Collapse node

Version 1.0.0, by Giorgio Bianchini

Description: Collapses a node.

Module type: FurtherTransformation

Module ID: `3812314b-e821-4399-abfd-2a929a7a7d80`

This module can be used to "collapse" a node. This means that the topology below the selected node is hidden, and the node and its descendants are displayed as a triangle.

This module can be enabled manually, or by using the *Collapse selection* Selection action module.

Parameters

Default cartoon colour

Global setting

Control type: Colour

Default value: ☐ #F0F0F0 (opacity: 100%)

This global settings determines the default colour used when this module is enabled. It can be changed from the global settings window accessible from Edit > Preferences... (the change will have no effect on instances of this module that have already been added to the plot, it will only affect new instances). Note that this setting affects both the *Cartoon node* and the *Collapse node* modules.

Node

Control type: Node

This parameter selects the node that should be "collapsed". If only a single node is selected, that node is collapsed. If mode than one node is selected, the last common ancestor (LCA) of all of them is collapsed. Nodes are selected based on their `Name`. Note that this module will have no effect if the selected node is a tip of the tree.

Equalise lengths

Control type: Check box

Default value: Checked

If this check box is checked, the branch lengths of the descendants of the selected node are adjusted so that the collapsed node looks like an isosceles triangle. Otherwise, the triangle will have a shorter side corresponding to the position of the descendant that is closest to the selected node, and a longer side corresponding to the position of the descendant node that is farthest from the selected node.

Fill colour

Control type: Colour

Default value: see [Default cartoon colour]

The colour to use to fill the triangle when drawing the tree. The default value is determined by the [Default cartoon colour] global setting. If you have the *Color picker* Menu Action module installed, you can press `CTRL+SHIFT+C` (`CMD+SHIFT+C` on macOS) to open a colour picker dialog to choose this colour.

Further information

The difference between this module and the *Cartoon node* module is that with the *Cartoon node* module, the size of triangle is proportional to the number of tips that descend from the cartooned node, while with this module the size of the triangle is always the same (and corresponds to the size that would be obtained with the *Cartoon node* module if there were only two descendants.

This module first of all removes all the children from the selected node except two; the branch lengths of these two remaining children are altered so that they correspond to the distance of the closest and fartest leaf that descended from the selected node.

Then, the module adds to the selected node (and the two children) an attribute whose name corresponds to the Id of the *Cartoon node* module (i.e. `0c3400fd-8872-4395-83bc-a5dc5f4967fe`) and whose value is a representation of the [Fill colour], as well as another attribute whose name corresponds to the Id of this module (i.e. `3812314b-e821-4399-abfd-2a929a7a7d80`) and whose value is simply `Collapsed`. This signals to compliant Coordinates and Plot action modules that the node and its descendants are "collapsed" and should be drawn accordingly.

The same result could be obtained by applying the same attribute using a different module (e.g. *Add attribute* or *Custom script*).