

New version 18 febr 1997: alignment error corr.

Calculated by use of the PHYLIP package,

by Hans Eiberg.

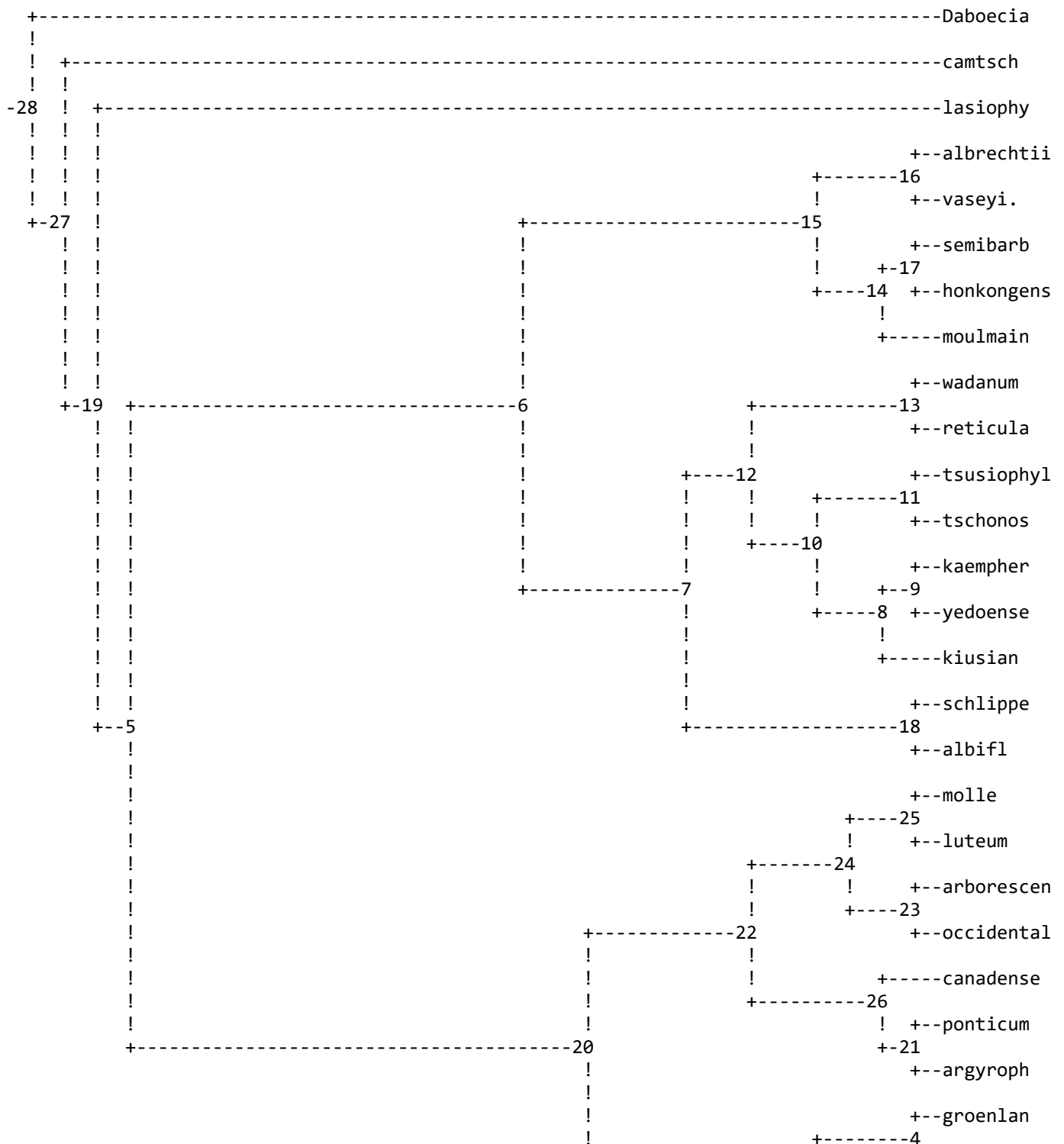
sequences from BioBase (Aert R, Haym R, Chamberlain D, Karp A and Volckaert G)

-----  
programme DNACOMP 1 tree out of many

!

DNA compatibility algorithm, version 3.572c

100 trees in all found





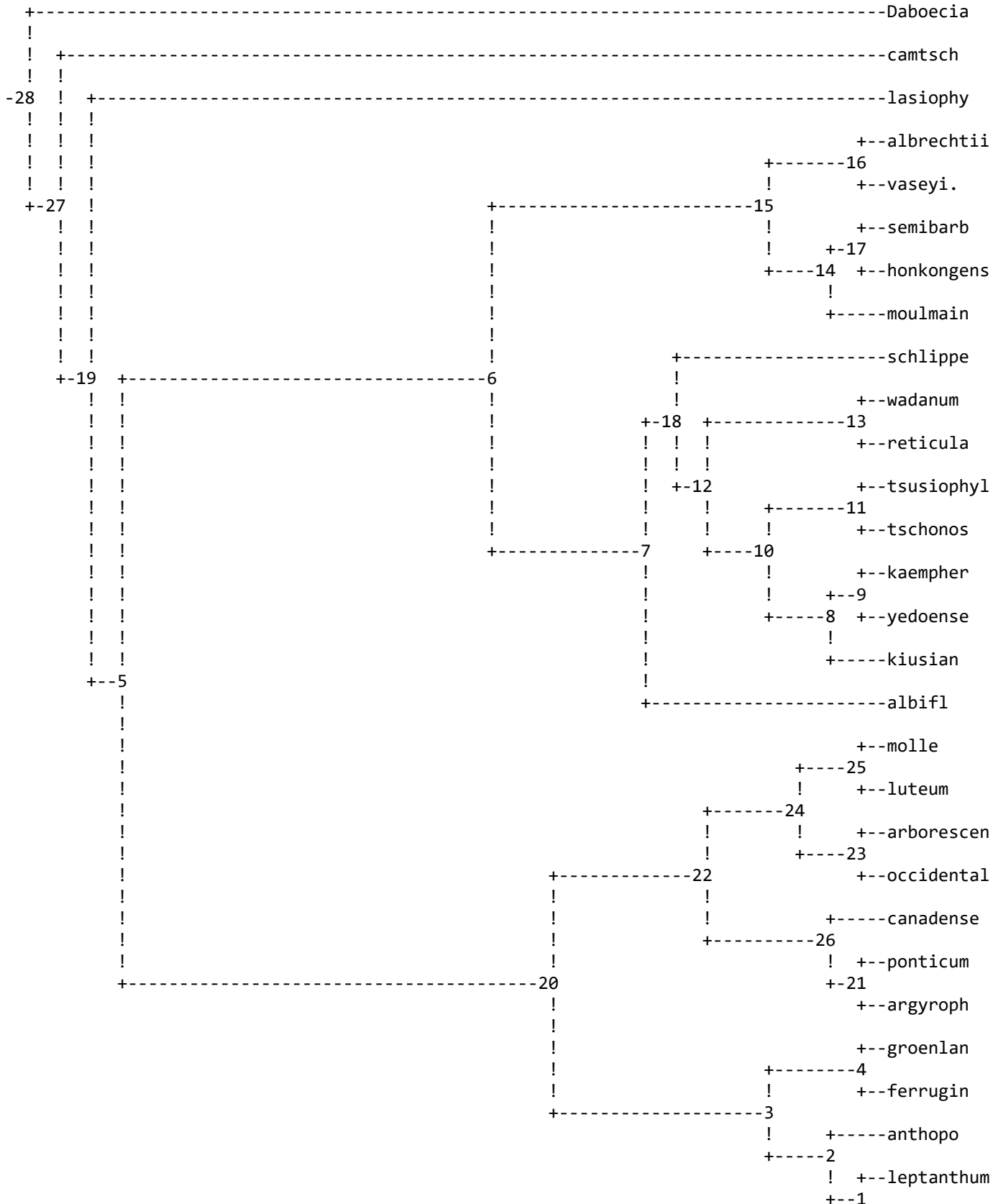
```

+-----2
! +--leptanthum
+--1
+--jarvanic

```

remember: (although rooted by outgroup) this is an unrooted tree!

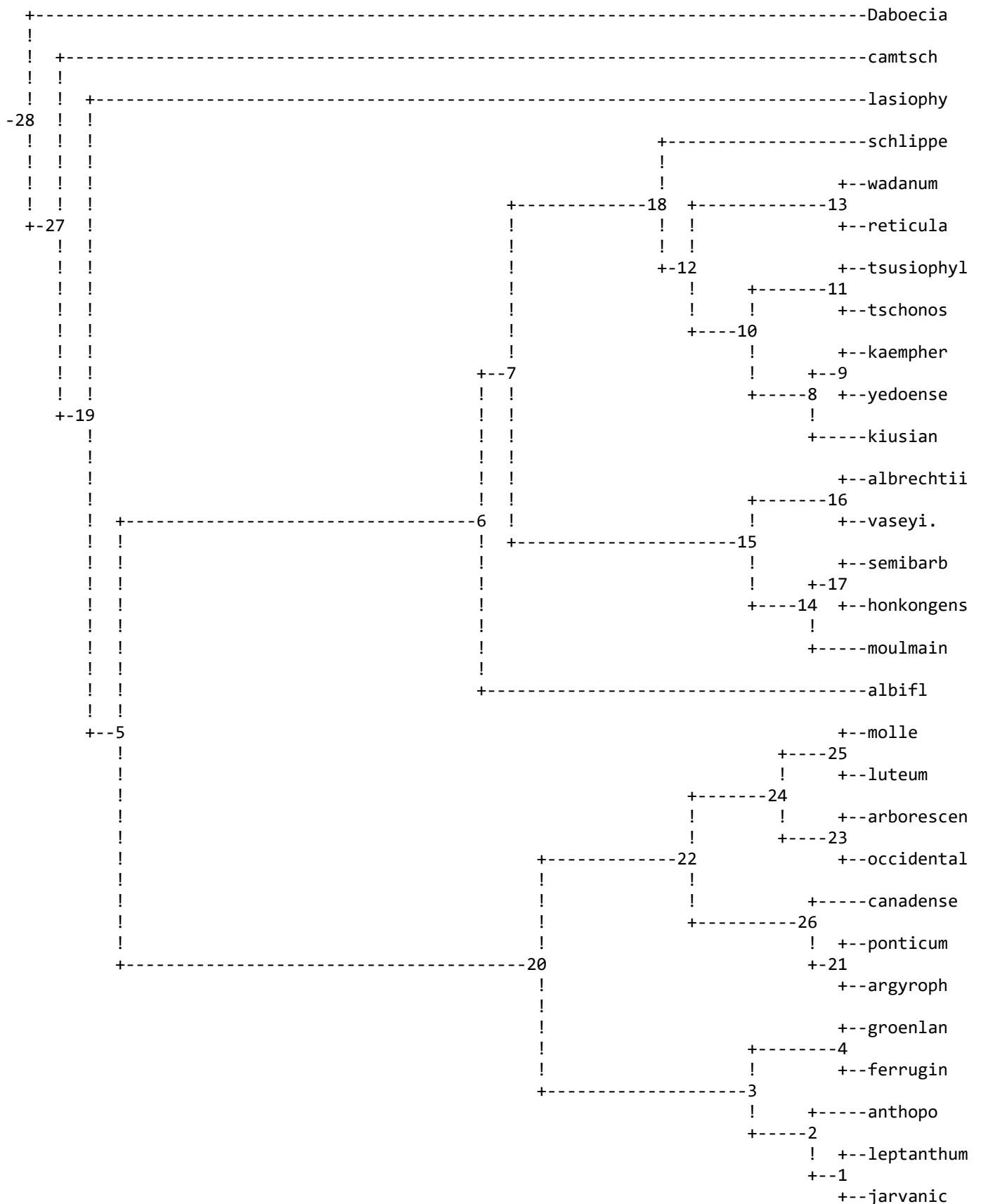
total number of compatible sites is 638.0



