame will be shaded. Drag the frame to make other parts of the image visible. To move the frame, bring the cursor inside the frame, press the left mouse button and, keeping it pressed, move the frame in the **Navigation window**.



Pic. 2.

To scroll the image in the **Image Window** you can press the spacebar on the keyboard and drag the image with the left mouse button. Use the scroll wheel of the mouse to move the image up/down, by keeping the **Ctrl** key pressed – to the left/to the right, by keeping the **Alt** key pressed – scale the image. Right-click on the scroll bar to activate the quick navigation menu.

Use the slider or the buttons  and  to scale the image in the **Image Window**. When you click on the  button or move the slider to the right, the image scale increases. When you click on the  button or move the slider to the left, the image scale reduces.

You can also change the image scale by entering a new coefficient into the scale field and pressing the button **Enter** (**Return** in Macintosh). The fall-down menu shows some frequently used coefficients.

You can use hot-keys to change the image scale  and **CTRL** +  ( +  in Macintosh) to increase the image scale and  and **CTRL** +  ( +  in Macintosh) to reduce the scale.

Under the **Navigation window** there is a **Settings Panel** with parameters of advanced image processing. To avoid distortion of details, it is recommended to scale the image to its original size (100%) before changing the settings of the program. There are four groups of settings: **New Size**, **Parameters**, **Unsharp Mask** and **Presets**. By using the hot-key combination **Alt** + underlined letter you can quickly move the focus into the corresponding entry field.

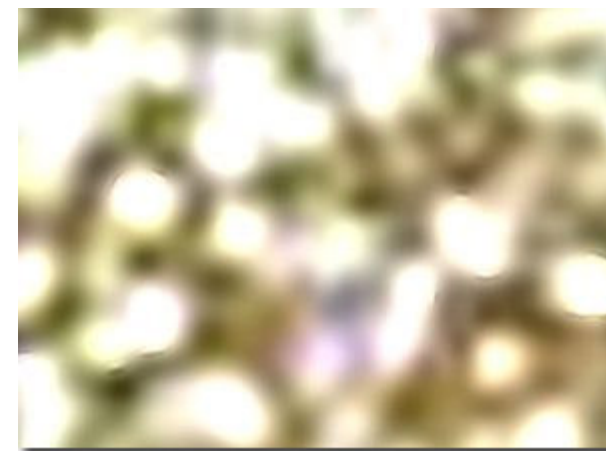
Besides, under the **Settings panel** you can see hints: a brief description of **AKVIS Magnifier** (the first time you launch it) or the description of the active parameter.

How it works

AKVIS Magnifier lets you change the size of an image within the range of 1 to 30000 pixels without loss in quality. Compare the ten times magnified image with the original image (pic. 1-2).



