

Hundreds of fatty acids
synthesized by thousands
of plants and their phylogenetic
relationships

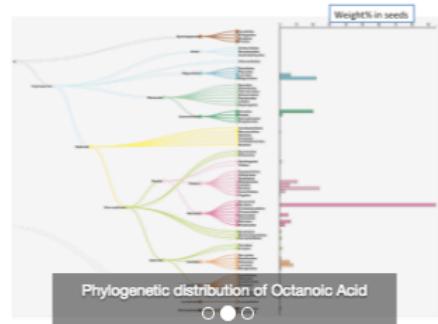
This website and database are under development and are based on the superb
SOFA database (sofa.mri.bund.de).

Note: PhyloFAdb does not include data from SOFA for tocopherols, sterols, and triacylglycerol structures. Links to the original SOFA website tables are provided in PhyloFAdb for each publication. It is likely that some mistakes have been made during incorporation of SOFA information into PhyloFAdb. Please notify John Ohlrogge if you find these.

A major goal of PhyloFAdb is to allow users to easily explore relationships between unusual fatty acid structures and the plant species that produce them.

Click on “Tree” from the home page provides an overview of the data coverage of the plant kingdom.

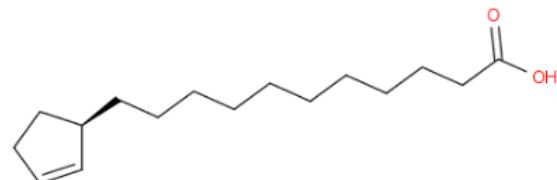
Hundreds of fatty acids synthesized by thousands of plants and their phylogenetic relationships



Phylogeny

Explore relationships between unusual FA structures and plants that produce them.

[View Tree](#)



Fatty Acids

Structure images and info for >330 FA. Click Name to see species that produce a FA, publications, and data. Click 'Tree' to display phylogenetic distribution of a FA

List FA



Plants

FA analysis for > 7000 plants. Click on species for graphs of FA composition, oil content, and links to publications and individual data sets.

A brief intro to PhyloFADB

Showing the number of datapoints across all publications for a phylogenetic class.
Select an option from boxes below to display maximum wt% of a FA, or FA within a structural group.
Click on a node to expand or contract phylogenetic level. (Open circles on leaf nodes indicate no data available)

Category: Molecule:

Tree Plants Literature Fatty Acids Downloads Help Admin

An open circle in this column indicates no FA data available for this Order.

Mouse over will pop-up a description of the Orders

All Gymnosperm and Angiosperm Orders are shown, and a few non-vascular plant orders. (source MOBOT/APweb)

Order

datapoints

Order	datapoints
Gymnosperms	~6,500
Angiosperms	~1,800
Magnoliids	~1,800
Monocots	~1,500
Eudicots	~4,500
Rosids	~3,200
Fabids	~5,800
Malvids	~4,000
Santalales	~1,500
Berberidopsidales	~1,500
Caryophyllales	~2,000

- Two drop down boxes are available that will produce a phylogenetic tree for either a) category of fatty acid or b) selected individual fatty acids.

Showing the number of datapoints across all publications for a phylogenetic class.
Select an option from boxes below to display maximum wt% of a FA, or FA within a structural group.
Click on a node to expand or contract phylogenetic level. (Open circles on leaf nodes indicate no data available)

The drop down list for “Category” allows user to display the phylogenetic distribution of a particular functional group (e.g. epoxy, cyclopropane, etc.)

Filter by: Category Example molecules

Reset

Spermatophyt

- mono-hydroxy
- epoxy
- conjugated
- oxo
- branched
- cyclopropane
- cyclopentene
- acetylenic

Filter by: Category Example molecules select others from Fatty Acid listing

Reset

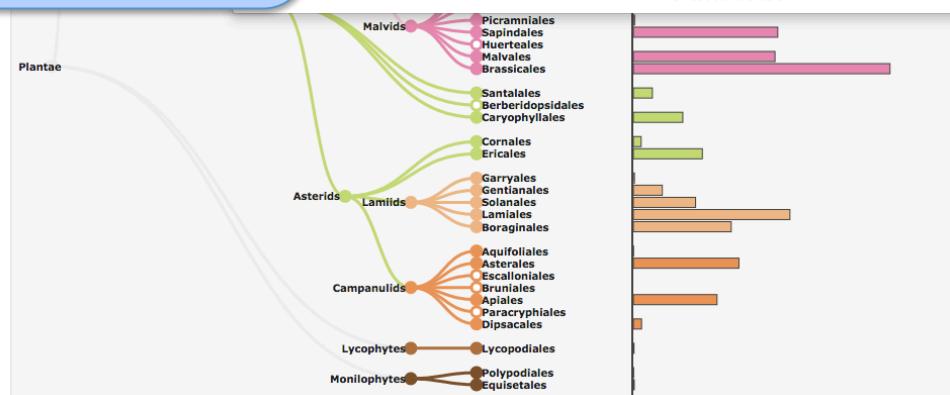
Spermatophyte Angiospe

8:0	Caprylic acid	Octanoic acid
10:0	Capric acid	Decanoic acid
12:0	Lauric acid	Dodecanoic acid
14:1cy	Alepic acid	2-Cyclopentene-1-nonanoic acid
16:1-delta-9c	Palmitoleic acid	9-Hexadecenoic acid, (9Z)-
18:4-delta-9,11,13,15	Parinaric acid	9,11,13,15-Octadecatetraenoic acid
18:3-delta-6c,9c,12c	gamma-Linolenic acid	6,9,12-Octadecatrienoic acid, (6Z,9Z,12Z)-
18:3-delta-9t,11t,13t	beta-Eleostearic acid	9,11,13-Octadecatrienoic acid
18:2-delta-9c,12a	Crepenynic acid	9-Octadecen-12-ynoic acid, (9Z)-
18:3-delta-9c,12c,15c		9,12,15-Octadecatrienoic acid, (9Z,12Z,15Z)-
8,9-cpe-18:1	Malvalic acid	1-Cyclopropene-1-heptanoic acid, 2-octyl-
18:1-delta-11c	Asclepic acid; cis-Vaccenic acid	11-Octadecenoic acid, (11Z)-
18:1-delta-6c	Petroselinic acid	6-Octadecenoic acid, (6Z)-
18:1-delta-5c		5-Octadecenoic acid, (5Z)-
18:1-delta-9c	Oleic acid	9-Octadecenoic acid, (9Z)-
15,16-O-18:2-delta-9c,12c	Sterculic acid	9,12-Tetradecadienoic acid, 14-(3-ethyl-2-oxir-
9,10-cpe-19:1	Coroneric acid	1-Cyclopropene-1-octanoic acid, 2-octyl-
	Dihydrosterculic acid	2-Oxiranooctanoic acid, 3-(2Z)-2-octen-1-yl-, (
18:1-delta-12c	Ricinoleic acid	Cyclopropanooctanoic acid, 2-octyl-, (1R,2S)-n
11-19:0	Hormelic acid	9-Octadecenoic acid, 12-hydroxy-, (9Z,12R)-
8:1-delta-9c		2-Cyclopentene-1-pentadecanoic acid, (+)-
ta-11c		11-Eicosenoic acid, (11Z)-
ta-13c	Erucic acid	Eicosanoic acid
ta-15c	Nevonic acid	13-Docosenoic acid, (13Z)-
		Docosanoic acid
		15-Tetracosenoic acid, (15Z)-
		Tetracosanoic acid

