Set up age distributions

Version 1.0.3, by Giorgio Bianchini

Description: Computes node age distributions.

Module type: FurtherTransformation

Module ID: `a1ccf05a-cf3c-4ca4-83be-af56f501c2a6`

This module is used to set up the age distributions for the nodes, that can then be plotted using the *Plot age distributions* (id `5dbe1f3c-dbea-49b3-8f04-f319aefca534`) Plot Action module.

To use this module, you should open a tree file containing e.g. a sample from the posterior distribution of dated trees. This module will use all the trees in the file to compute the age distributions.

Parameters

Age type

Control type: Drop-down list

Default value: Until tips

Possible values:

- Until tips
- Since root

This parameter determines the kind of age that is computed.

If the value is `Since root`, the age of each node corresponds to the distance d (as in, the sum of branch lengths) from the node to the root of the tree; in this case, the root node would have an age of `0`.

If the value is `Until tips`, first the total length l of the tree from the root node to the most distant tip is computed; then, the age of each node is $d - l$. In this case, if all the tips of the tree are contemporaneous, they will have an age of `0`.

Compute mean

Control type: Check box

Default value: Checked

If this check box is checked, in addition to the age distribution, the mean age for each node.

Credible interval

Control type: Drop-down list

Default value: Highest-density

Possible values:

- None
- Highest-density
- Equal-tailed

This parameter determines what kind of credible interval for the age is computed. If the value is `None`, no credible interval is computed. If the value is `Highest-density`, the interval that contains the proportion of samples specified by the Threshold with the highest probability density is computed. If the value is `Equal-tailed`, the interval corresponds to the symmetrical interval around the average that contains the specified proportion of samples.

The functions for computing credible intervals are based on code from the R package `bayestestR`, available under a GPLv3 licence here.

Threshold

Control type: Slider

Default value: 0.89

Range: [0.00, 1.00]

Scaling factor

Control type: Number spin box

Default value: 1

Range: [0, $+\infty$)

This parameter is used to scale the age distributions (and the tree, if the Apply scaling to transformed tree check box is checked).

Apply scaling to transformed tree

Control type: Check box

Default value: Checked

If this check box is checked, the scaling factor is applied to the transformed tree, as well as to the age distributions.

Name

Control type: Text box

Default value: AgeDistributions

This parameter specifies a name that can be used to identify the age distributions in cases where multiple age distributions have been computed for the same tree.

Apply

Control type: Button

This button applies the changes to the other parameter values and signals that the tree needs to be redrawn.