

Group 1 - [REDACTED]

Taxon List

Spaghetti
 Ditalini
 Elbows
 Farfalle
 Linguini
 Penne
 Pipette
 Gemelli/Rotini (white, red, green)
 Shell (large)
 Shell (small)

Sp
 Di
 El
 Fa
 Li
 Pe
 Pi
 GeRoRRoGRo
 LSh
 Ssh

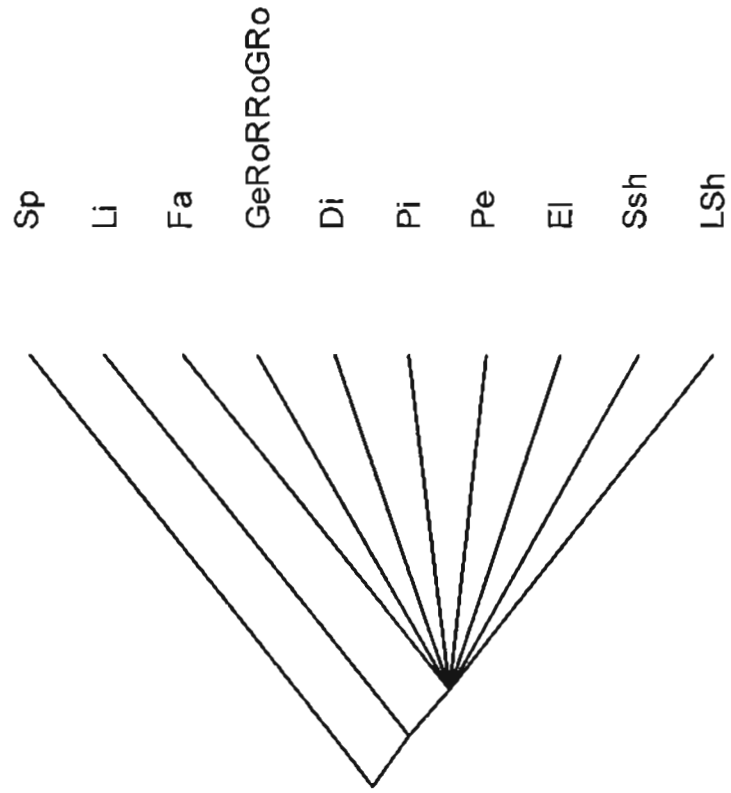
Character List

Number Description States
 1 flat 0=filled cylinder; 1=sheeted
 2 bent 0=straight; 1=not straight
 3 spiraled 0=not twisted; 1=twisted
 4 grooved 0=no grooves; 1=grooves
 5 hollow cylinder 0=not cylinder; 1=hollow cylinder

Data Matrix

Taxon	Character 1	2	3	4	5
Sp	0	0	0	0	0
Di	1	1	0	0	1
El	1	1	1	1	1
Fa	1	1	0	0	0
Li	1	0	0	0	0
Pe	1	1	0	1	1
Pi	1	1	0	1	1
GeRoRRoGRo	1	1	1	0	0
LSh	1	1	0	1	0
Ssh	1	1	0	1	0

GROUP 1



Strict Consensus of 342 most parsimonious trees.

Group 2 -

Taxon List

Spaghetti
Linguini
Farfalle
Shells (large, small)
Ditalini/Penne
Pipette
Elbows
Gemelli
Rotini (white, red, green)

Sp
Li
Fa
LShSSh
DiPe
Pi
El
Ge
RoRRoGRo

Data Matrix

Character

1 2 3 4 5 6 7 8
Taxon 0 0 0 0 0 0 0 0
Sp 1 0 0 0 0 0 0 0
Li 1 1 0 0 0 0 0 0
Fa 0 0 1 0 0 0 0 0
LShSSh 0 0 1 0 0 0 0 0
DiPe 0 0 1 1 0 0 0 0
Pi 0 0 1 1 1 0 0 0
El 0 0 1 1 1 1 0 0
Ge 0 0 1 0 0 1 1 0
RoRRoGRo 0 0 0 0 0 0 0 1