The drop down list for “Example molecules” shows:

Delta notation; common name; systematic name

This list provides faster access to some FA structures and illustrates features of PhyloFAdb



Showing the maximum wt% across all publications for FA: 8:0; Caprylic acid; Octanoic acid

Click on a node to expand or contract phylogenetic level. (Open circles on leaf nodes indicate no data available)

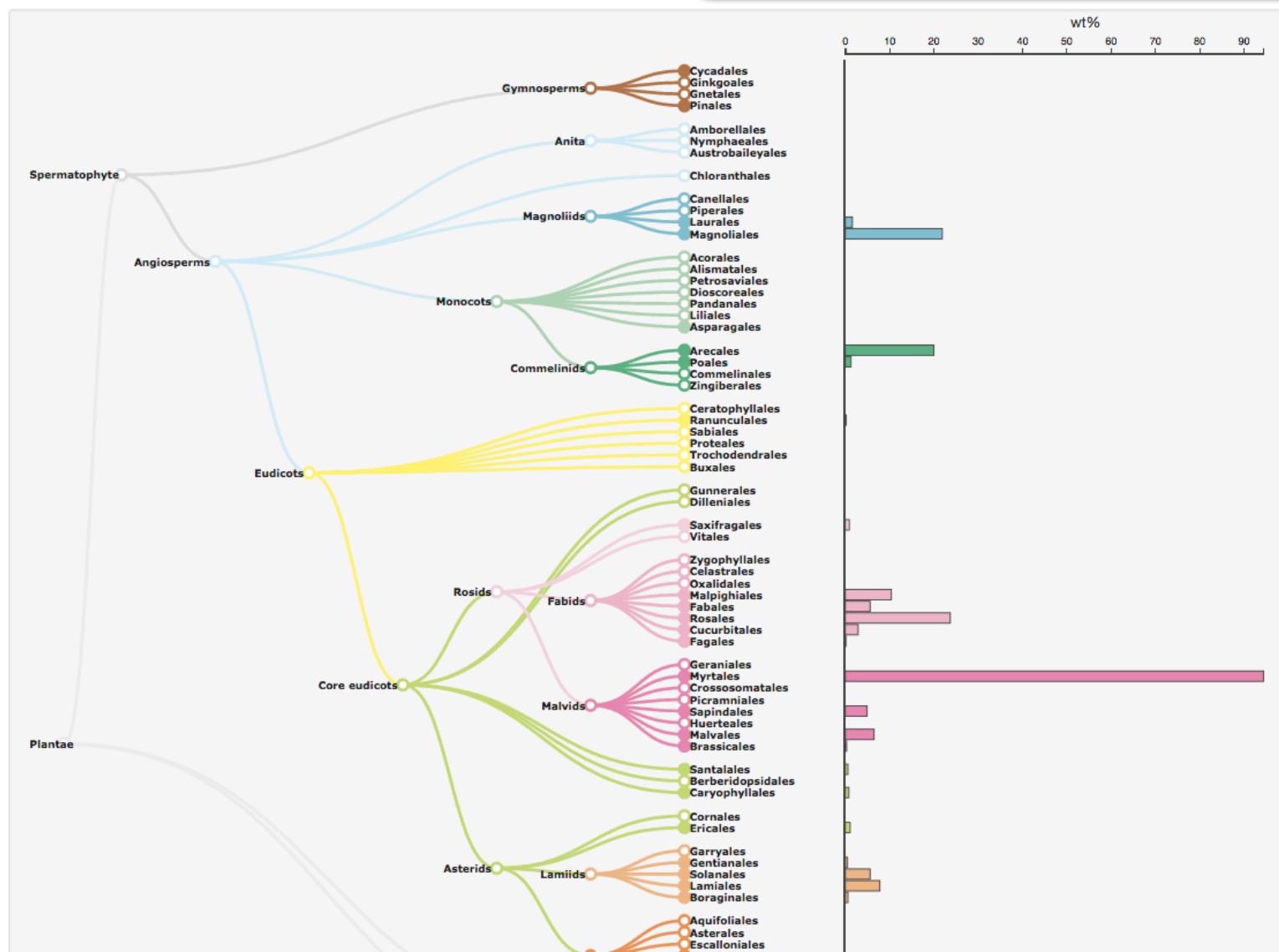
Category:

Molecule:

8:0; Caprylic acid; Octanoic acid

Choosing 8:0 from the drop down list displays the plant orders that have been reported to produce 8:0 and the maximum wt% reported for each order.

- Clicking on the Myrtales Node expands to Family and species.
- Clicking on the Bar in the graph provides species and publications.