+++jarvanic

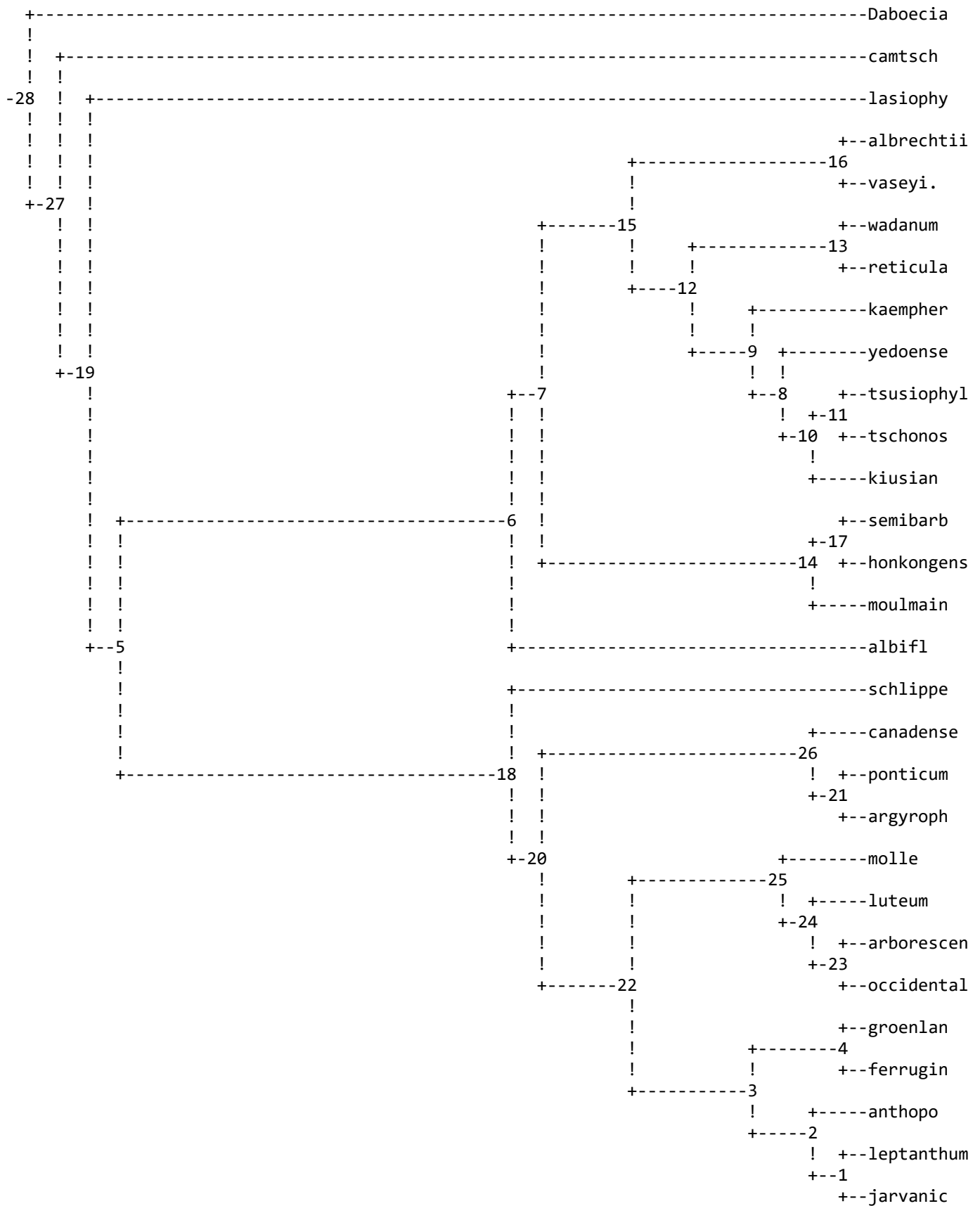
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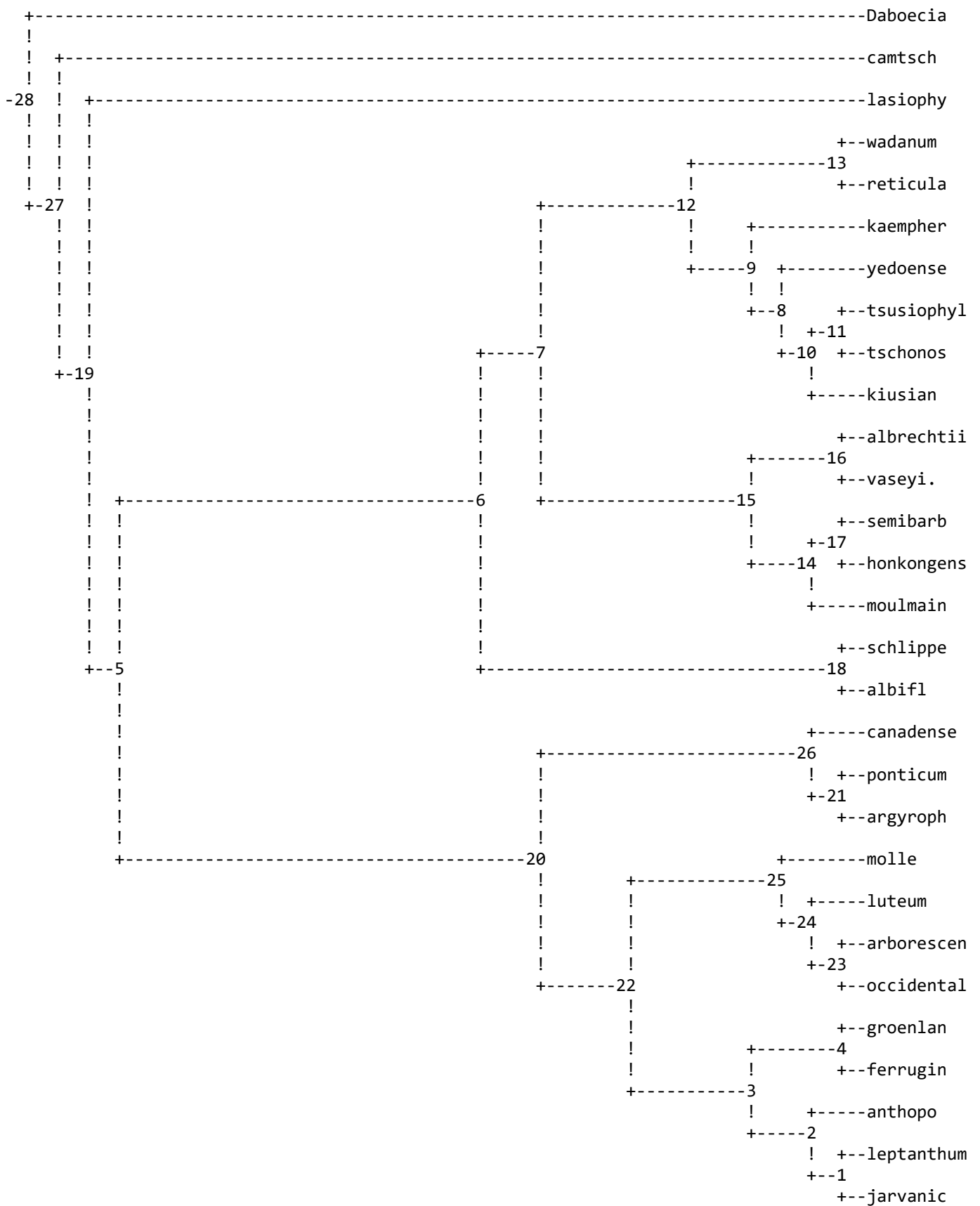
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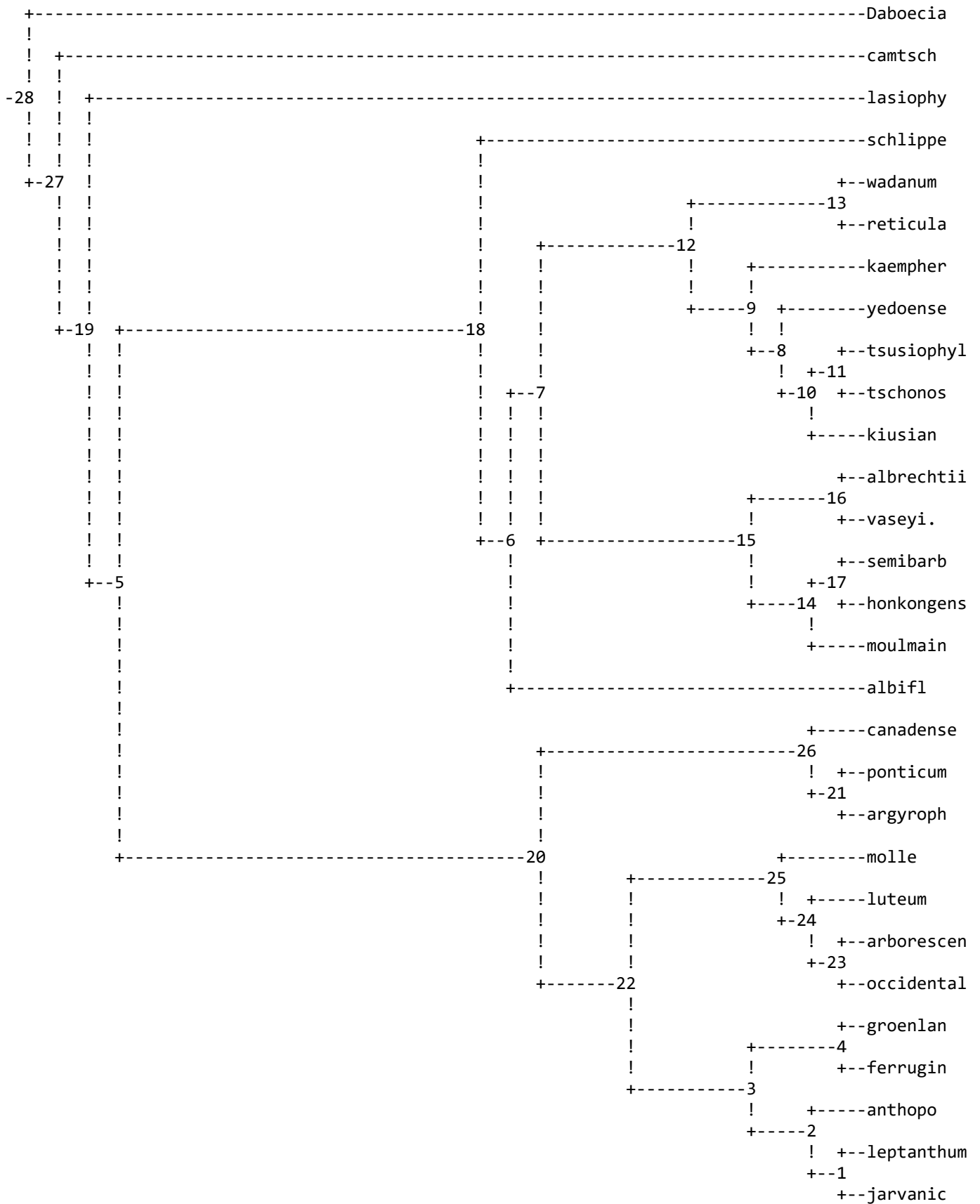
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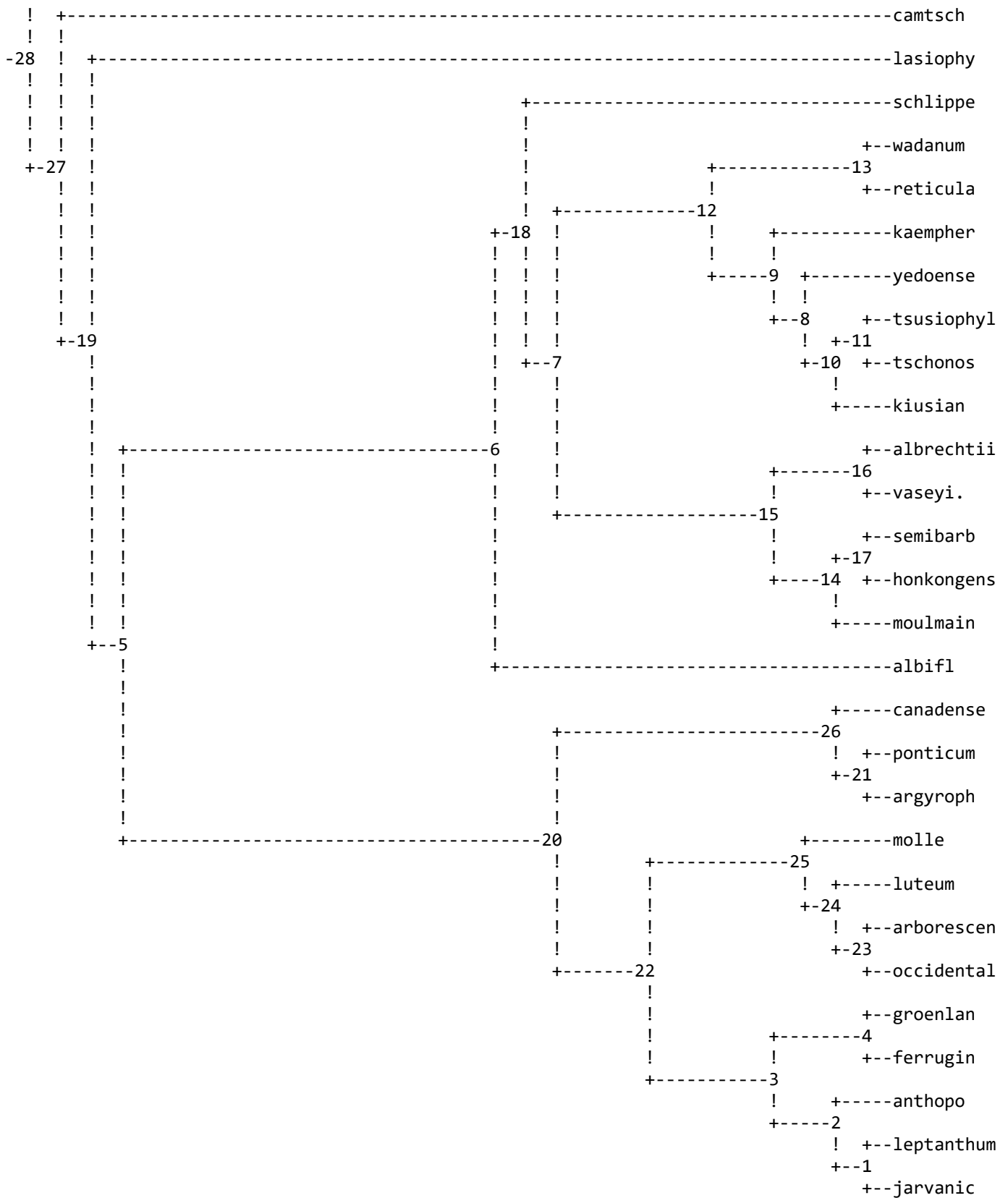
