a) Creating a DateLife search query

a1) A list of **taxon names** is provided by the user**.** It can contain synonyms and misspellings:

a
B_1
C
D
Ee
F_x

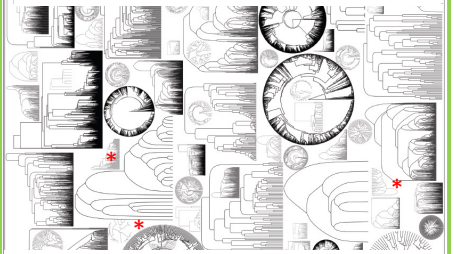
a2) Taxon names are processed using the Taxonomic Name Resolution Service (**TNRS**) and are **standardized** to a taxonomy:

A
B
C
D
E
F

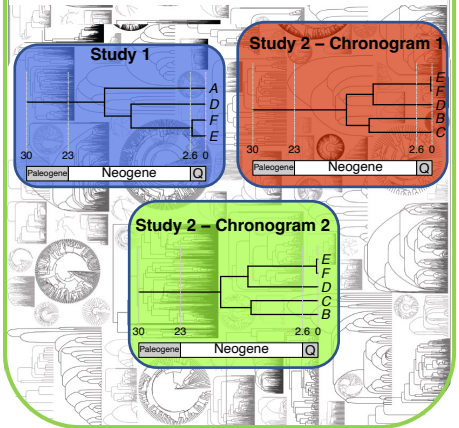
In this mock example, 4 names (in bold) are synonyms in the standardized taxonomy.

b) Searching DateLife's chronogram database

b1) Processed taxon names are searched in DateLife's chronogram database and identified (*):



b2) Matching chronograms are pruned and saved as **source chronograms:**



c) Summarizing DateLife's search results

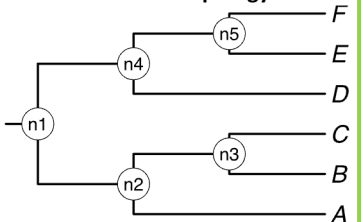
c1) A **tree topology** of the taxa of interest is chosen:

BOLD SYSTEMS | OPEN Tree of Life | Your own tree | A tree from the literature | The largest source chronogram

c2) Nodes from source chronogram are **congruified** to nodes in the tree topology:

	Node Name	Node Age	Study chronogram
1	n1	16.949962	Study 1
2	n1	14.333652	Study 2 – Chronogram 1
3	n1	16.298486	Study 2 – Chronogram 2
4	n3	10.530444	Study 2 – Chronogram 1
5	n3	11.209537	Study 2 – Chronogram 2
6	n4	12.513387	Study 1
7	n4	9.862246	Study 2 – Chronogram 1
8	n4	11.731763	Study 2 – Chronogram 2
9	n5	2.289823	Study 1
10	n5	0.201199	Study 2 – Chronogram 1
11	n5	0.240930	Study 2 – Chronogram 2

A tree topology



c3) Congruified **node ages** are **summarized** by node:

Node	Min. Age	Median	Mean	Max. Age	SD
n1	14.333652	16.29849	15.8606998	16.949962	1.3619880
n3	10.530444	10.86999	10.8699907	11.209537	0.4801916
n4	9.862246	11.73176	11.3691320	12.513387	1.3622640
n5	0.201199	0.24093	0.9106507	2.289823	1.1945635

Median summary chronogram

c4) Summary ages of congruent nodes are used as secondary calibrations to **date the tree topology:**