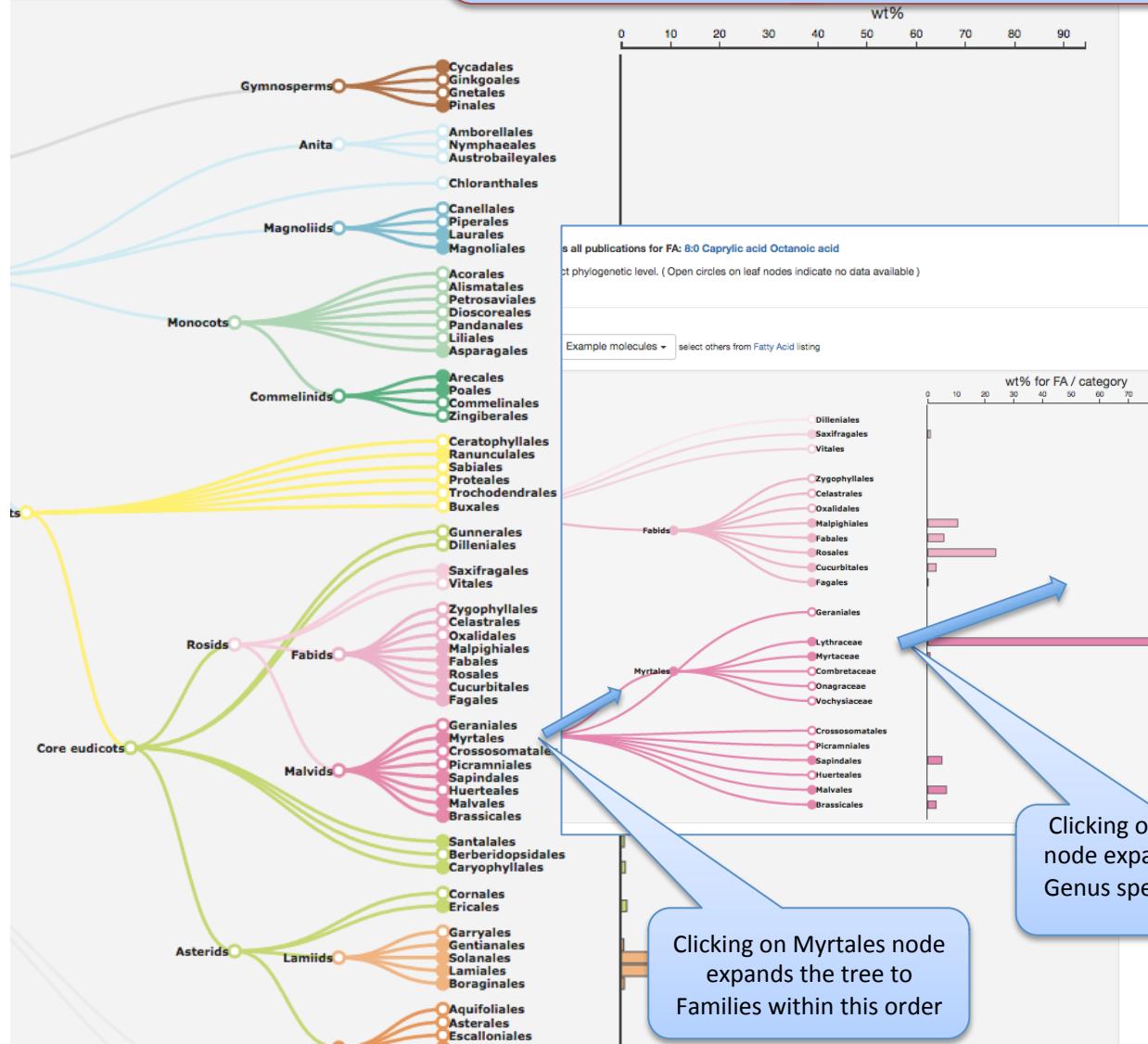


blications for FA: 8:0; Caprylic acid; Octanoic acid

genetic level. (Open circles on leaf nodes indicate no data av

Choosing 8:0 from the drop down list displays the plant orders that have been reported to produce 8:0 and the maximum wt% reported for each order.

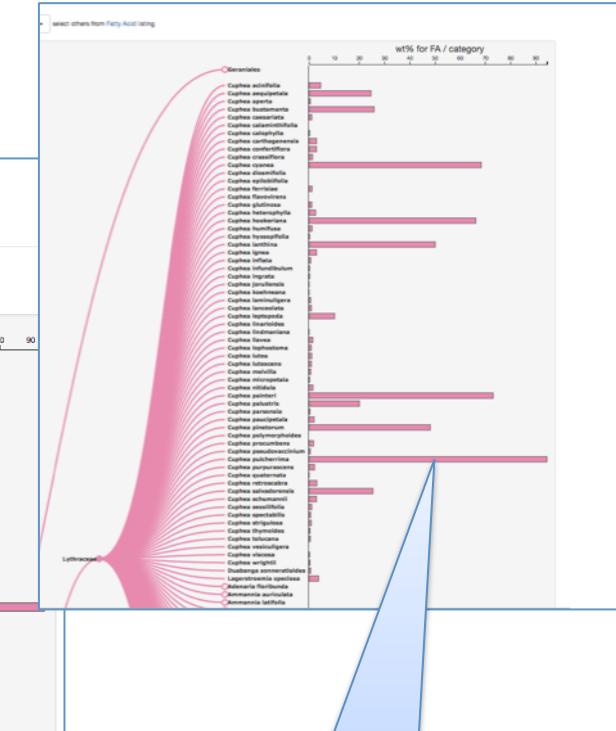
- Clicking on the Myrtale Node expands to Family and species
 - Clicking on the Bar in the graph provides data and publications



Clicking on Myrtales node
expands the tree to
Families within this order

Clicking on Lyrtharaceae node expands the tree to Genus species within the order

Click on bar in graph to see publications and individual data points for species



The “Fatty Acids” main page provides a list of FA structures in the database. Initially it is sorted by MW and only FA with data points in the database are shown.

Searching is currently based on case insensitive exact matching to any part of text. Simple query will search info in any of the columns of this page.

ohrogge@msu.edu

You can also select a list of hydroxy fatty acids by searching with term 'hydroxy'. To select a list of cyclo fatty acids, search with term 'cyc'. Other general terms are: epoxy, yne, octadece, cpa, cpe, C22, etc.

Go

Advanced Query

Showing fatty acids 1 - 100 of 339 in total

Structure	Phylo Tree	Systematic Name	Δ Notation	Other Names	Formula	Mass	Data Points	SOFA ID
	Tree	Formic acid	1:0		C H2 O2	46.03	1	M_001
	Tree	Acetic acid	2:0		C2 H4 O2	60.05	3	M_002
	Tree	Propanoic acid	3:0	Propionic acid acid	C3 H6 O2	74.08	2	M_003
	Tree	Butanoic acid	4:0	Butyric acid; Butyric acid; 1-Propanecarboxylic acid; Ethylacetic acid; n-Butanoic acid; n-Butyric acid	C4 H8 O2	88.11	3	M_005
	Tree	Hexanoic acid	6:0	Caproic acid; 1-Hexanoic acid; 1-Pentanecarboxylic acid; Butylic acid; Caproic acid; Capronic acid; Pentyformic acid; n-Caproic acid; n-Hexano...	C6 H12 O2	116.16	39	M_007
	Tree	Heptanoic acid	7:0	1-Hexanecarboxylic acid;	C7 H14 O2	130.18	6	M_008
	Tree	Octenoic acid	8:1	structure ambiguous	C8H14O2	142.1	1	M_310
	Tree	Octanoic acid	8:0	Caprylic acid; 1-Heptanecarboxylic acid; Caprylic acid;	C8 H16 O2	144.21	467	M_009
	Tree	Nonenoic acid	9:1	structure ambiguous	C9H16O2	156.12	1	M_340
	Tree	Nonanoic acid	9:0	Pelargonic acid; Pelargonic acid; 1-Octanecarboxylic acid; Nonoic acid; Nonylic acid; n-Nonanoic acid; n-Nonanoic acid; n-Nonylic acid; n-Pelargonic ...	C9 H18 O2	158.24	12	M_010
	Tree	2,4-Decadienoic acid, (2E,4Z)-	10:2-delta-2t,4c	2,4-Decadienoic acid, (E,Z)-; Stillingic acid; trans-2-cis-4-Decadienoic acid	C10 H16 O2	168.23	5	M_014
	Tree	2-Cyclopentene-1-pentanoic acid	10:1cy	2-Cyclopentene-1-valeric acid; Aleprestic acid	C10 H16 O2	168.23	1	M_209
	Tree	2,4-Decadienoic acid, (E,E)-	10:2-delta-2t,4t		C10 H16 O2	168.23	1	M_435