Pic. 1. The image after scaling using the Navigator



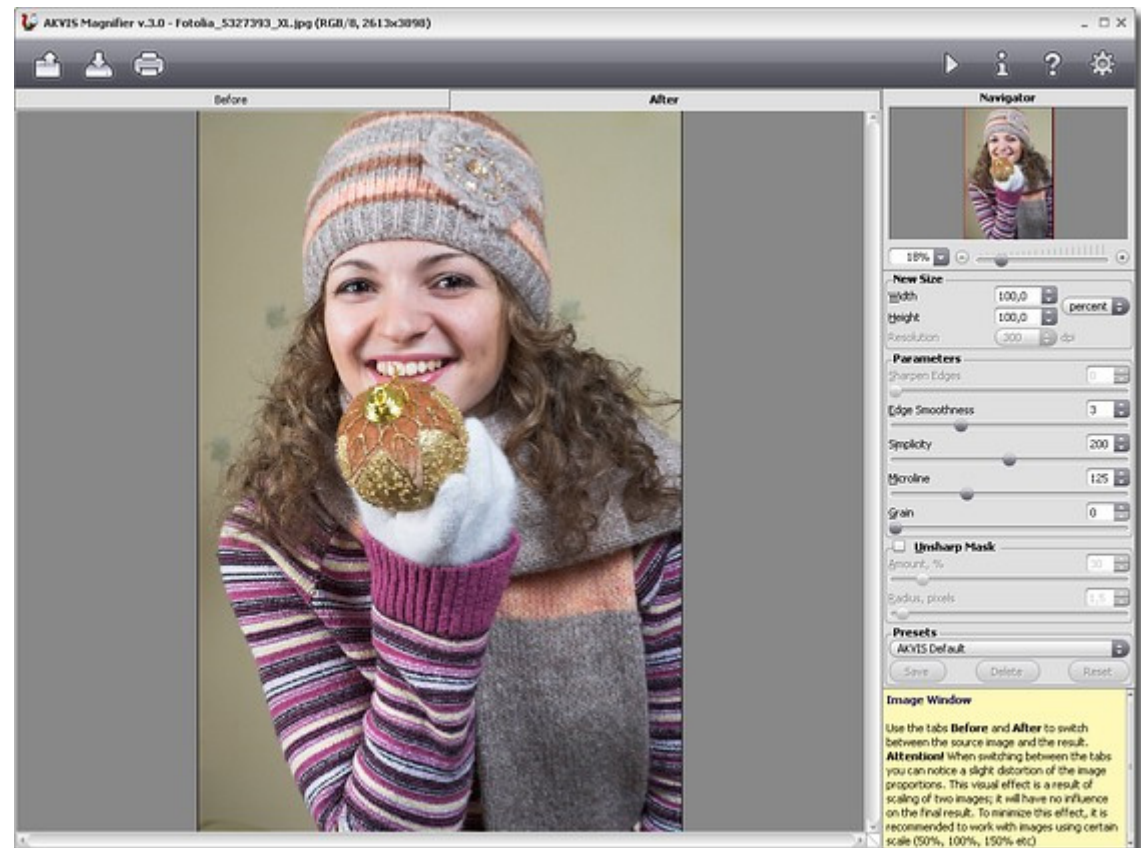
Pic. 2. Image magnification with the program

In order to resize an image, one should perform the following steps:

1. **Start** the standalone edition of **AKVIS Magnifier** or open your photo editor (if you work with the plugin version of **AKVIS Magnifier**).
2. Open an image.
 - If you work with the plugin:
Open an image in your photo editor by calling the command **File -> Open** or using the key combination **Ctrl+O**.
 - If you work with the standalone edition (use a file in BMP, JPEG, PNG or TIFF format):
The dialog box **Select file to open** appears if you double-click on the empty workspace of the program or if you click on the button  on the **Control Panel**. You can also drag the required image into the workspace of the program.

The image will be loaded into the program (pic. 3).

3. In plug-in version only: make sure that layers are merged otherwise the plugin can't be called, and select the menu item **File -> Automate -> AKVIS Magnifier**.
4. To be able to see the result of the parameters' change at once it is recommended to activate **Autorun** mode (see **Preferences**). The image will be scaled to 100%. When the button is pressed, any change in the settings or navigation on the image will result in automatic start of image processing. When the **Autorun** mode is off, the image processing starts by pressing the button . To interrupt the process, press the **Esc** key or click on the button **Cancel** right to the progress bar. If there is no processing then it closes the program's window and all the changes are lost.



Pic. 3. Original photo

- Set the required size change into the **Width** or **Height** field (in pixels, per cent, cm, mm or inches) with **Resolution** (pic. 4). Please note that the output image cannot exceed 30000 pixels in any specified direction.

If you are not going to print the image it's recommended to use 72 dpi as image resolution.

As soon as the size is changed, the program will start processing the visible part of the image with the default settings (**AKVIS Default** preset or the last used preset) (pic. 5).