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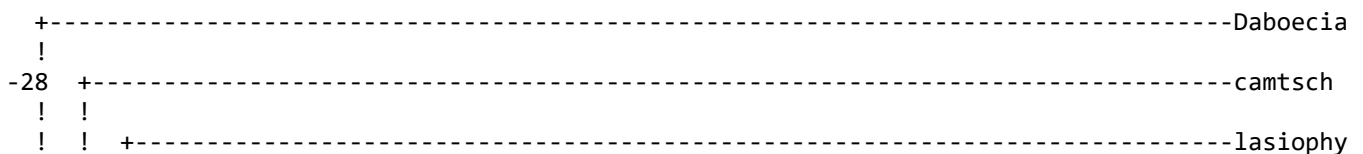
+-----Daboecia
!

```



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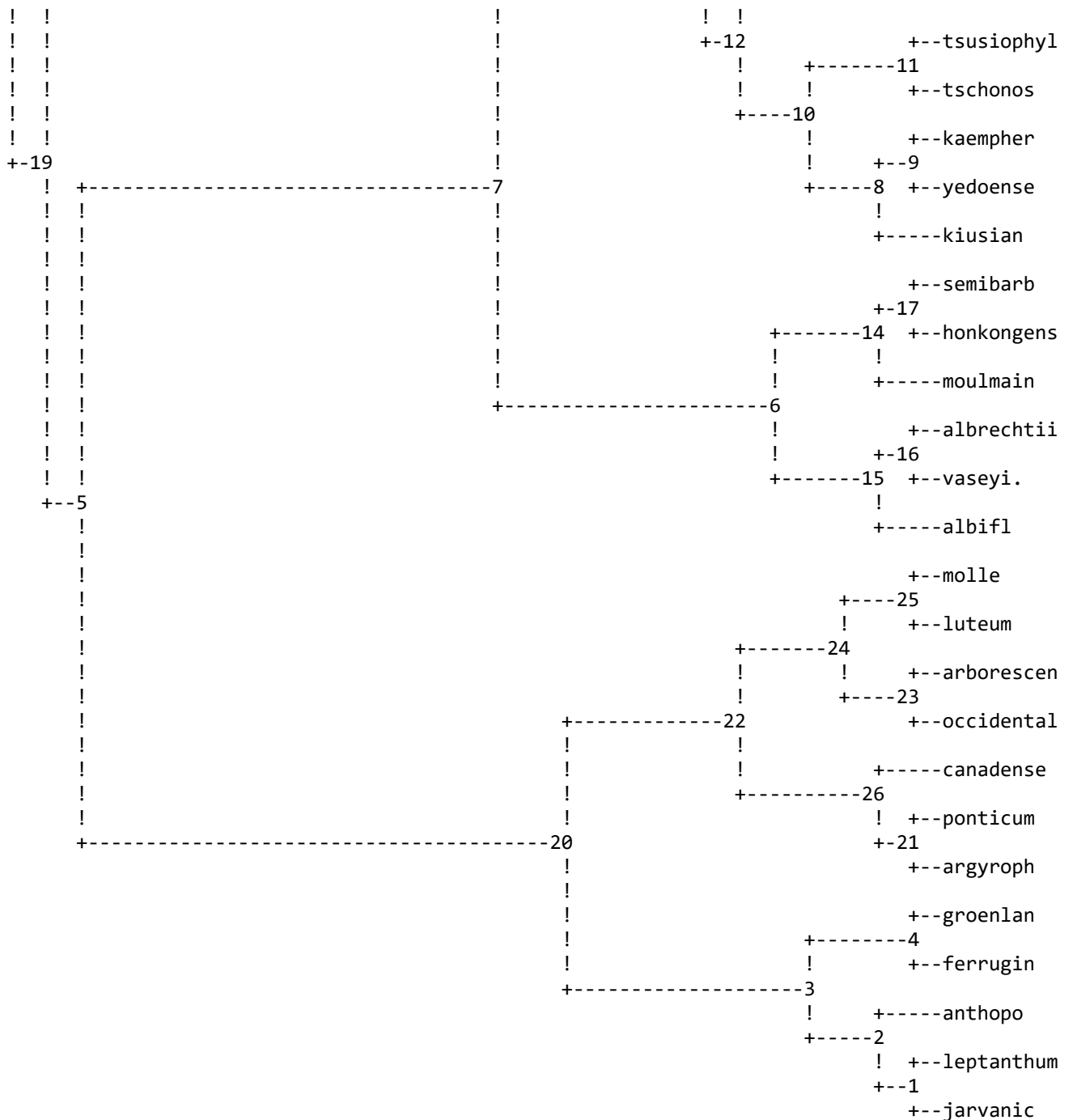
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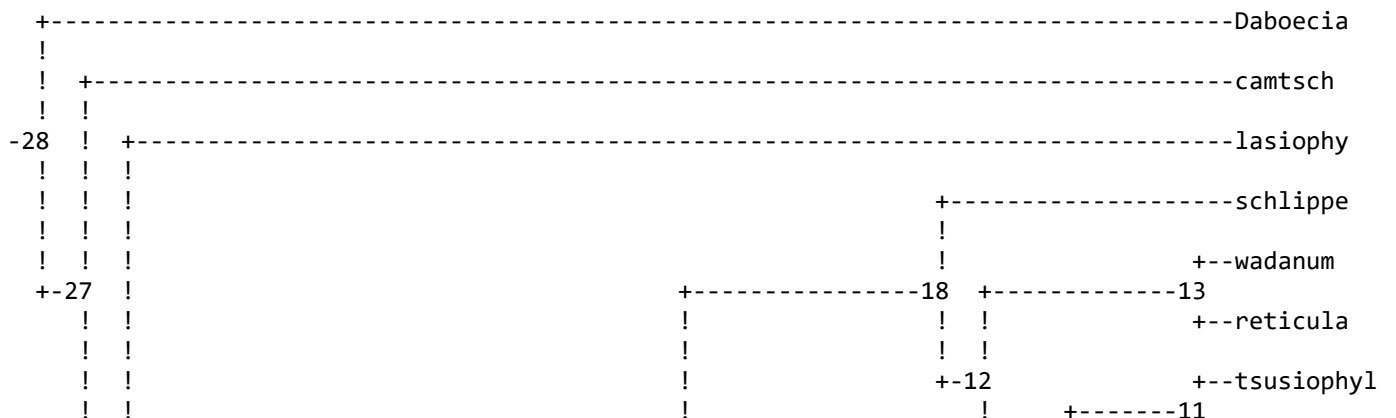


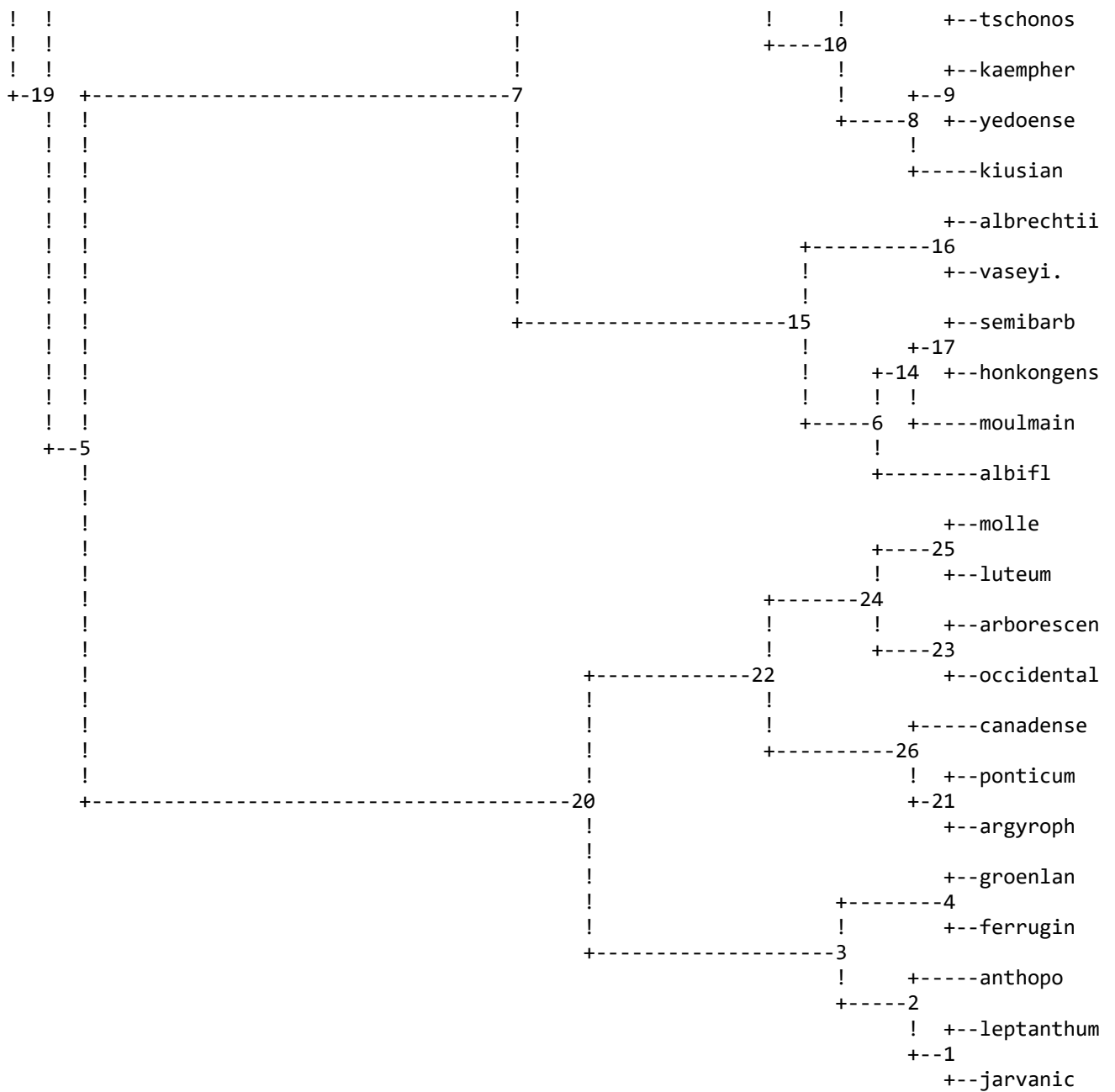




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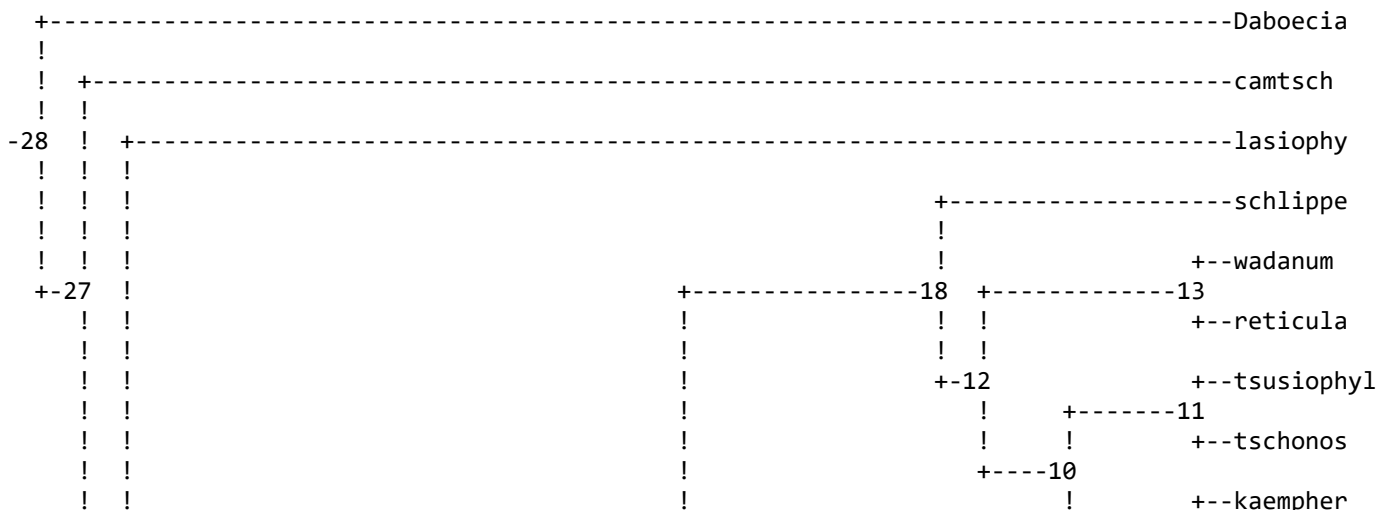