From Fatty Acid page to phylogenetic information.....

The “Fatty Acids” main page includes info and links for > 330 FA structures in the database.

Clicking on “Tree” opens page that displays plant Orders reported to produce 8:0

Showing distribution of seed 8:0 levels in plant kingdom

Order

8:0 Wt%

Click on bar in graph to see publications and data points for individual species

Clicking on an Order node in tree (In this case Myrtales) expands the level of taxonomic information; first to Family, then to Genus species.

Links to underlying SOFA data tables

Publication	Plant	Sofa Table	Value	Unit
Graham, S. A.; Kleiman, R. (1992). Industrial Crops and Products 1 31-34	Cuphea pulcherrima	TAB_000655	94.4	GLC-Area-%

1 2 3 4 Next Last

Search: Advanced Query

Filters: data category

Structure	Systematic Name	Other Names	Formula	Mass
	Formic acid		C ₂ H ₂ O ₂	46.03
	Acetic acid		C ₂ H ₄ O ₂	60.05
	Propanoic acid	Propionic acid	C ₃ H ₆ O ₂	74.08
	Butanoic acid	Butyric acid; Butylic acid; 1-Propanecarboxylic acid; Ethylacetic acid; n-Butanoic acid; n-Butylic acid	C ₄ H ₈ O ₂	88.11
	Hexanoic acid	Caproic acid; 1-Hexanoic acid; 1-Pentanecarboxylic acid; Butylic acid; Caprylic acid; Phenylhexanoic acid; n-Hexanoic acid	C ₆ H ₁₂ O ₂	116.16
	Heptanoic acid	1-Hexanecarboxylic acid	C ₇ H ₁₄ O ₂	130.18
	Octanoic acid	Octanoic acid	C ₈ H ₁₆ O ₂	142.1
	Octanoic acid	Caprylic acid; 1-Octanecarboxylic acid; Caprylic acid	C ₈ H ₁₆ O ₂	144.21
	Nonanoic acid	structure ambiguous	C ₉ H ₁₈ O ₂	158.12
	Nonanoic acid	Palmitic acid; Palmitic acid-1-Cosmarcarboxylic acid; Nonanoic acid; Nonanoic acid; n-Nonanoic acid; n-Nonanoic acid; n-Nonanoic acid; n-Palmitic ...	C ₉ H ₁₈ O ₂	158.24
	2,4-Decadienoic acid, (Z,E)-	2,4-Decadienoic acid, (E,Z)-; Steilinge acid; trans-2-cis-4-Decadienoic acid	C ₁₀ H ₁₆ O ₂	168.23
	2-Cyclopentene-1-pentanoic acid (S0170180); Aleppic acid		C ₁₀ H ₁₆ O ₂	168.23
	2,4-Decadienoic acid, (E,E)-		C ₁₀ H ₁₆ O ₂	168.23
	Decenoic acid	structure ambiguous	C ₁₀ H ₁₈ O ₂	170.13

Clicking FA name brings page with links to other databases, plants that produce the FA, publications, and more..

A page for each fatty acid

Octanoic acid (C₈H₁₆O₂)

Delta notation: 8:0

Other Names: 1-Heptanecarboxylic acid; Caprylic acid;

Mass: 144.21

External Database IDs:

- CAS registry: 124-07-2
- SOFA Mol: M_009
- Lipid Maps: LMFA01010008
- PubChem: 379
- ChEBI:

Links to other databases

Structure drawn at OPSIN (opsin.ch.cam.ac.uk)

inchi: InChI=1/C8H16O2/c1-2-3-4-5-6-7-8(9)10/h2-7H2,1H3,(H,9,10)/f/h9H

stdinchi: InChI=1S/C8H16O2/c1-2-3-4-5-6-7-8(9)10/h2-7H2,1H3,(H,9,10)

stdinchkey: WWZKQHOCKIZLMA-U

smiles: C(CCCCCC)(=O)O

8:0 wt% in species

Results

1 2 3 4 5 Next » Last »

Publications reporting 8:0 in seeds

Displaying results 1 - 100 of 467 in total

Plant	Publication	Value	Unit
Cuphea pulcherrima	Graham, S. A.; Kleiman, R. (1992). Industrial Crops and Products 1 31-34	94.4	GLC-Area-%
Cuphea painteri	Miller, R. W.; Earle, F. R.; Wolff, I. A.; Jones, Q. (1964). Journal of the American Oil Chemists' Society 41 279-280	73.0	GLC-Area-%
Cuphea painteri	Hirsinger, F. (1980). Fette Seifen Anstrichmittel 82 385-389	70.0	GLC-Area-%
Cuphea cyanea	Graham, S. A.; Kleiman, R. (1992). Industrial Crops and Products 1 31-34	68.3	GLC-Area-%
Cuphea cyanea	Graham, S. A. (1989). Critical Reviews in Food Science and Nutrition 28 139-173	67.8	GLC-Area-%
Cuphea cyanea	Graham, S. A.; Kleiman, R. (1987). Biochemical Systematics and Ecology 15 433-439	67.8	GLC-Area-%
Cuphea hookeriana	Hirsinger, F. (1980). Fette Seifen Anstrichmittel 82 385-389	66.1	GLC-Area-%
Cuphea painteri	Roebelen, G. (1984). Fette Seifen Anstrichmittel 86 373-379	66.0	GLC-Area-%
Cuphea hookeriana	Miller, R. W.; Earle, F. R.; Wolff, I. A.; Jones, Q. (1964). Journal of the American Oil Chemists' Society 41 279-280	65.0	GLC-Area-%
Cuphea painteri	Baumann, Horst; Bühl, Matthias; Fochem, Heinz; Hirsinger, Frank; Zobelein, Hans; Falbe, Jürgen (1988,1). Angewandte Chemie International Edition in English 27 41-62	65.0	GLC-Area-%
Cuphea painteri	Graham, S. A.; Hirsinger, F.; Robben, G. (1981). American Journal of Botany 68 908-917	65.0	GLC-Area-%