- If needed, adjust the parameters in the **Settings panel**. There are following parameters:

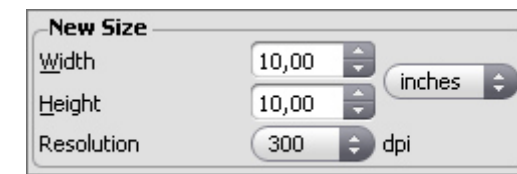
Sharpen Edges (0-100). The parameter increases sharpness and intensity of objects' edges. Because of the specific properties of the algorithm, it is reasonable to sharpen edges only in the range of 101% to 500%; at a higher image size the optimum parameter value is chosen automatically and the parameter is disabled.



Sharpen Edges = 0



Sharpen Edges = 80



Pic. 4.



Pic. 5.

Edge Smoothness (1–8). This parameter smooths color gradients on the border of contrasting color zones. At high values of the parameters the border looks softer. At low values of the parameter the border line looks uneven and irregular: it is well visible on an image with contrasting color zones.



Edge Smoothness = 1



Edge Smoothness = 8

Simplicity (0–400). The parameter sets the level of detail on the final image. The higher the value of the parameter, the more simplified and artificial will look the result; the lower the value – the more details will be visible. At the same time sharpness/smoothness of the image is influenced by the size and the scale of the image. At high values of the **Sharpen Edges** parameter, the difference between the original and the simplified image increases.



Simplicity = 10



Simplicity = 380

Microline (0-400). The parameter singles out thin (1-2 pixels) contrasting lines on an image with a low resolution. The default value provides a satisfactory result, but it is possible to adjust it. At low values of the parameter the lines are thinner and the edges are sharper (the cheek line on the image below). At higher values, the lines get a bit thicker (the locks).



Microline = 10



Microline = 400

Grain (0-25). The parameter adds slight noise to the image. It is helpful in case of an oversmoothed image (an image processed with high values of the **Sharpen Edges** parameter and a high level of **Simplicity**).



Grain = 0



Grain = 15

Unsharp Mask. The instrument sharpens the image by increasing contrast between the pixels. When the check-box is enabled, the program compares the resulting image with its blurred copy and if the pixel of the image contrasts with the pixel of the blurred copy, the contrast is increased; otherwise, the pixel stays unchanged. In this way the program processes all image pixels.

- The level of contrast between the pixels is regulated by the parameter **Amount**. The values of the parameter range between 0 and 250%. At 100% the contrast is increased twice, at 200% - by 4 times, etc.
- The **Radius** of the copy blurring shows a number of pixels around pixel to be corrected (that is the sharpen contour size). While 1.5 pixel is a recommended blurring radius, the latter can vary between 0 and 50 pixels.



Before Unsharp Mask



*After Unsharp Mask
Amount = 120, Radius = 3,5*

It's worth mentioning that **Edge Smoothness** and **Microline** are advanced settings which provide a finer means of control. The **Sharpen Edges**, **Edge Smoothness**, **Simplicity** and **Microline** are disabled at scales lower than 100%.

7. Click on the button  to process the image with the adjusted settings.
Attention! Increasing an image's size is a resource-intensive process and requires a substantial RAM capacity and 2-3 Gb of free space on disk C:/ for swap-files. When increasing a 5-10 megapixel image on 400%, the image area increases by 16 times + 200-300 Mb; in this case the processing will consume about **1,5 Gb RAM**.
8. It is possible to save the settings you like as a preset and use them in the future. To save a preset, enter a name for the preset into the **Presets** field and press the button **Save**. The settings of the selected preset will be used as default settings. If you change the values of the parameters, you can always come back to the default settings of the preset with a click on the button **Reset**. To process an image with the settings of a certain preset, you should select it from the fall-out

menu and press the button . To delete a preset, select it from the list and press **Delete**.