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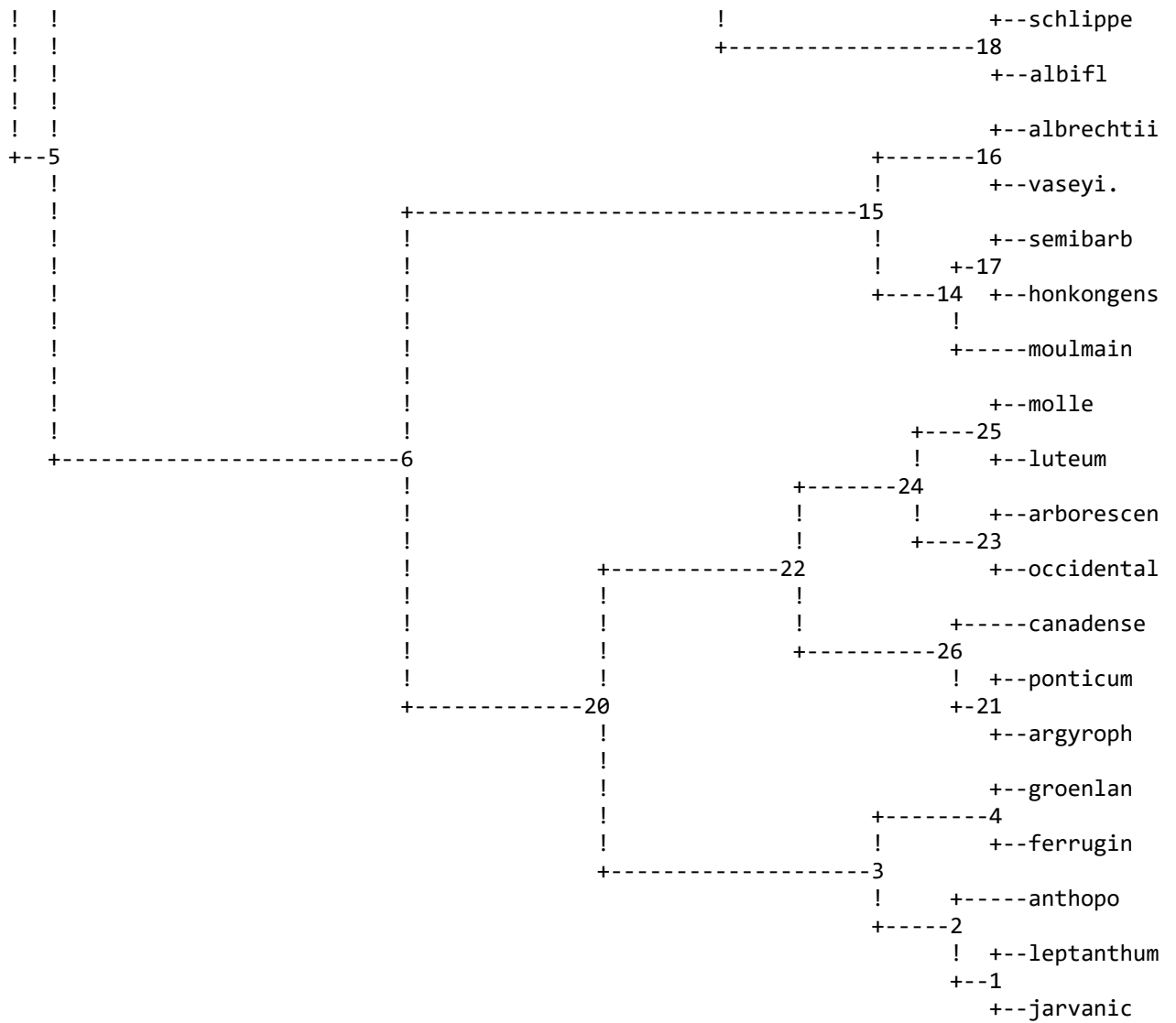


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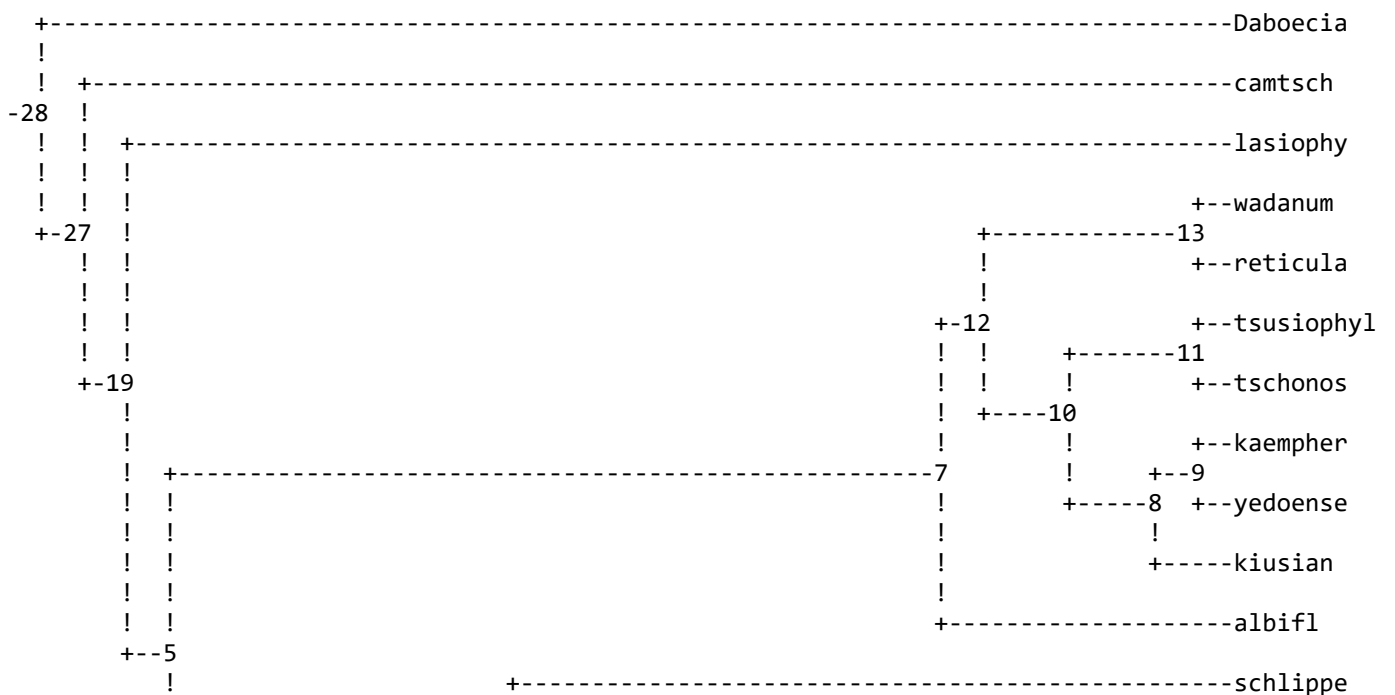


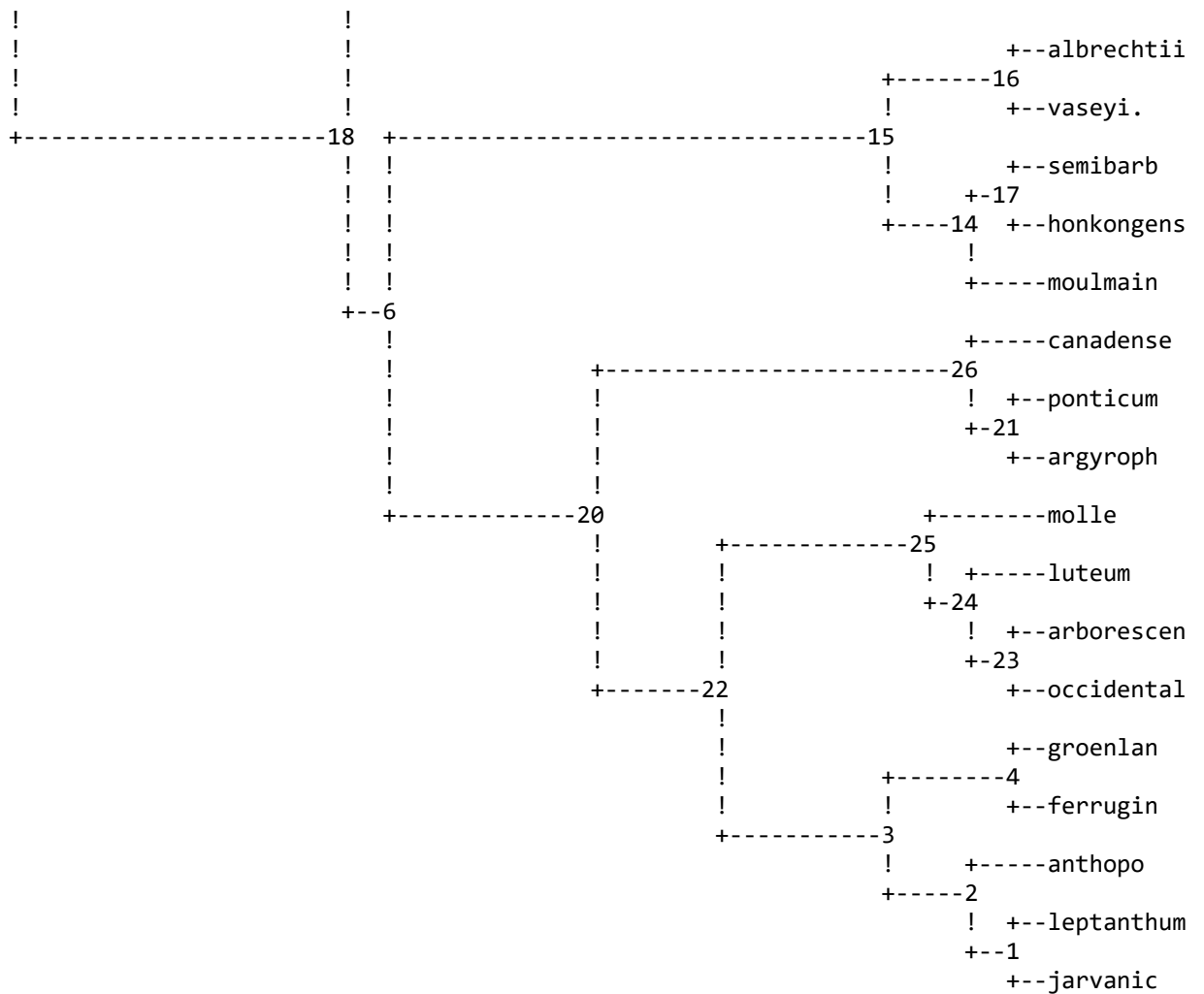




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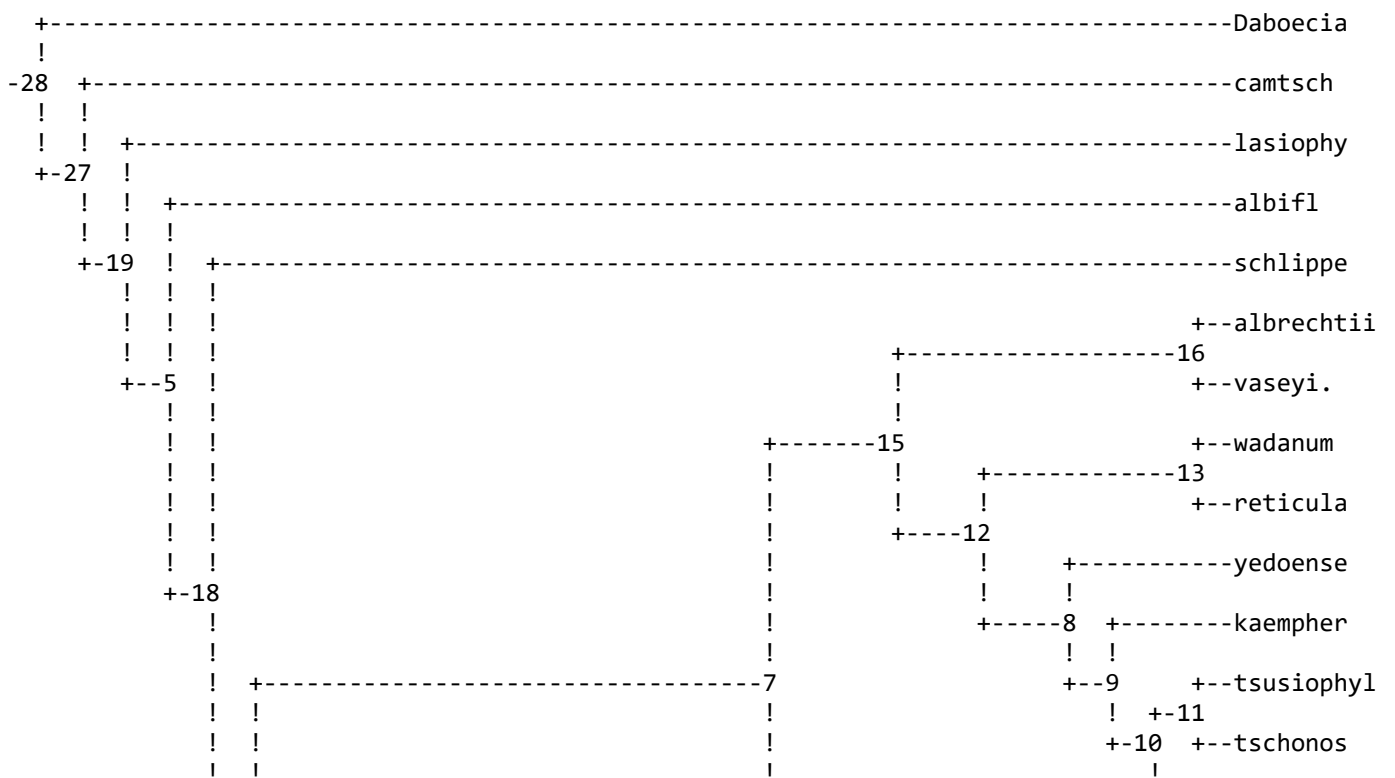