Species ranked in order of highest 8:0 content

Note: Many publications report FA contents as 18:1, 18:2, 18:3 etc. without specifying double bond position or configuration whereas other analyses specify oleic (18:1 delta 9c), linoleic acid, etc. SOFA (and PhyloFAdb) store these data separately. (*In future user will be able to group these.*)

The data are also plotted separately on graphs that compile data for multiple publications. (*In future user will be able to group these*)

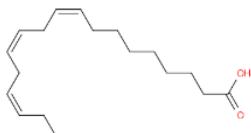
9,12,15-Octadecatrienoic acid, (9Z,12Z,15Z)- (C₁₈H₃₀O₂)

[Back](#) [Edit](#)

Delta notation: 18:3-delta-9c,12c,15c

Other Names: 9,12,15-Octadecatrienoic acid, (Z,Z,Z); Linolenic acid; (9Z,12Z,15Z)-9,12,15-Octadecatrienoic acid; (Z,Z,Z)-Octadeca-9,12,15-trienoic acid; (all-Z)-9,12,15-Octadecatrienoic acid; 9,12,15-all-cis-Octadecatrienoic acid; 9-cis,12-cis,15-cis-Octadecatrienoic acid; 9Z,12Z,15Z-Octadecatrienoic acid; all-cis-9,12,15-Octadecatrienoic acid; alpha-Linolenic acid; cis,cis,cis-9,12,15-Octadecatrienoic acid; cis-9,cis-12,cis-15-Octadecatrienoic acid; cis--delta-9,12,15-Octadecatrienoic acid; -alpha-Linolenic acid

Mass: 278.43



Structure drawn at OPSIN (opsin.ch.cam.uk)

External Database IDs:

CAS registry: 463-40-1

SOFA Mol: M_106

Lipid Maps: LMFA01030152

PubChem: 5280934

ChEBI:

inchi: InChI=1/C18H30O2/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18(19)20/h3-4,6-7,9-10H,2,5,8,11-17H2,1H3,(H,19,20)/b4-3-,7-6-,10-9-/f/h19H

stdinchi: InChI=1S/C18H30O2/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18(19)20/h3-4,6-7,9-10H,2,5,8,11-17H2,1H3,(H,19,20)/b4-3-,7-6-,10-9-

stdinchikey: DTOSIQBPPRVQHS-PDBXOOCHSA-N

smiles: CCCCCCCC/C=C/C/C=C/C/C(=O)O

Results

[1](#) [2](#) [3](#) [4](#) [5](#) ... [Next »](#) [Last »](#)

3083 data points
for linolenic acid

Displaying results 1 - 100 of 3083 in total

Plant: Publication:

Plant	Publication	Value	Unit
Capsicum annuum	Pérez-Gálvez, Antonio; Garrido-Fernández, Juan; Minguez-Mosquera, Ma.Isabel; Lozano-Ruiz, Mercedes; Montero-de-Espinosa, Vicente (1999). Journal of the American Oil Chemists' Society 76 205-208	77.98	GLC-Area-%

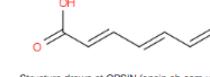
Plant	Publication	Value	Unit
Acacia summa	Banerji, R.; Chowdhury, A. R.; Misra, G.; Nigam, S. K. (1988). Journal of the American Oil Chemists' Society 65 1959-1960	Octadecatrienoic acid (C ₁₈ H ₃₀ O ₂)	

Delta notation: 18:3

Other Names: structure ambiguous

Mass: 278.22

Structure is ambiguous



Structure drawn at OPSIN (opsin.ch.cam.uk)

External Database IDs:

CAS registry:

SOFA Mol: M_089

Lipid Maps: ambiguous

PubChem:

ChEBI:

inchi:

stdinchi:

stdinchikey:

smiles:

Results

[1](#) [2](#) [3](#) [4](#) [5](#) ... [Next »](#) [Last »](#)

2988 data points
for 18:3

Displaying results 1 - 100 of 2988 in total

Plant: Publication:

Plant	Publication	Value	Unit
Acacia leptomorphia	Banerji, R.; Chowdhury, A. R.; Misra, G.; Nigam, S. K. (1988). Journal of the American Oil Chemists' Society 65 1959-1960	80.3	GLC-Area-%

Plant	Publication	Value	Unit
Lavandula spica	Chomova, T. V.; Asilbecova, D. T.; Gusakova, S. D.; Umarov, A. U. (1983). Khimiya Prirodnnykh Soedinenii None 279-283	78.9	GLC-Area-%

Plants

The initial **Plants** page
is sorted
alphabetically by
Genus but users can
sort on other columns

DownloadSearch: Go

Displaying plants 1 - 100 of 7867 in total

Genus	Species	Common Name	Family	Order	Oil Content	Publications	Data points
Abelia	corymbosa		Caprifoliaceae	Dipsacales	1	9	
Abelmoschus	esculentus	Okra	Malvaceae	Malvales	28.8	8	49
Abelmoschus	ficulneus		Malvaceae	Malvales	14.4	1	14
Abelmoschus	moschatus	Musk Okra	Malvaceae	Malvales	19.5	1	6
Aberia	caffra	Kei Apple	Salicaceae	Malpighiales		1	8
Abies	alba	Silver Fir	Pinaceae	Pinales	37.7	2	26
Abies	alba	Silver Fir	Pinaceae	Pinales	37.7	2	37
Abies	amabilis	Pacific Silver Fir	Pinaceae	Pinales		1	21
Abies	balsamea	Balsam Fir	Pinaceae	Pinales		2	48
Abies	borisii-regis	Bulgarian Fir, Macedonian Fir	Pinaceae	Pinales		1	26
Abies	bornmuelleriana		Pinaceae	Pinales		1	28
Abies	cephalonica	Greek Fir	Pinaceae	Pinales		2	55
Abies	concolor	White Fir	Pinaceae	Pinales	41.4	2	53
Abies	delavayi	Delavay's Fir	Pinaceae	Pinales		1	29
Abies	equi-trojani	Trojan Fir	Pinaceae	Pinales		1	28
Abies	fraseri	Fraser Fir	Pinaceae	Pinales		1	29
Abies	grandis	Grand Fir	Pinaceae	Pinales		3	51
Abies	homolepis	Nikko Fir	Pinaceae	Pinales		1	18
Abies	koreana	Korean Fir	Pinaceae	Pinales		1	18
Abies	lasiocarpa	Subalpine Fir	Pinaceae	Pinales	5.6	1	2
Abies	lasiocarpa	Subalpine Fir	Pinaceae	Pinales		1	28
Abies	lowiana	Sierra White Fir	Pinaceae	Pinales	16.6	1	32
Abies	nobilis	Noble Fir	Pinaceae	Pinales	24.3	1	32
Abies	nordmanniana	Nordmann Fir, Caucasian Fir	Pinaceae	Pinales		3	69
Abies	numidica	Algerian Fir	Pinaceae	Pinales		1	22
Abies	pindrow	Pindrow Fir, West Himalayan Fir	Pinaceae	Pinales		1	26
Abies	pinsapo	Spanish Fir	Pinaceae	Pinales		2	54
Abies	procera	Noble Fir	Pinaceae	Pinales		1	21
Abies	veitchii	Christmas Tree	Pinaceae	Pinales		2	39
Abroma	augustum	Devil's Cotton	Malvaceae	Malvales		1	7