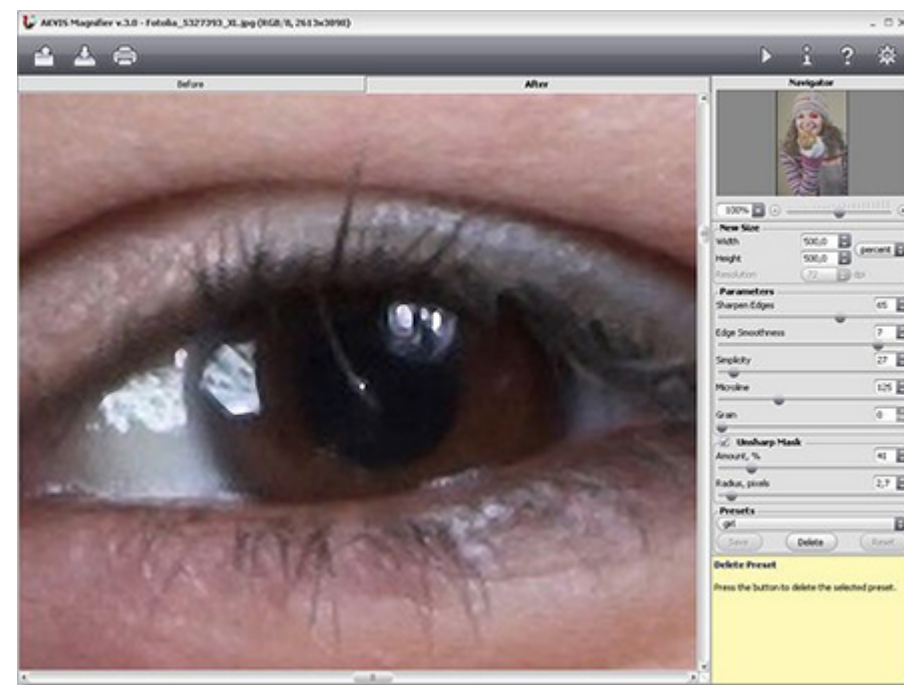
9. In plug-in version only: press the button  to apply the result and close the plugin window. The **AKVIS Magnifier** plugin will close and the resized image will appear in the workspace of the photo editor.
10. Save the processed image.
 - If you work with the plugin:

Call the **Save As** dialog box using the command **File -> Save As**, enter a name for the file, choose the format and indicate the target folder.

- If you work with the standalone edition:

Click on the button  to open the **Save as** dialog box. Enter a name for the file, choose the format (TIFF, BMP, JPEG or PNG) and indicate the target folder.

Below you can see the result of image scaling with parameters, presented in the screenshot (pic. 6).



Pic. 6.

11. The standalone edition of **AKVIS Magnifier** can print the image. For this purpose press the button , adjust print settings in the **Print** dialog box and press the button **Print**.

The left part of the **Print** dialog box (Pic. 7) is the preview area where the current position of the image on the page is shown. On the right side of the dialog window the following print settings can be adjusted:

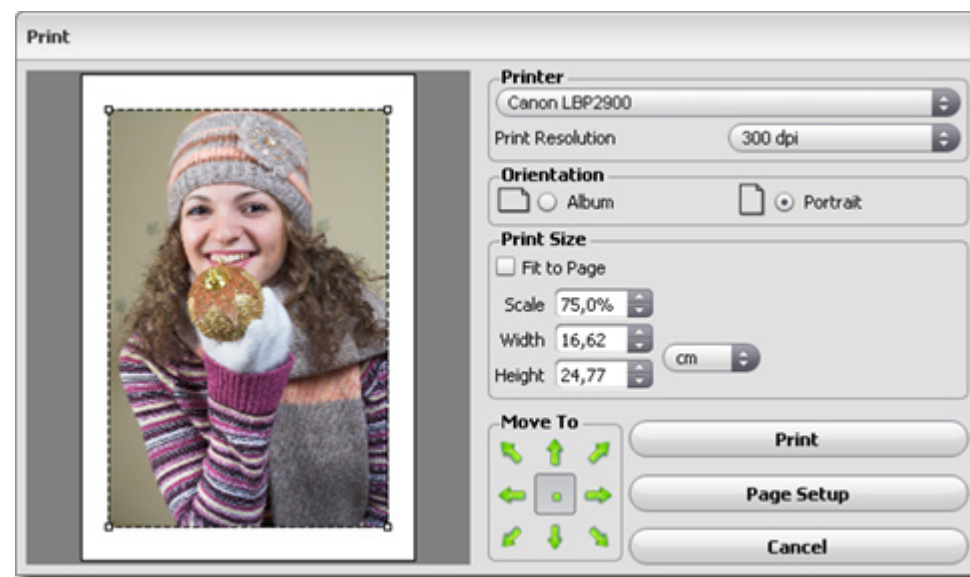
- **Printer.** If your computer is connected to a local network with many printers or if it is connected to many output devices itself, you will need to choose one of the available printers to print your image. Choose the desired print resolution from the **Print Resolution** drop-down list. The available choices will be based on those available for the printer you have chosen.
- **Orientation** of the printed image. There are two types of orientation available - **Album** and **Portrait**. **Album** corresponds to the horizontal page orientation (width is greater than height), while **Portrait** - corresponds to the vertical orientation of the paper.
- **Print Size.** To change the size of the printed image, adjust the parameters **Scale**, **Width**, **Height** and **Fit to Page**. These parameters have no effect on the image itself, just on the printed version. You can change the size of the printed image by entering any value in % (any value less than 100% will result in a smaller print size, and any value larger than 100% - will result in a larger print size), or by entering new values in **Width** and **Height**. If you want the size of the image to be adjusted to the paper size, then just select **Fit to Page**.
- **Move To.** Choose the position of the image on the page by clicking on one of the the nine green arrows.

The **size** of the printed image and its **orientation** can also be selected manually. A frame with markers is displayed around the image in the preview window. To change the size of the image move the cursor to one of the corner markers or to a side (the cursor changes in shape to a double sided arrow) and drag the marker or side. To change the position of the image on the page, bring the cursor over the image, press the left mouse button, and move the cursor.

Clicking the **Page Setup** button opens a dialog window in which you can choose the size of the paper and its orientation, as well as the print margins.

To print an image with the chosen parameters, press the **Print** button. To cancel and close the printing dialog window press the **Cancel** button.

12. Close the program **AKVIS Magnifier**.



Pic. 7.

Program Preferences

The **Preferences** dialog box looks like this (Pic. 1).

Program Language. Change the language by selecting another from the drop-down list.

Autorun mode. In this mode any change in the settings or navigation on the image will result in an automatic start of image processing. When the **Autorun** mode is off, the image processing starts by pressing the button .

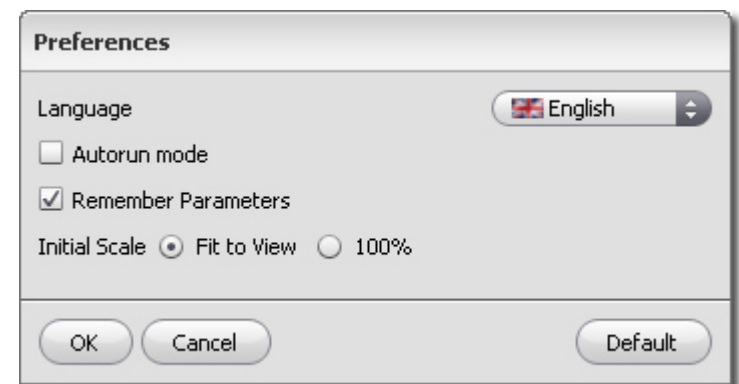
Remember Parameters. Selecting the check-box preserves the changes made to the settings every time the program is launched.