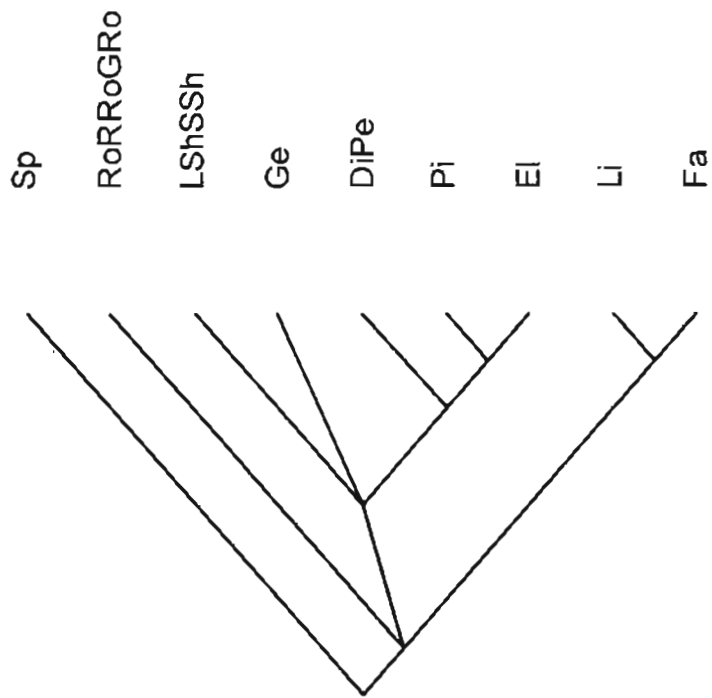
Character List

Number Description States

1 flat 0=no flat; 1=flat
2 scrunched 0=no scrunch; 1=scrunch
3 curved 0=no curve; 1=curve
4 cylindrical 0=no cylinder; 1=cylinder
5 bent 0=no bend; 1=bent
6 twist 0=no twist; 1=twist
7 braid 0=no braid; 1=braid
8 spiral 0=no spiral; 1=spiral

COMMENTS--better explanation of characters would be helpful here; what, for example, is the difference between curved, twisted, and spiral? Clearly there is one, as each codes differently in your matrix, but another researcher may not be able to follow your thought process without more information.

GROUP 2



Strict consensus of 9 most parsimonious trees.

Group 3 - [Redacted]

Taxon List

- Spaghetti
- Rotini (green)
- Rotini (red)
- Ditalini
- Elbows
- Farfalle
- Gemelli
- Linguini
- Penne
- Pipette
- Rotini (white)
- Large Shell
- Small Shell

Data Matrix

Taxon	Character			
	1	2	3	4
Sp	0	0	0	0
GRo	1	0	0	0
RRo	1	0	0	0
Di	0	1	0	0
El	0	1	1	0
Fa	0	0	0	0
Ge	0	1	0	0
Li	0	0	0	1
Pe	0	1	1	0
Pi	0	1	1	0
Ro	0	0	0	0
LSh	0	1	1	0
SSh	0	1	1	0

Character List

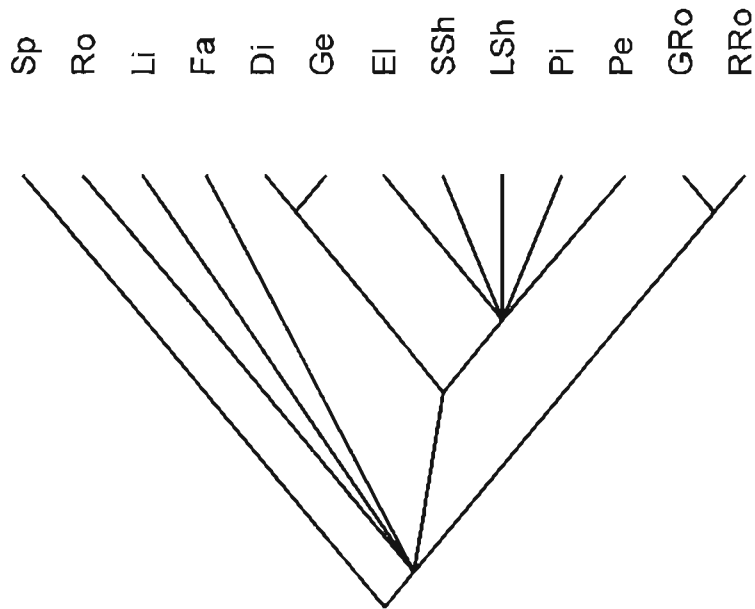
Number Description

- 1 non-yellow
- 2 hollow space / cavity
- 3 ribbed
- 4 flatness

States

- 0=yellow; 1=non-yellow
- 0=solid; 1=hollow space / cavity
- 0=smooth; 1=ribbed
- 0=flat; 1=rounded

GROUP 3



Strict consensus of 1000 most parsimonious trees.

Taxon List

Spaghetti
 Ditalini/Penne
 Elbows/Pipette
 Farfalle
 Gemelli
 Linguini
 Rotini (white, red, green)
 Shells (large, small)

Sp Di=juvenile; Pe=adult
 DiPe El=juvenile; Pi=adult
 EIPi
 Fa
 Ge
 Li
 RoRRoGRo Ro=juvenile; RRo=adult female; GRO=adult male
 LShSSh