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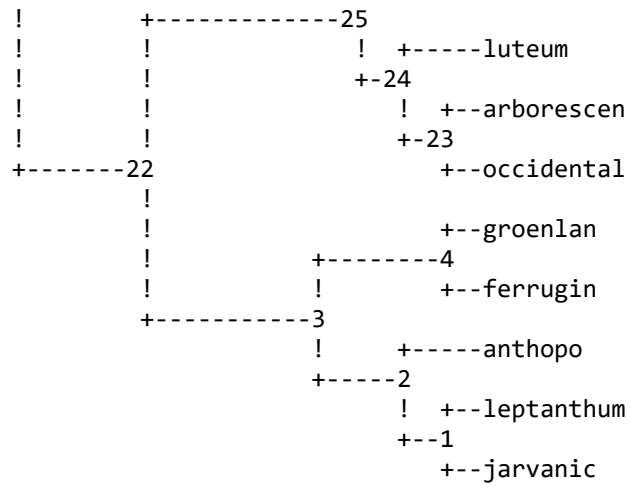






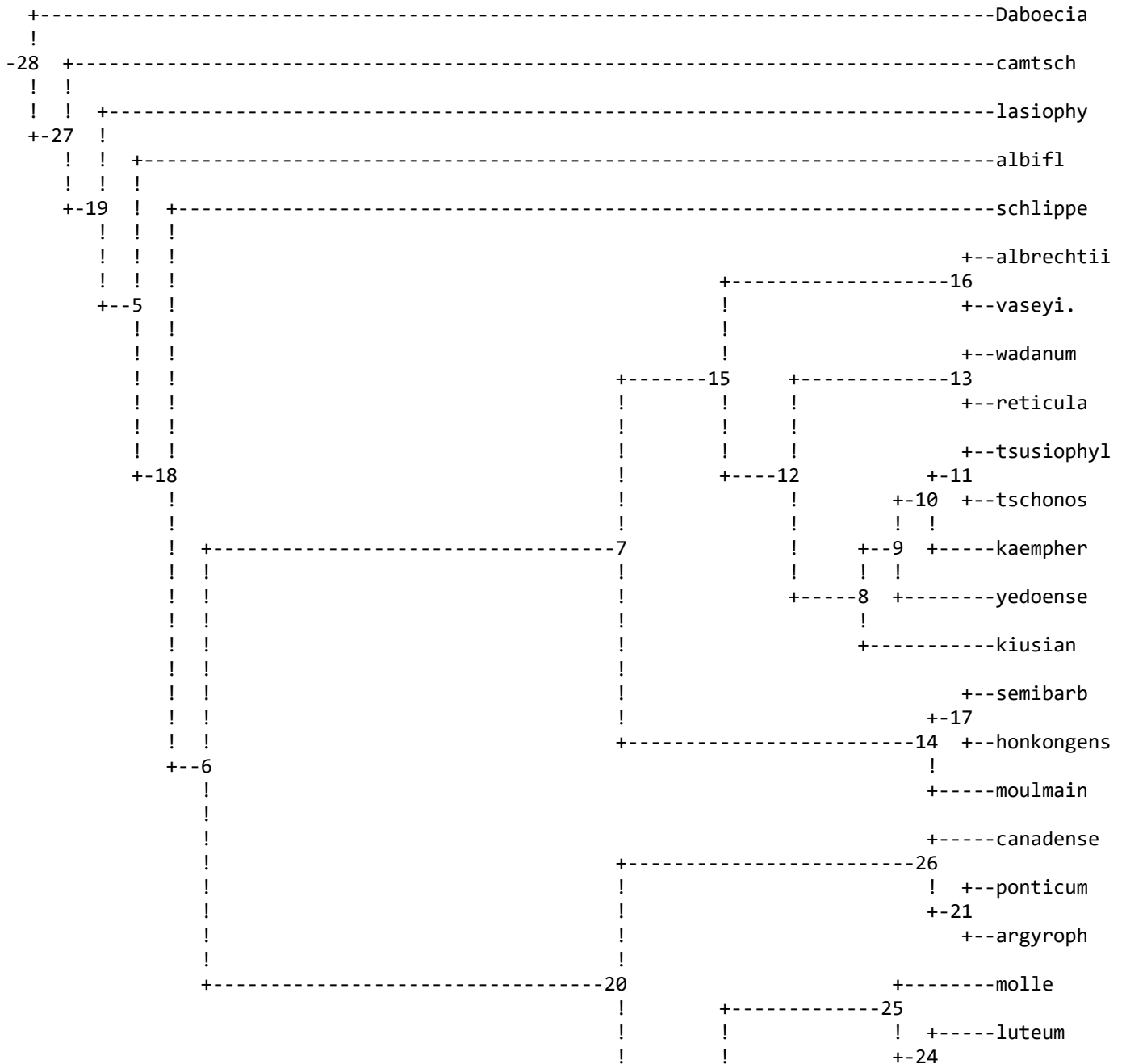


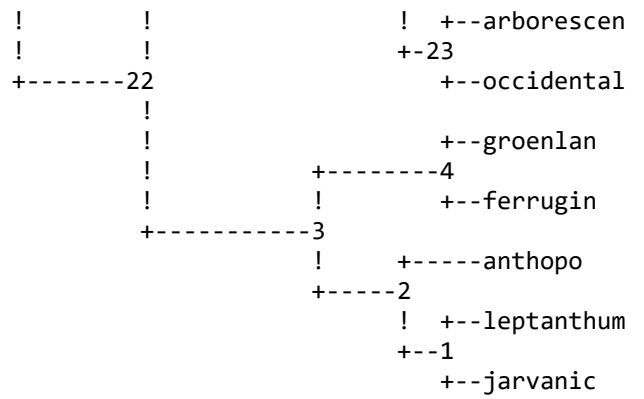




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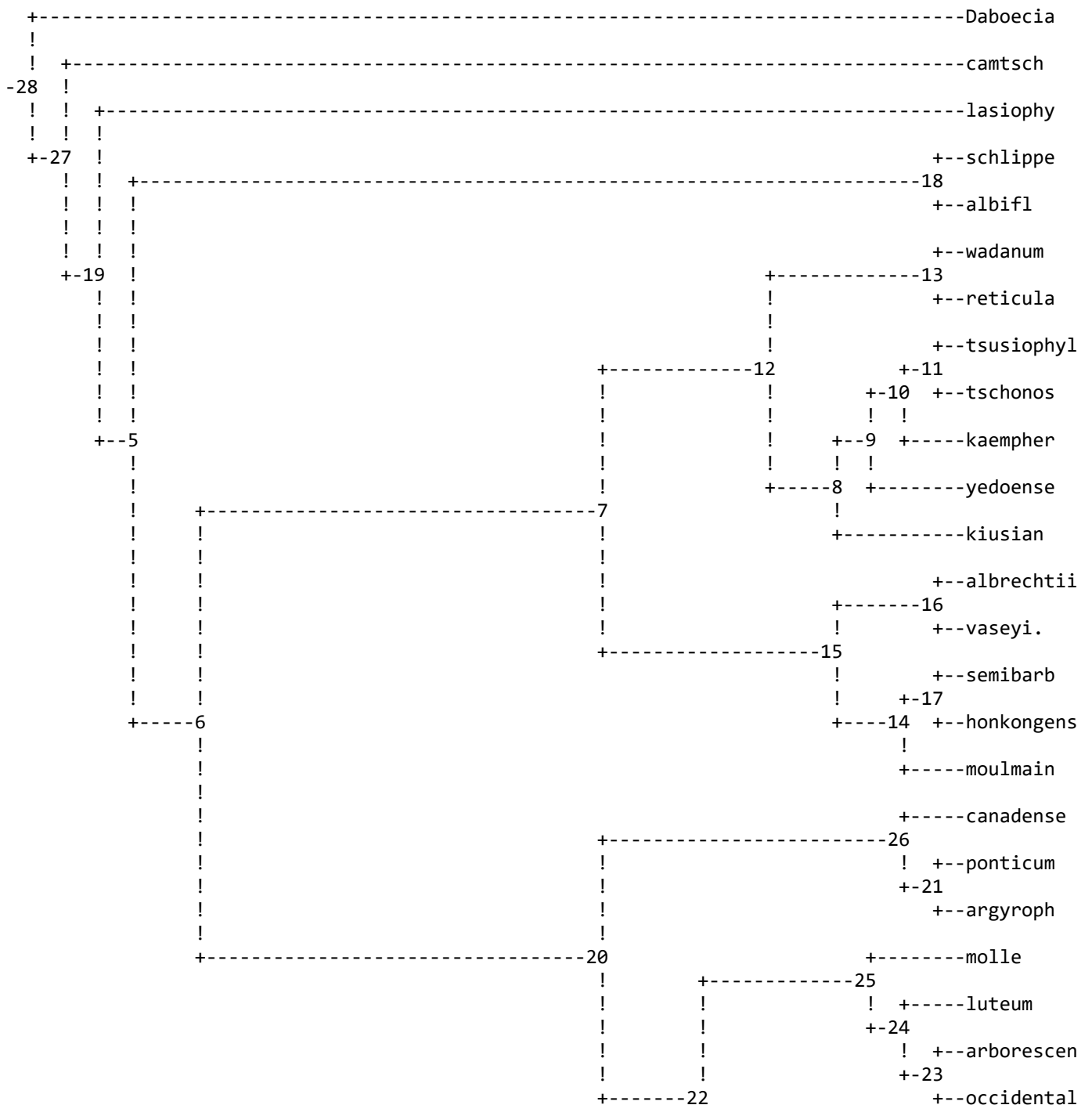
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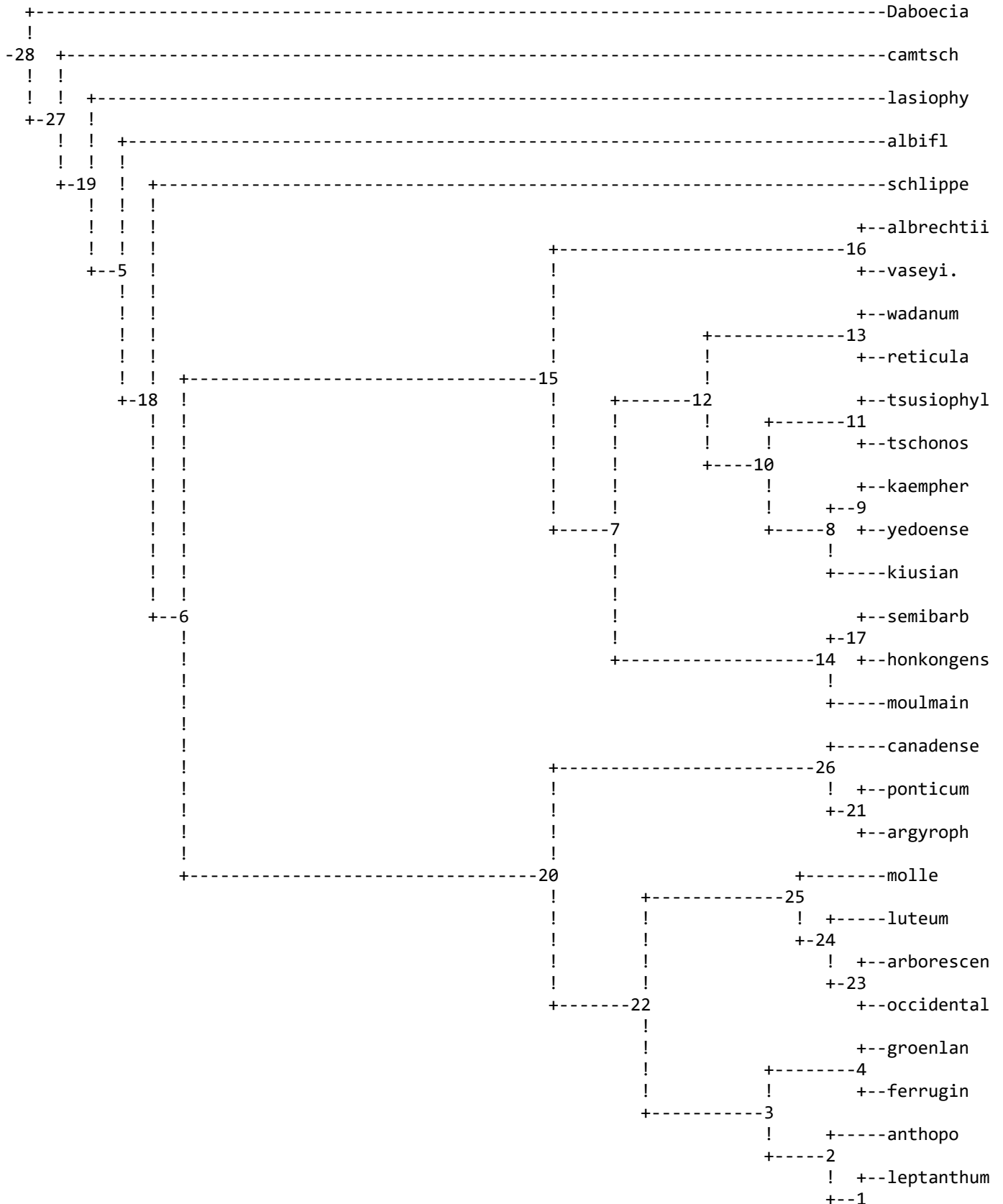
```