Initial Scale. This parameter defines the way the image is scaled in the **Image Window** after opening. The parameter can take one of two values:

- image scaling **Fit to view**. The scale adjusts so that the image will be completely visible in the **Image Window**;
- if the option **100%** is checked, image doesn't scale. Generally, when the scale = 100%, only part of the image will be visible.

To save changes made in the **Preferences** window press **OK**.

If you need, click on the button **Default** to come back the default settings.



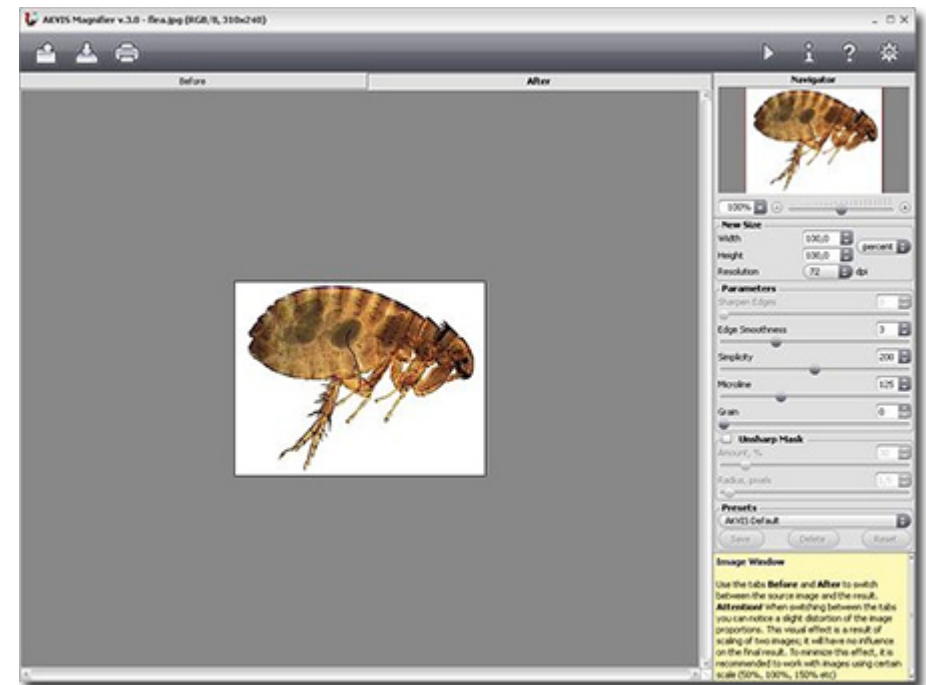
Pic. 1.

Funny fleas

There is a notion of infinite regression in logic that describes a process of change that goes on and on and never stops. A graphic example for this phenomenon gives a funny verse about fleas ascribed to Scottish mathematician **August de Morgan** (19 century):

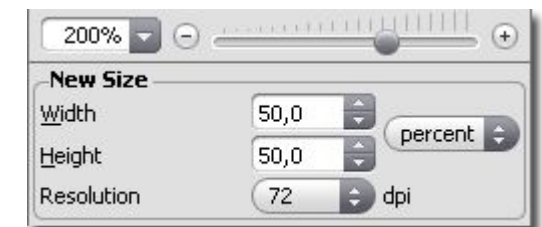
*Great fleas have little fleas upon their backs to bite 'em,
And little fleas have lesser fleas, and so ad infinitum.
And the great fleas themselves, in turn, have greater fleas to go on,
While these again have greater still, and greater still, and so on.*

This story tells us about an infinite increase (reduction) of the size of fleas living on each other. We will illustrate some of the stages of this process using **AKVIS Magnifier**, a program for image resizing.



Pic. 1.