All names are searchable,
including those used by SOFA
(which are not shown on this
page).

Displaying all 2 plants

Genus◆ Species◆ Common Name◆ Family◆

Order◆

Oil Content ▼

Publications◆ Data point

Sesamum indicum Sesame

Pedaliaceae Lamiales 44.3

33

291

Clicking on species name will bring up this page →

Sesamum indicum

Classification

Order: Lamiales
Family: Pedaliaceae
Genus: Sesamum
Species: indicum

External Link(s)

<http://www.tropicos.org/Name/24300029>

Name Resolution

TNRS Accepted data

Family: Pedaliaceae

Name: Sesamum indicum

Original SOFA Data

Family: Pedaliaceae

Name: Sesamum indicum

Original SOFA family and species names

Plant names were updated using the Taxonomic Name Resolution Service (<http://tnrs.ipplantcollaborative.org>)

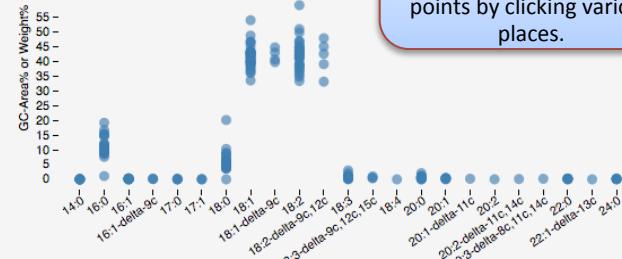
Note: There may be other accepted names for a species not displayed here

Data

Data are compiled from multiple publications.
Mouse over individual data points for link to data and publications.

[View 33 Publications](#) | [View 291 Data Points](#)

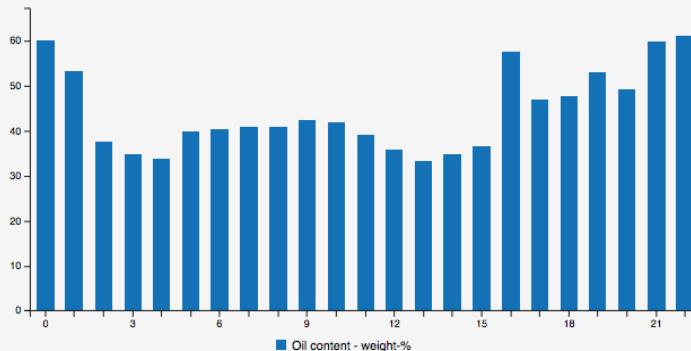
Fatty Acid Data



FA composition graphs are only intended as an overview. You can get to the publications and data points by clicking various places.

Parameters

Each bar represents data from a different publication or analysis within a publication





Clicking on 18:1 data points in graph brings list of publications underlying the values for 18:1

Data Points

Filtering on plant: **Sesamum indicum**

Filtering on FattyAcid: **Octadecenoic acid**

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Links to underlying SOFA data tables

Search: Go

Displaying all 36 results

Publication	Sofa Table	Value	Unit
Yermanos, D. M.; Hemstreet, S.; Saleeb, W.; Huszar, C. K. (1972). Journal of the American Oil Chemists' Society 49 20-23	TAB_007583	53.9	GLC-Area-%
Daxa, Amin; Kothari, I. L. (1989). Journal of the Oil Technologists' Association of India 21 15-16	TAB_009085	48.7	GLC-Area-%
Daxa, Amin; Kothari, I. L. (1989). Journal of the Oil Technologists' Association of India 21 15-16	TAB_009083	46.7	GLC-Area-%
Daxa, Amin; Kothari, I. L. (1989). Journal of the Oil Technologists' Association of India 21 15-16	TAB_009086	46.4	GLC-Area-%
Tiscornia, E.; Bertini, G. C. (1974). Rivista Italiana delle Sostanze Grasse 51 333-347	TAB_007585	46.4	GLC-Area-%
Daxa, Amin; Kothari, I. L. (1989). Journal of the Oil Technologists' Association of India 21 15-16	TAB_009081	45.2	GLC-Area-%
Daxa, Amin; Kothari, I. L. (1989). Journal of the Oil Technologists' Association of India 21 15-16	TAB_009084	43.6	GLC-Area-%
Daxa, Amin; Kothari, I. L. (1989). Journal of the Oil Technologists' Association of India 21 15-16	TAB_009087	43.3	GLC-Area-%
Tsatsaronis, G. C.; Boskou, D.; Kehayoglou, A. (1971). Rivista Italiana delle Sostanze Grasse 48 490-492	TAB_007582	43.1	GLC-Area-%
Dutta, Jyotirmoy; Ghosh, Anita; Ghosh, Amitabha (1968). Indian Journal of Applied Chemistry 31 218-222	TAB_007577	42.9	GLC-Area-%
Abdel Rahman, A. H. Y. (1984). Grasas Aceites 35 119	TAB_007591	42.9	GLC-Area-%
Ro, J. H. Lim, M. A. (1983). Yakhak Hoechi. 27 169	TAB_007590	42.8	GLC-Area-%
Daxa, Amin; Kothari, I. L. (1989). Journal of the Oil Technologists' Association of India 21 15-16	TAB_009082	42.7	GLC-Area-%

Plants

Plants list filtered to
show *Brassica napus*

Search:

Go

Displaying all 13 plants

Genus	Species	Common Name	Family	Order	Oil Content	Publications	Data points
Brassica	napus		Brassicaceae	Brassicales	38.4	2	4
Brassica	napus		Brassicaceae	Brassicales		2	16
Brassica	napus		Brassicaceae	Brassicales	44.3	8	56
Brassica	napus		Brassicaceae	Brassicales		1	18
Brassica	napus		Brassicaceae	Brassicales	25.0	1	15
Brassica	napus		Brassicaceae	Brassicales	34.2	1	31
Brassica	napus		Brassicaceae	Brassicales		1	13
Brassica	napus		Brassicaceae	Brassicales		1	12
Brassica	napus		Brassicaceae	Brassicales		1	12
Brassica	napus		Brassicaceae	Brassicales		1	5
Brassica	napus		Brassicaceae	Brassicales		1	8
Brassica	napus		Brassicaceae	Brassicales		1	11
Brassica	napus		Brassicaceae	Brassicales		2	36

Why are there 13 “plants” listed for *Brassica napus*?