+-----2
! +--leptanthum
+--1
+--jarvanic

```

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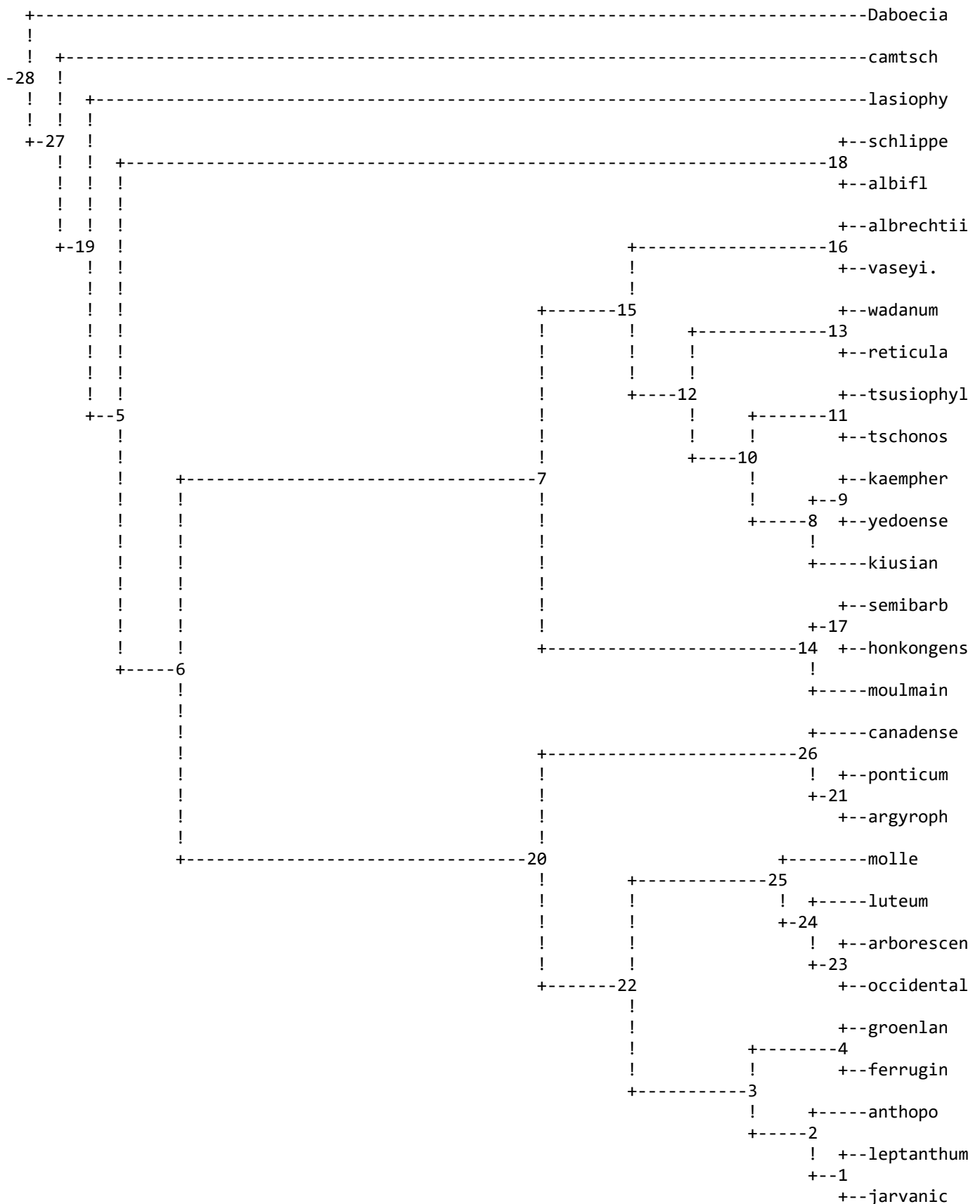
total number of compatible sites is 638.0



+--jarvanic

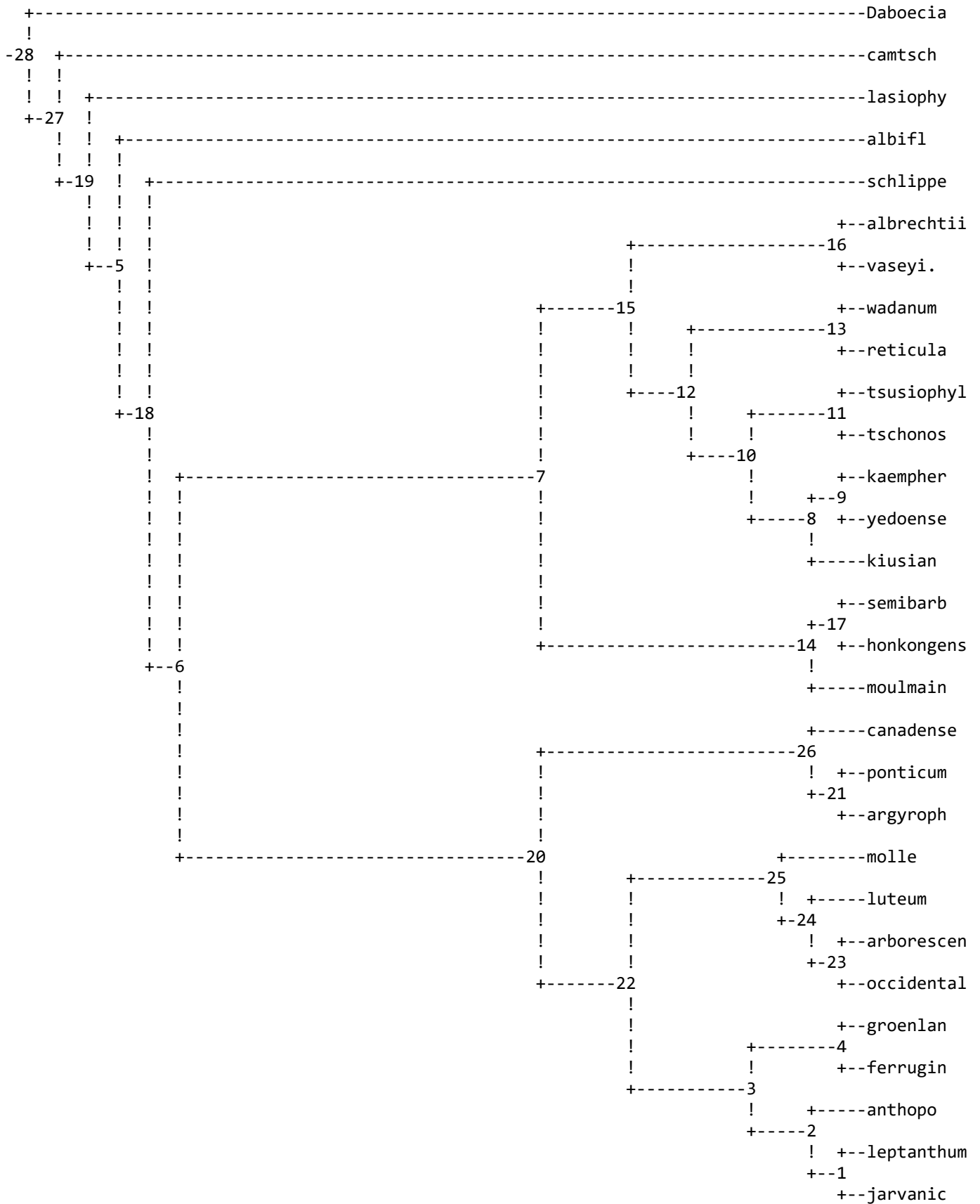
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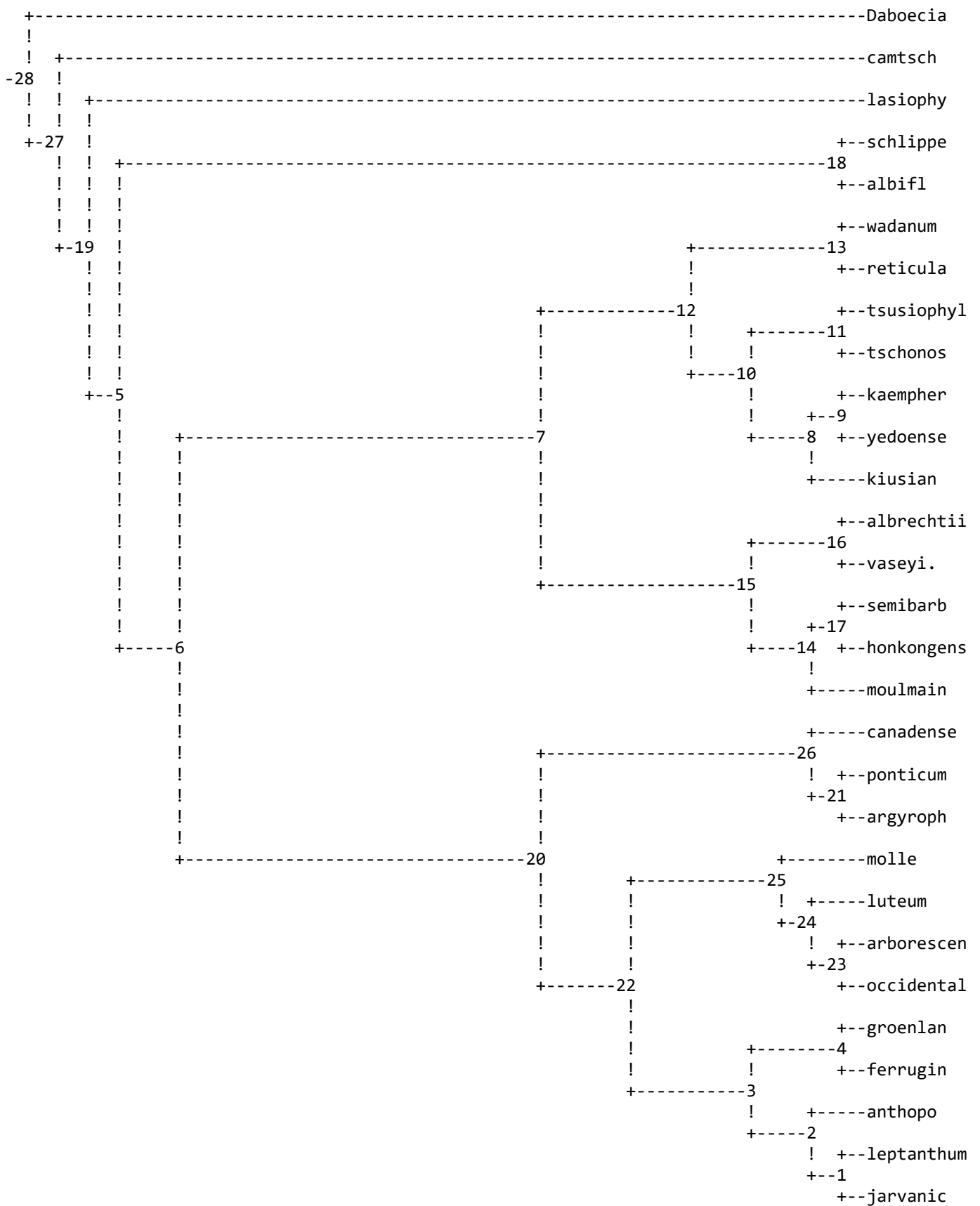
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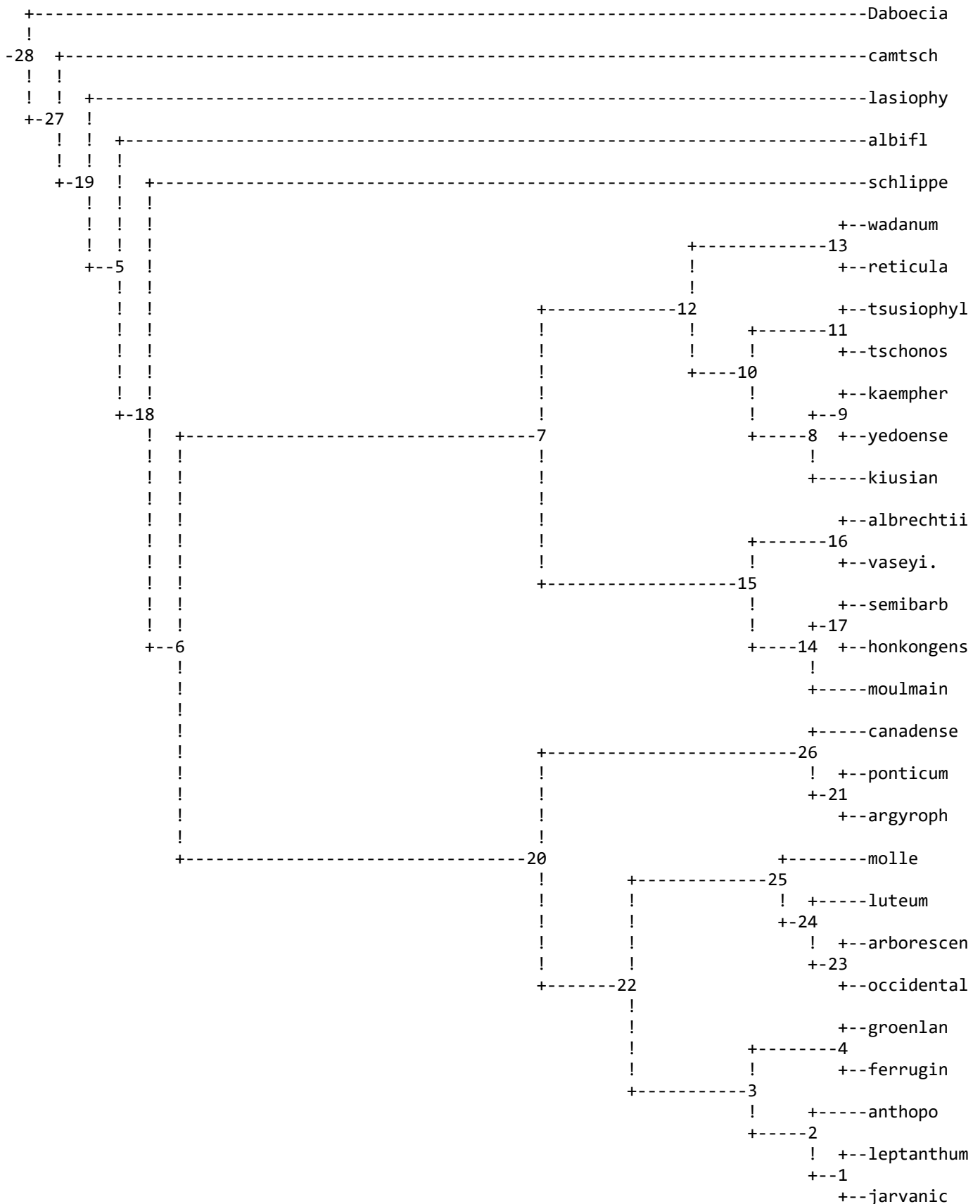
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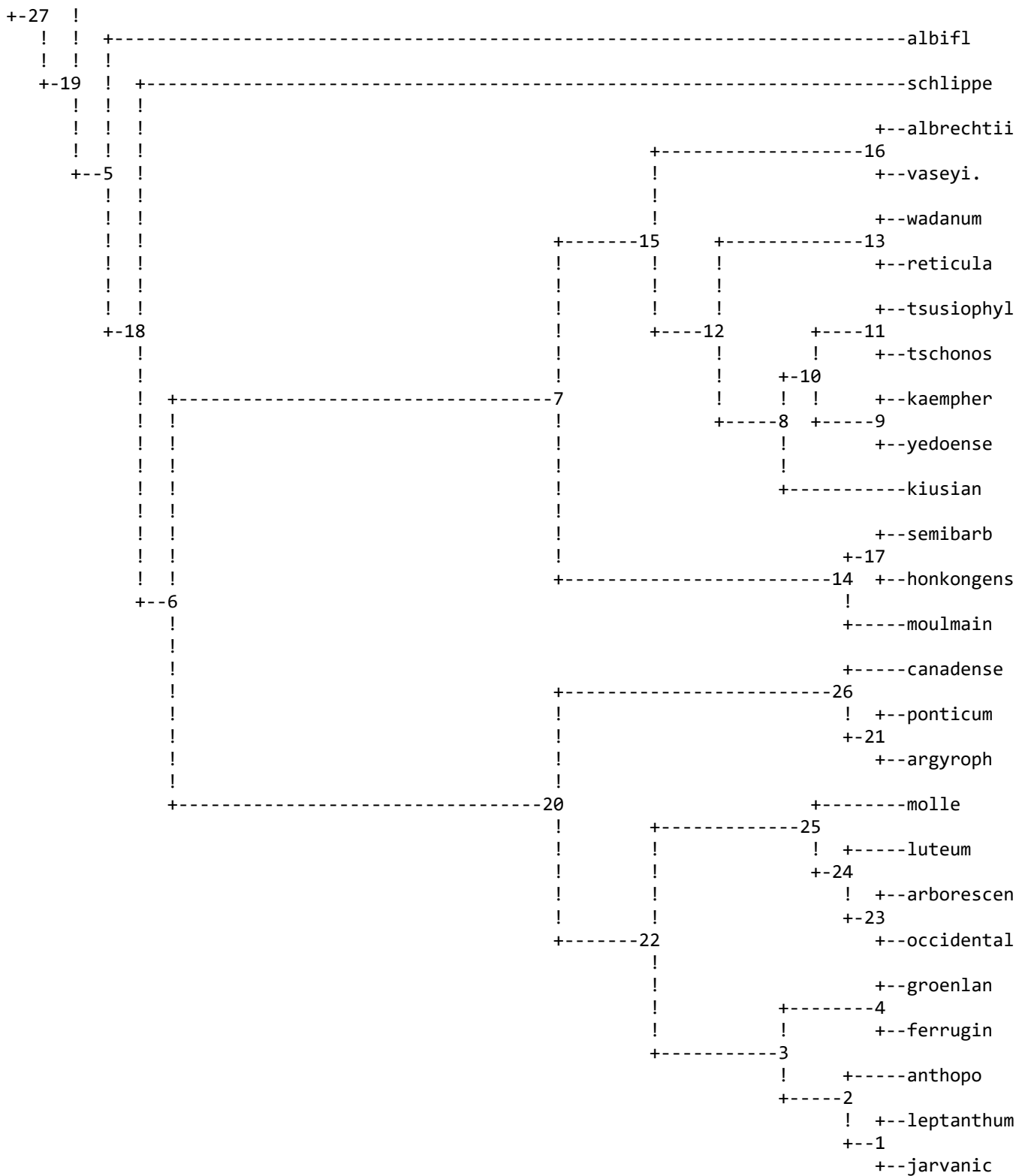
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```

+-----Daboecia
!
```