1. Launch the program **AKVIS Magnifier**.
2. Open the original image with a double click of the left mouse button on the **Image Window**. The image is small and fits into the **Image Window** (the current scale is 100%) (pic. 1).
3. Activate the **Autorun** mode (see **Preferences**) for the program to process the image automatically, every time you change the settings.
4. Reduce the image twice. For this purpose set the new size into the **New Size** field: select **percent** in the fall-down menu and enter 50 into the **Width** or into the **Height** field and press the **Enter**-key (pic. 2). The program will scale the image to the original image size (the current scale is 200%), so that you could compare the images by switching between the **Before** and **After** tabs with the left mouse button.

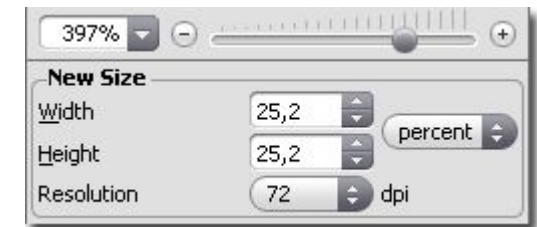


Pic. 2.

5. Save the image as *little-flea.jpg* by clicking on  and entering a name for the file into the **Save as** field. Before the image is saved, the whole image will be processed (like with a click on ).
6. Reduce the image by 4 times. Enter 25 into the **Width** or into the **Height** field and press the **Enter**-key (as the image is already in the workspace, we do not need to load it again). The current scale is about 400 percent (pic. 3).

When switching between the tabs, you can notice that the reduced copy is a bit faded. To improve the image quality on the scales lower than 100% use the **Unsharp Mask** parameter. The parameter settings can be applied with a click on the corresponding check-box. In this case the original color range is restored with the default settings of **Amount** = 30 and **Radius** = 1,5 (pic. 4).

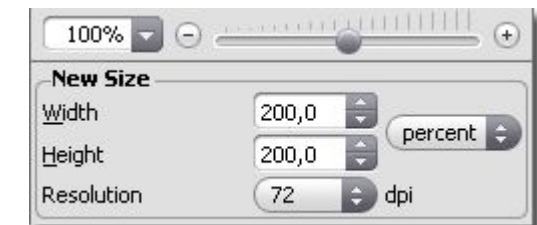
7. Save the result as *little-little-flea.jpg* (see Step 5).
8. Increase the original image twice: enter 200 into the **Width** or into the **Height** field and press the **Enter**-key (pic. 5). The image will be processed with default settings (**AKVIS Default** preset) and will be scaled to 100%. You can increase the value of the **Sharpen Edges** parameter to 20 to improve the sharpness of the image.
9. Save the result as *big-flea.jpg* (see Step 5).
10. Restore the default values. For this purpose select **AKVIS Default** in the **Presets** list.
11. Increase the original image by 4 times: enter 400 into the **Width** or into the **Height** field and press the **Enter**-key (pic. 6). The image will be processed with the current settings and scaled to 100%.



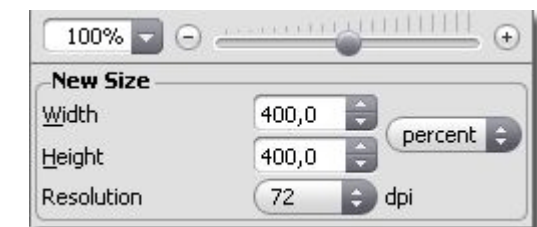
Pic. 3.



Pic. 4.



Pic. 5.



Pic. 6.

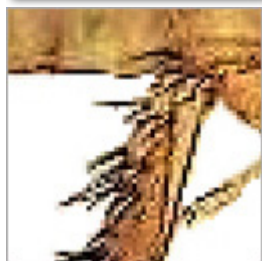
12. Use the advanced parameters on the **Settings Panel** to fine tune the result. Compare the result and the original image (pic. 7) to find the optimum settings.

«Weak» settings (pic. 8):

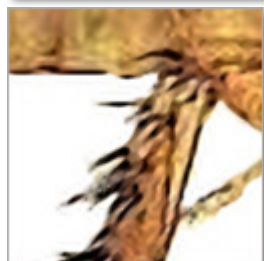
- Adjust the **Microline** parameter. As the image contains many thin strokes, you can use a high value of the parameter (370).
- Smoothen the edges (**Edge Smoothness** = 5).