SOFA created a separate table for every FA analysis for every plant species from every publication. If the plant species name was in any way different (spelling, variety, geographical origin, etc.) we did NOT condense these plant names.

However, as shown on the sesame page, we did condense data graphically if the SOFA text for plant name was identical.

Literature

Condense Using WOS ID

Simple query will search on author, title, abstract, Journal, Year, ID

1 2 3 4 5 ... Next » Last »

Search: Go

Abstracts provided when we could find in electronic format

DOI is available for ~800 publications and provides link to full text

Displaying pubs 1 - 100 of 1982 in total

Authors	Year	Title	Journal	Volume	Pages	DOI	UID	Data points
Abburra, R. E.; Zygadlo, J. A.; Guzman, C. A.	1992	A Fatty acids variation in Sapindaceae	Biochemical Systematics and Ecology	20	469-471	10.1016/0305-1978(92)90088-U	WOS:A1992JF97400009	76
Abd Alla, E. - S. A. M.	1997	None	Dtsch. Lebensm. Rundsch.	93	149-152		PFA:10011	9
Abd El Aal, M. H. Gomaa, E. G. et al.	1987	None	Fat. Sci. Technol.	89	304		PFA:10012	24
Abd-Allah, M. A. Abu Salem, F. M. Goma, M. A.	1975	None	Elélmiszerzsgalati Kozl.	21	53-57		PFA:10014	6
Abdel Rahman, A. H. Y.	1984	None	Grasas Aceites	35	119		PFA:10015	7
Abdel-M Oety, Ezzat M.	1981	A Biologically Active Compounds Derived from Cyclopentenyl Fatty Acids	Fette, Seifen, Anstrichmittel	83	65-70	10.1002/lipi.19810830206	WOS:A1981LG04400005	3
Abdel-Naby, A. A.; Shehata, A. D. Y.; Ragab, M. H.; Rossell, J. B.	1991	A Total unsaponifiables, sterols and tocots of cottonseed oil from Egyptian and other varieties	Rivista Italiana delle Sostanze Grasse	68	583-587		CABI:19920316756	14
Abdel-Rahaman, A. H. Y.	1980	A A study on some Egyptian citrus seed oils	Grasas y Aceites	31	331-333		FSTA:1981-11-N-0557	21
Abdel-Rahaman, A.-H.Y.	1980	None	Grasas y Aceites	31	331		PFA:10018	35
Abdel-Rahim; E.A. El-Sadany, S.S. et al.	1986	None	Grasas y Aceites	37	81		PFA:10021	33
Abdel-Rahman, A. H. - Y.	1987	None	Riv. Ital. Sostanze Grasse	59	287		PFA:10022	/results?pub_id=10022
Abdel-Rahman, A. H. Y.	1982	A Compositional study on some Egyptian peanut varieties	Rivista Italiana delle Sostanze Grasse	59	287-288		CABI:19821440216	/results?pub_id=14814
Abdelkalikova, K. A. Artatonova, N. A. Nikonorov, K.	1983	None	Khim. Prir. Soedin	None	138		PFA:10023	13
Abdelrahman, A. H. Y.	1980	A STUDY ON SOME EGYPTIAN CITRUS SEED OILS	Grasas Y Aceites	31	331-333		WOS:A1980KR95800004	/results?pub_id=13591
Abdelrahim, E. A.; Elsaadany, S. S.; Wasif, M. M.	1986	CHEMICAL AND PHYSICAL STUDIES ON BALANITES-AEGYPTIACA OIL	Grasas Y Aceites	37	81-85		WOS:A1986C704700005	/results?pub_id=13592

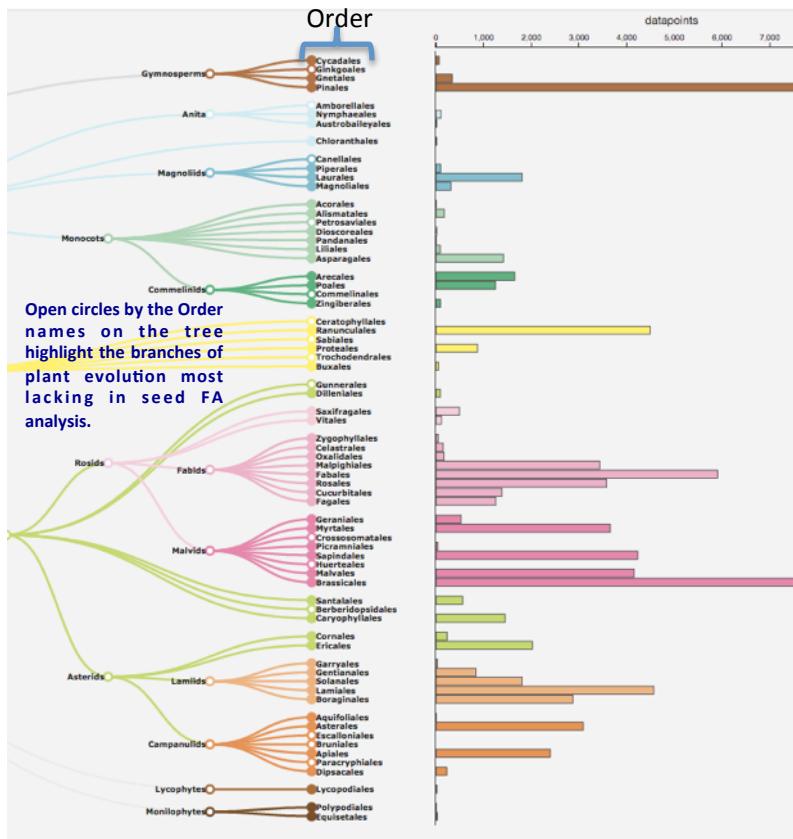
Hundreds of unpublished FA analyses from SOFA are also included

How much of the plant kingdom has been surveyed?