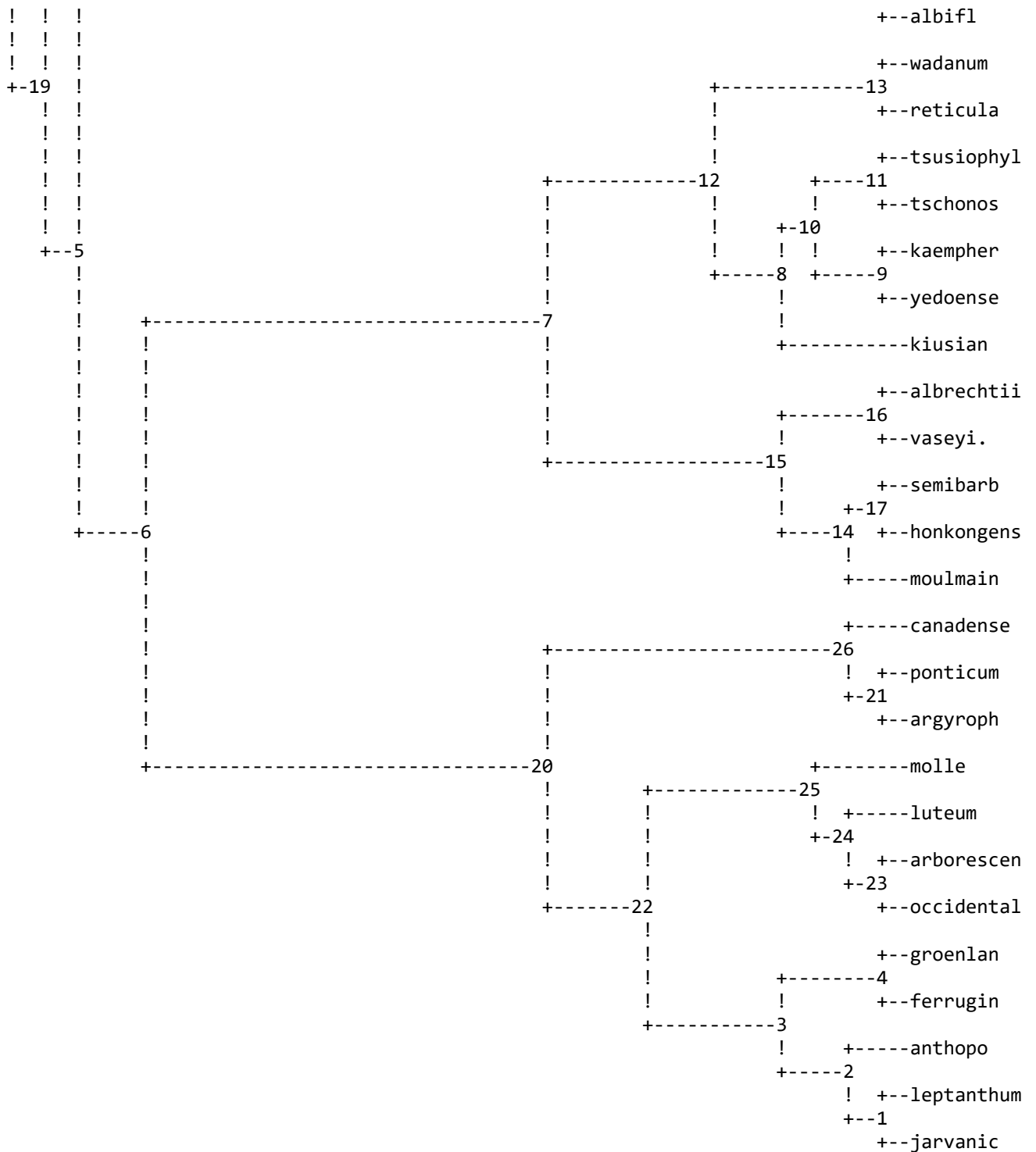




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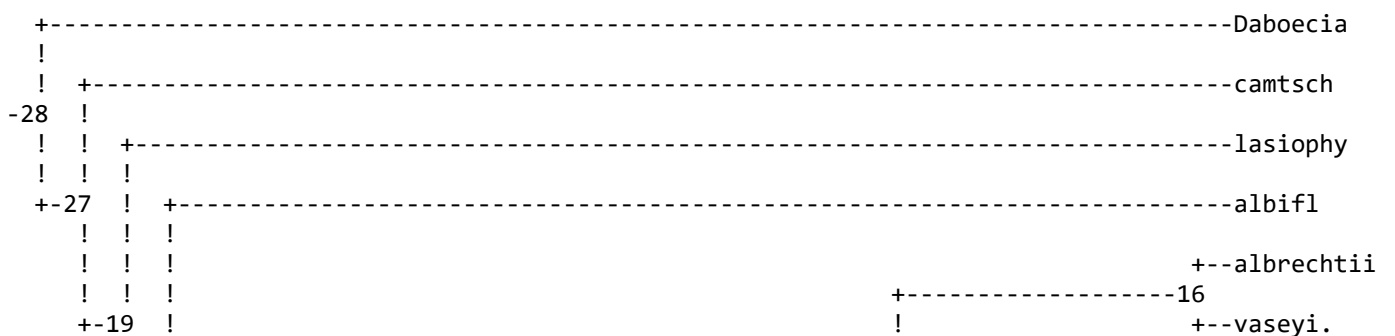
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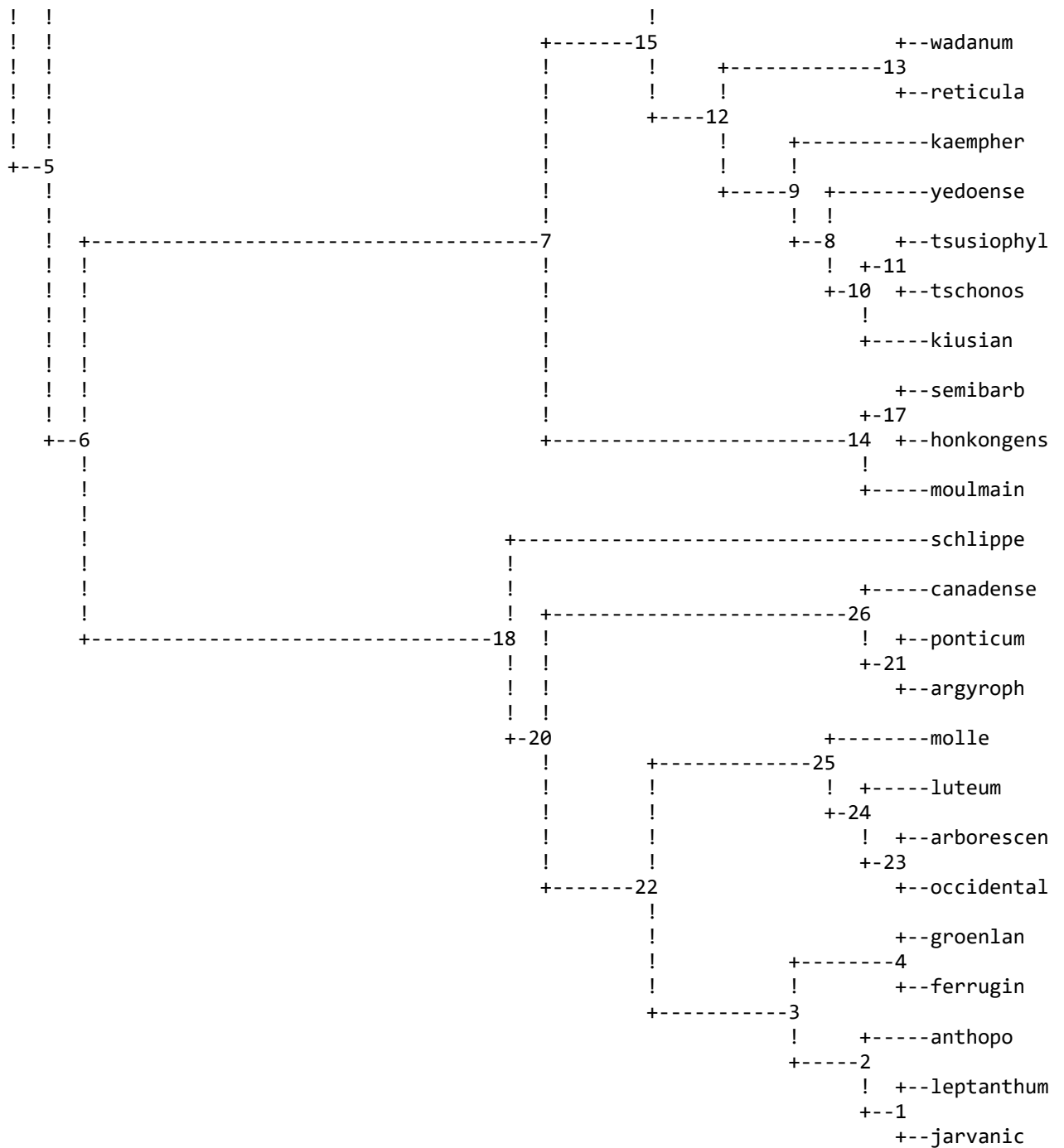


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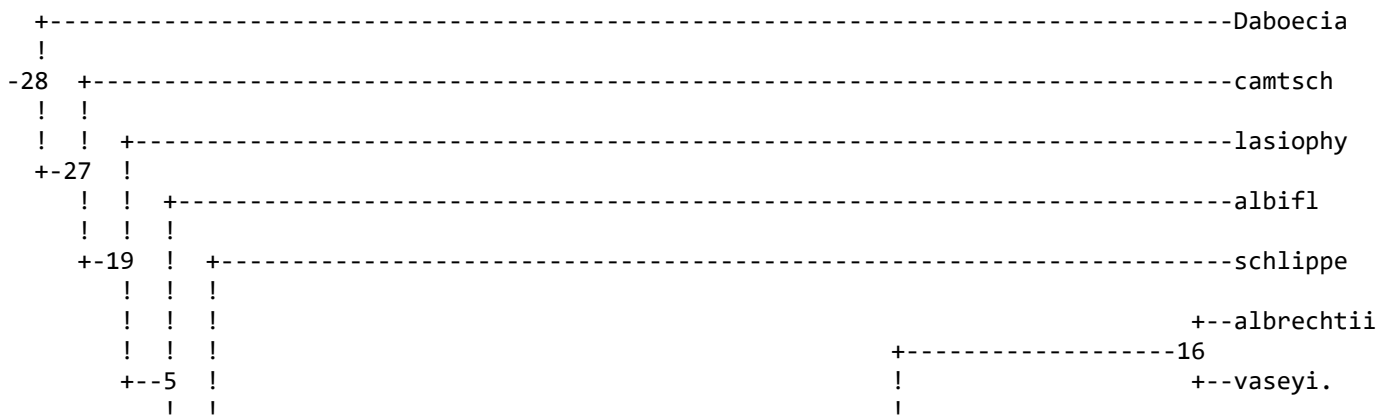