«Strong» settings (pic. 9):

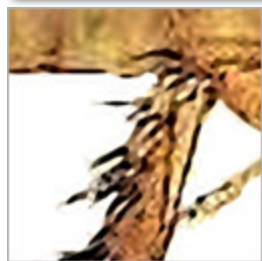
- Increase the value of **Sharpen Edges** to 40-50 to keep more details. The thin lines will become a bit sharper, too.
- Reduce the value of **Simplicity** to 100, so that the result remains close to the original image.



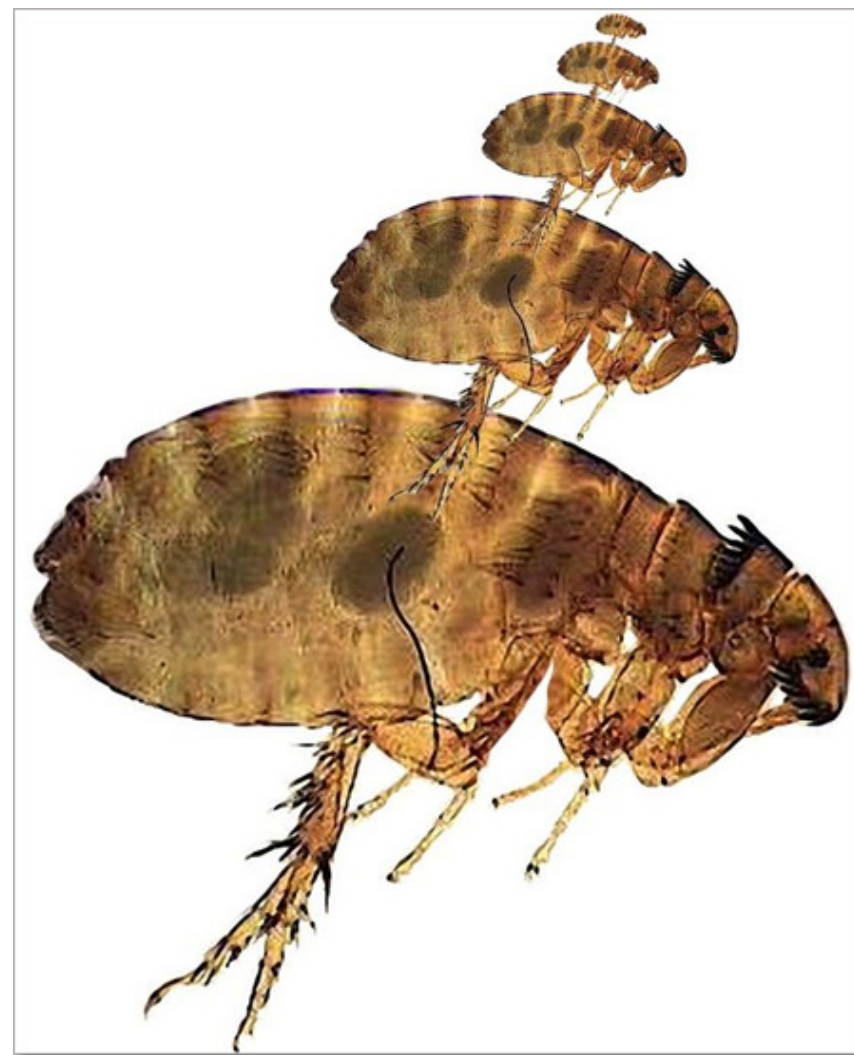
Pic. 7.



Pic. 8.



Pic. 9.



Fleas biting each other

13. Save the result as *big-big-flea.jpg* (see Step 5).

14. Close the program **AKVIS Magnifier**.