What branches in plant evolution are missing FA data and can we discover new plant FA structures in these branches?

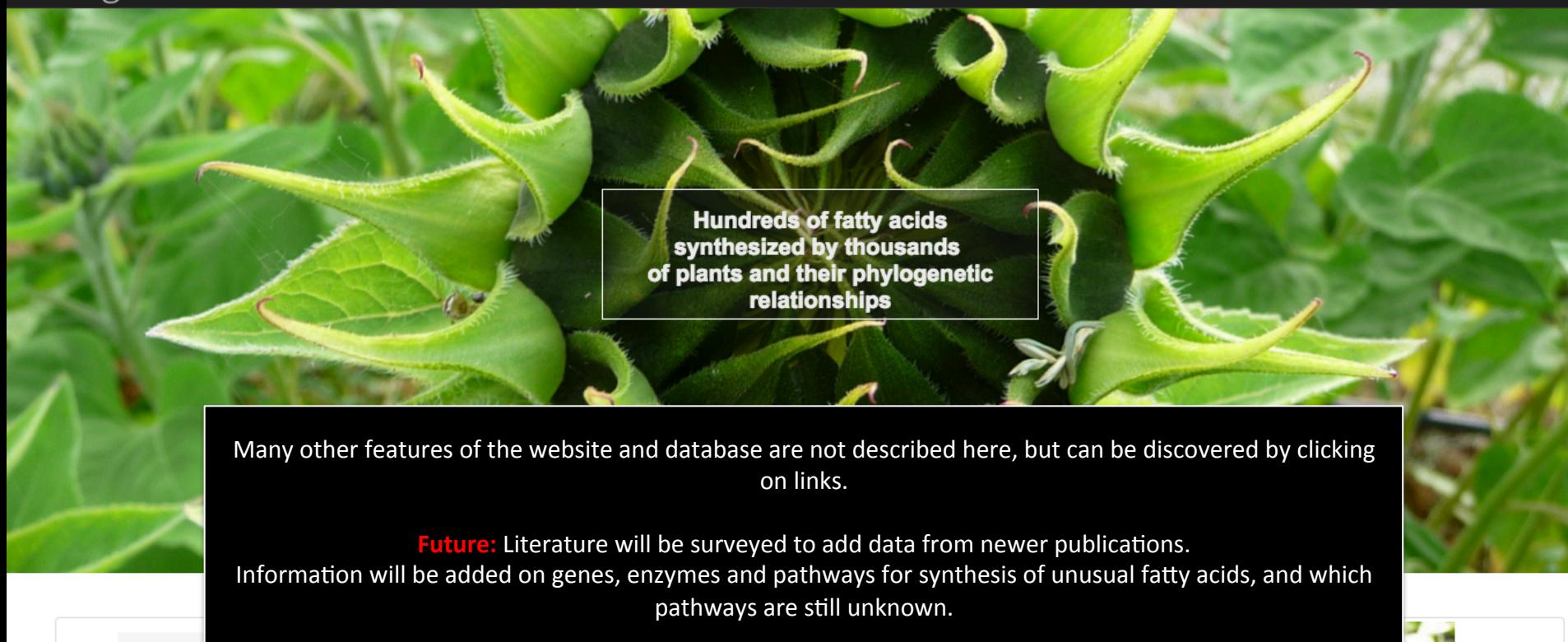
Analysis of seeds of thousands of plant species has revealed the occurrence of hundreds of different fatty acid structures. Are there more unique fatty acid structures still to be discovered? Examination of all the plant species represented in PhyloFADB-SOFA, together with recent phylogenetic information allows us to identify branches in plant evolution whose seeds may not have been analyzed for fatty acid composition.

Approximately 25% of plant orders and 50% of plant families have not been analyzed for FA composition. Therefore, many new fatty acid structures remain to be discovered.



A Resource for Discovery of New Fatty Acid Structures:
Plant Orders without Data in PhyloFADB

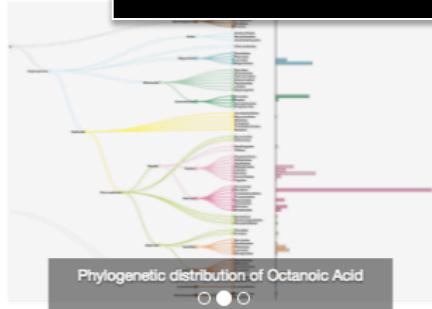
Order	Description
Amborellales	Amborella trichopoda is only species. Molecular phylogenetics places the genus at the base of the flowering plant lineage
Berberidopsidales	Southern Hemisphere woody flowering plants.
Bruniales	Includes heath-like shrubs of S. Africa; trees and shrubs native to Andes of S. America
Canellales	Members of the magnoliids. 136 species of fragrant trees and <u>shrubs</u>
Ceratophyllales	Hornwort flowering plants
Commeliniales	Spiderwort and <u>pickerelweed</u> ; mostly tropical and subtropical <u>herbs</u>
Crossosomatales	Rockflower order; woody shrubs or trees of the northern temperate regions
Escalloniales	Member of Asterids clade
Gingkoales	Only one species; Gingko biloba
Gunnerales	Contains two genera: <i>Gunnera</i> (in family Gunneraceae) and <i>Myrothamnus</i> (in family Myrothamnaceae)
Huerteales	Shrubs or small trees found in most tropical or warm temperate regions. all five of the genera are poorly known
Metteniusales	Trees, shrubs, and lianas, primarily of the tropics.
Paracryphiales	Woody shrubs and trees native to Australia, southeast Asia, and New Caledonia.
Petrosaviales	Rare leafless achlorophyllous, plants found in dark rainforests in Japan, Asia and Borneo
Sabiales	Incl. single family (Sabiaceae), considered by some as member of Proteales.
Trochodendrales	Includes wheel tree; two extant genera, of south east Asia.
Vahliales	Herbs and subshrubs that grow in Africa and the Indian subcontinent.



Many other features of the website and database are not described here, but can be discovered by clicking on links.

Future: Literature will be surveyed to add data from newer publications.

Information will be added on genes, enzymes and pathways for synthesis of unusual fatty acids, and which pathways are still unknown.



Phylogeny

Explore relationships between unusual FA structures and plants that produce them.

[View Tree](#)

Fatty Acids

Structure images and info for >330 FA. Click Name to see species that produce a FA, publications, and data. Click 'Tree' to display phylogenetic distribution of a FA

[List FA](#)

Plants

FA analysis for > 7000 plants. Click on species for graphs of FA composition, oil content, and links to publications and individual data sets.

[List Plants](#)