Data Matrix

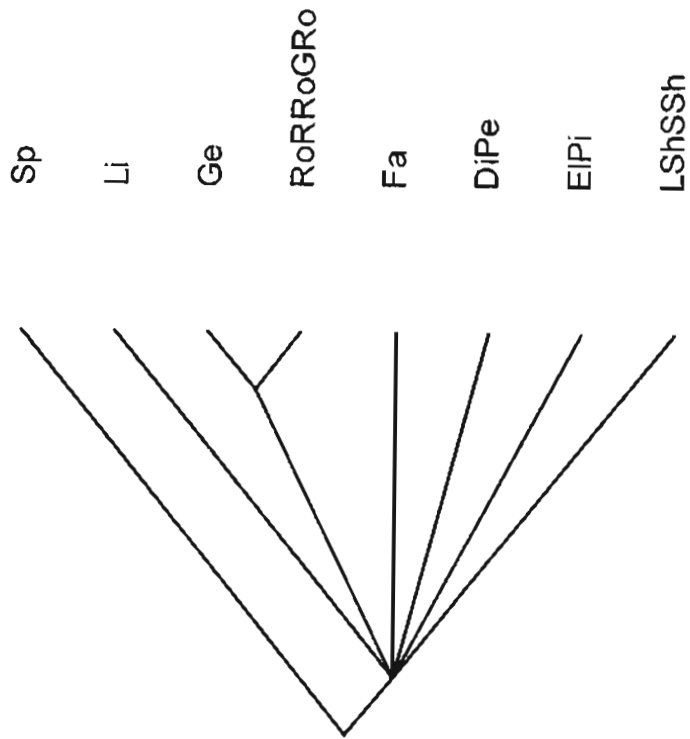
Taxon	Character					
	1	2	3	4	5	6
Sp	0	0	0	0	0	0
DiPe	0	0	0	1	1	0
EIPi	0	0	0	1	1	1
Fa	1	1	0	0	0	0
Ge	1	0	1	0	0	0
Li	1	0	0	0	0	0
RoRRoGRo	1	0	1	0	0	0
LShSSh	1	0	0	0	1	1

Character List

Number	Description	States
1	flat	0=not flat; 1=flat
2	pinched	0=not pinched; 1=pinched
3	twisted	0=not twisted; 1=twisted
4	tubular	0=tubular; 1=not tubular
5	striped	0=not striped; 1=striped
6	curved	0=not curved; 1=curved

COMMENTS—better explanation of characters would be helpful here; what, for example, is the difference between twisted and curved? Clearly there is one, as each codes differently in your matrix, but another researcher may not be able to follow your thought process without more information.

GROUP 4



Strict consensus of 33 most parsimonious trees.

Group 5 -

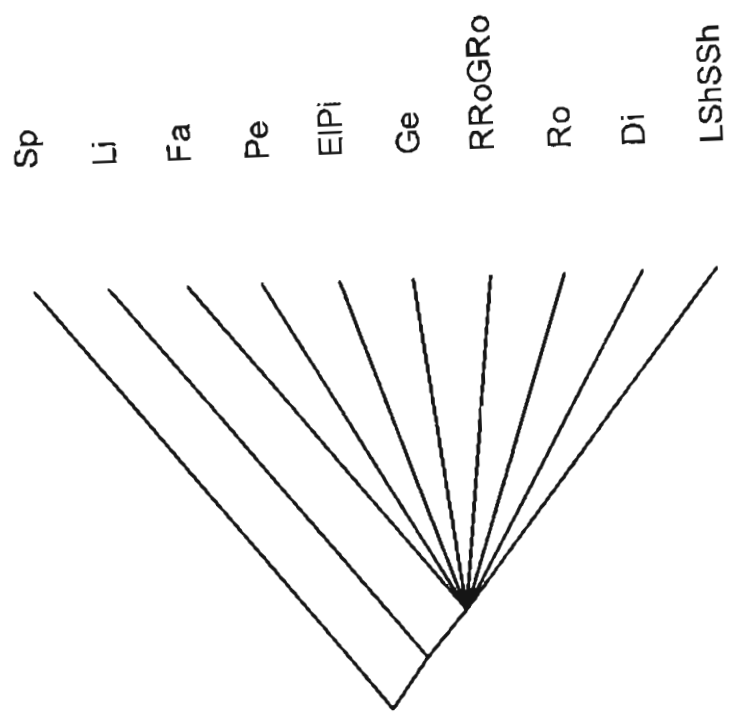
Taxon List	Sp	Lj	Fa	LShSSh	Di	Pe	EIPi	Ge	Ro	RRoGRo
Spaghetti										
Linguini										
Farfalle										
Shells (large,small)										
Ditalini										
Penne										
Elbows/Pipette										
Gemelli										
Rotini (white)										
Rotini (red, green)										

Data Matrix		Character					
Taxon		1	2	3	4	5	6
Sp		0	0	0	0	0	0
Li		1	0	0	0	0	0
Fa		1	1	0	0	0	0
LShSSh		1	1	1	0	0	0
Di		1	1	0	1	0	0
Pe		1	1	1	1	0	0
EIPi		1	1	1	1	1	0
Ge		1	1	0	1	1	0
Ro		1	1	0	0	1	0
RRoGRo		1	1	0	0	1	1

Character List	Number	Description	States
	1	flat	0=not flat; 1=flat
	2	curved	0=not curved; 1=curved
	3	lines	0=no lines; 1=lines
	4	tube	0=no tubes; 1=tubes
	5	twist	0=not twisted; 1=twisted
	6	colored	0=not colored; 1=colored

COMMENTS--better explanation of characters would be helpful here; what, for example, is the difference between curved and twist? Clearly there is one, as each codes differently in your matrix, but another researcher may not be able to follow your thought process without more information.

GROUP 5



Strict consensus of 596 most parsimonious trees.