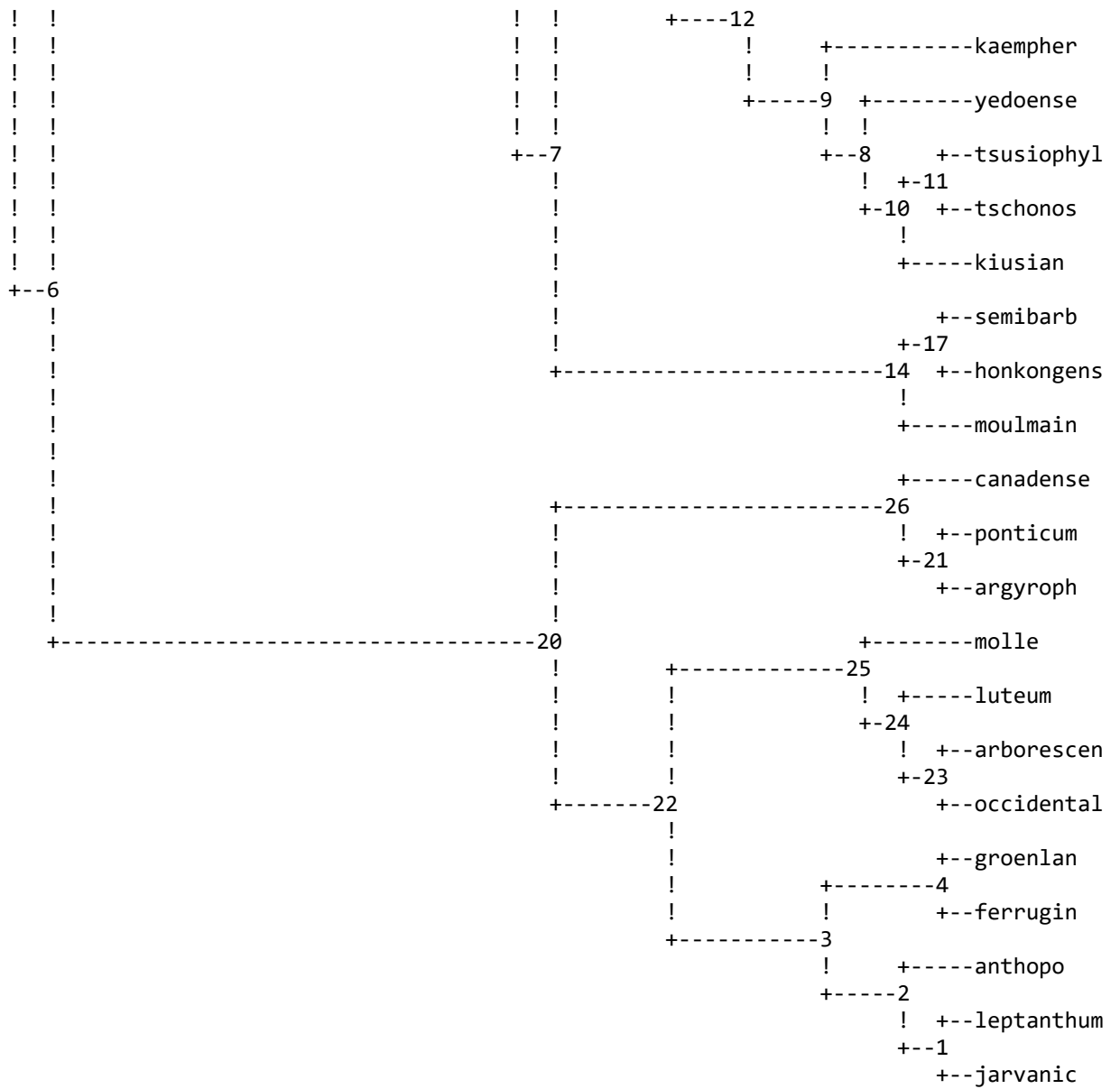


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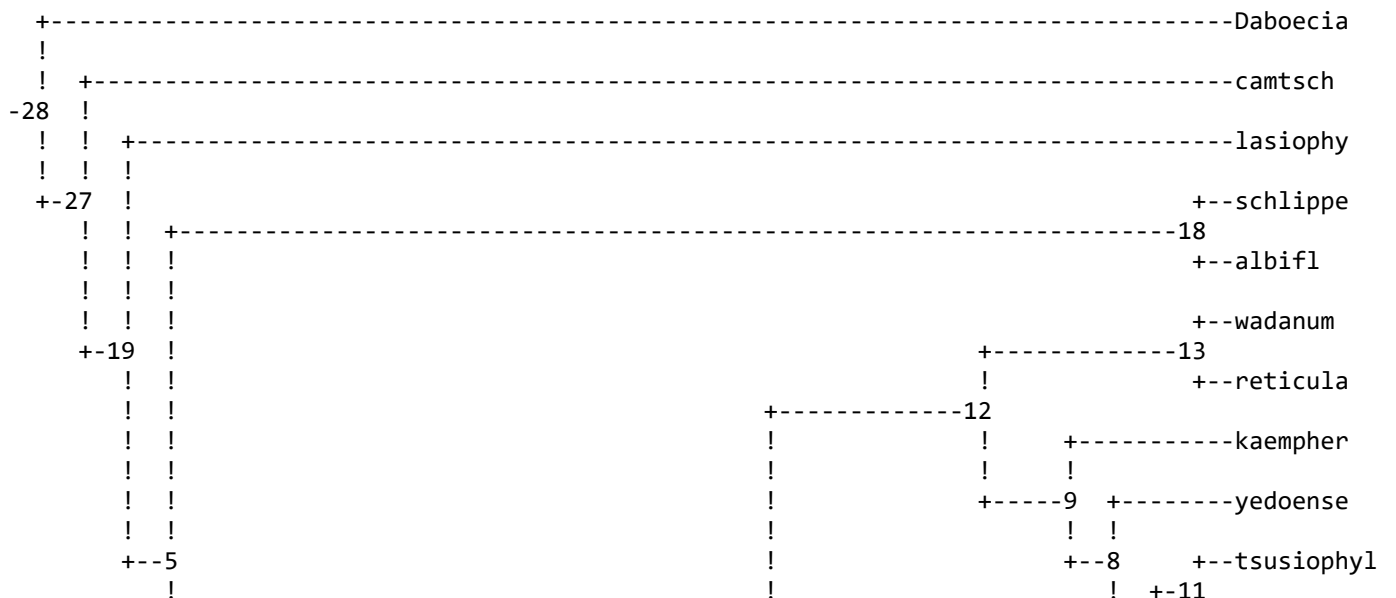




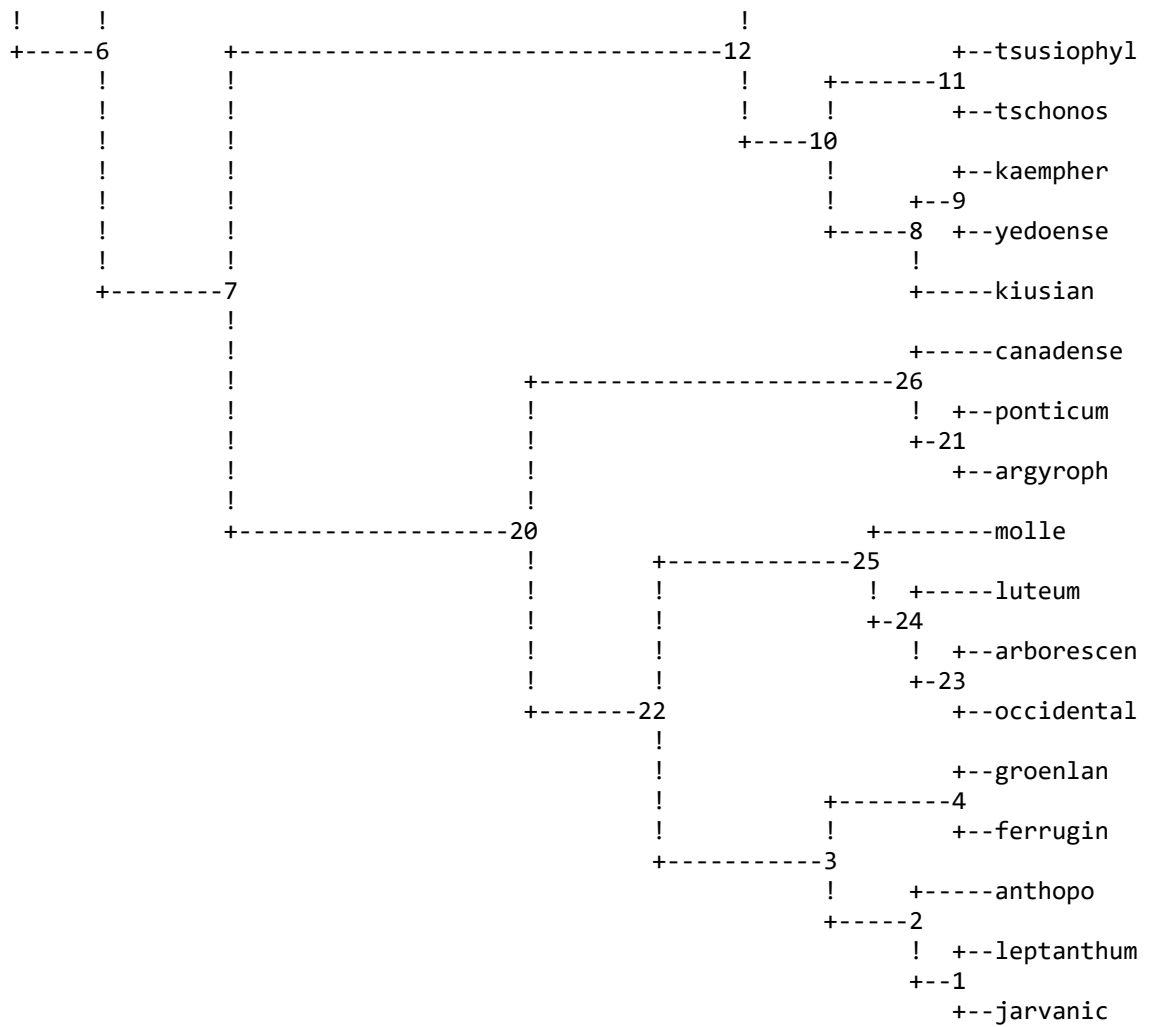


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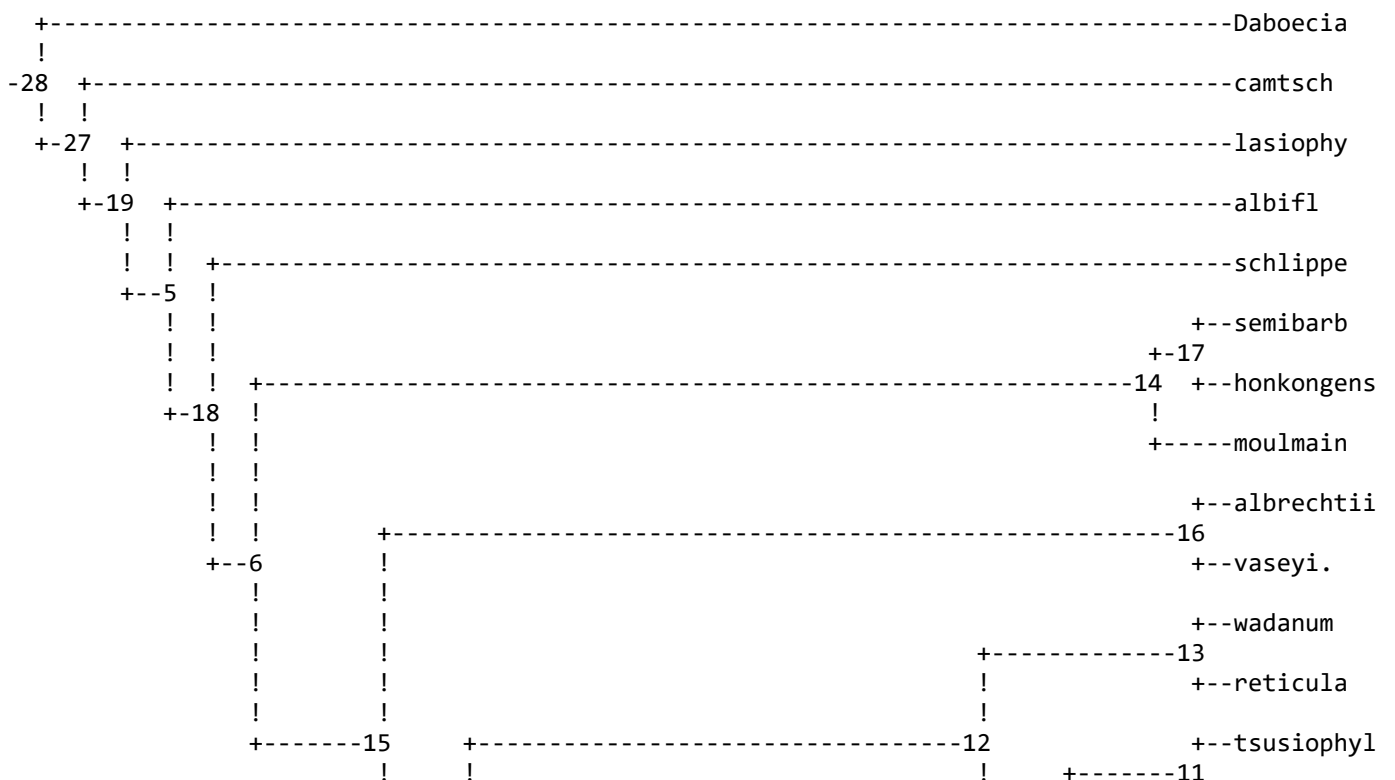


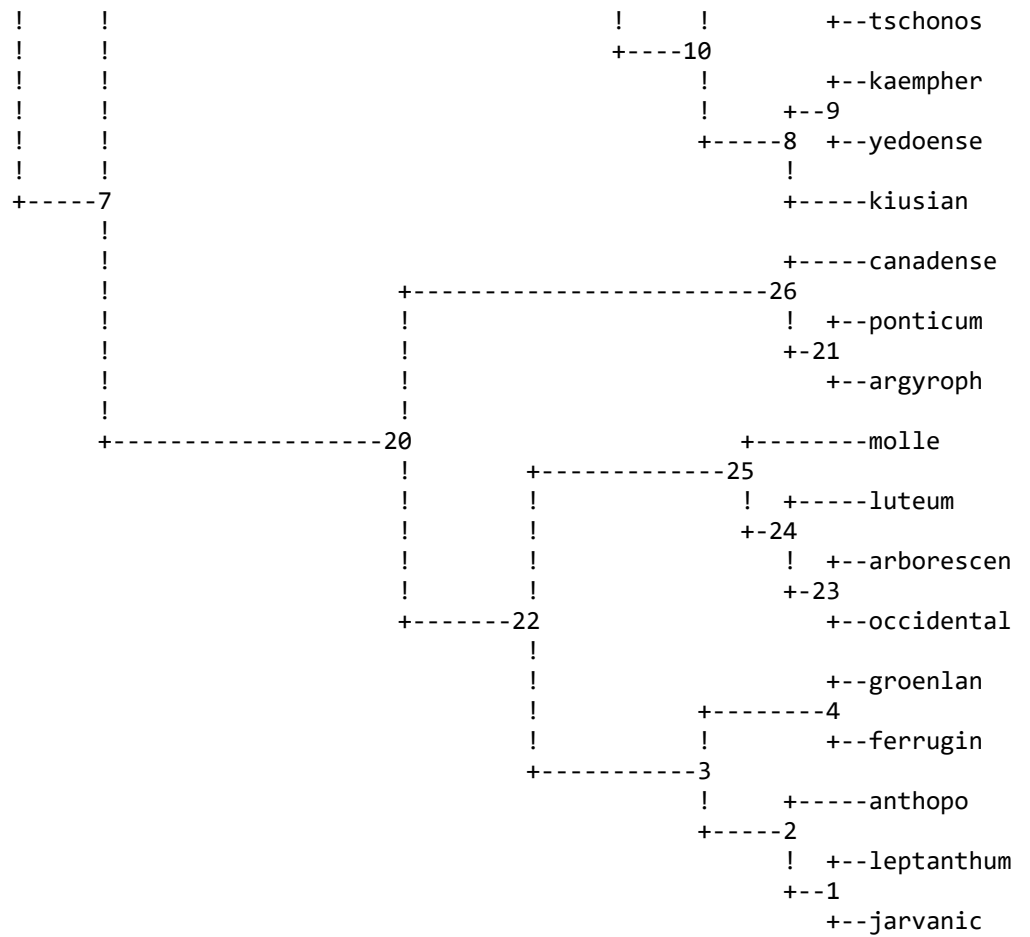




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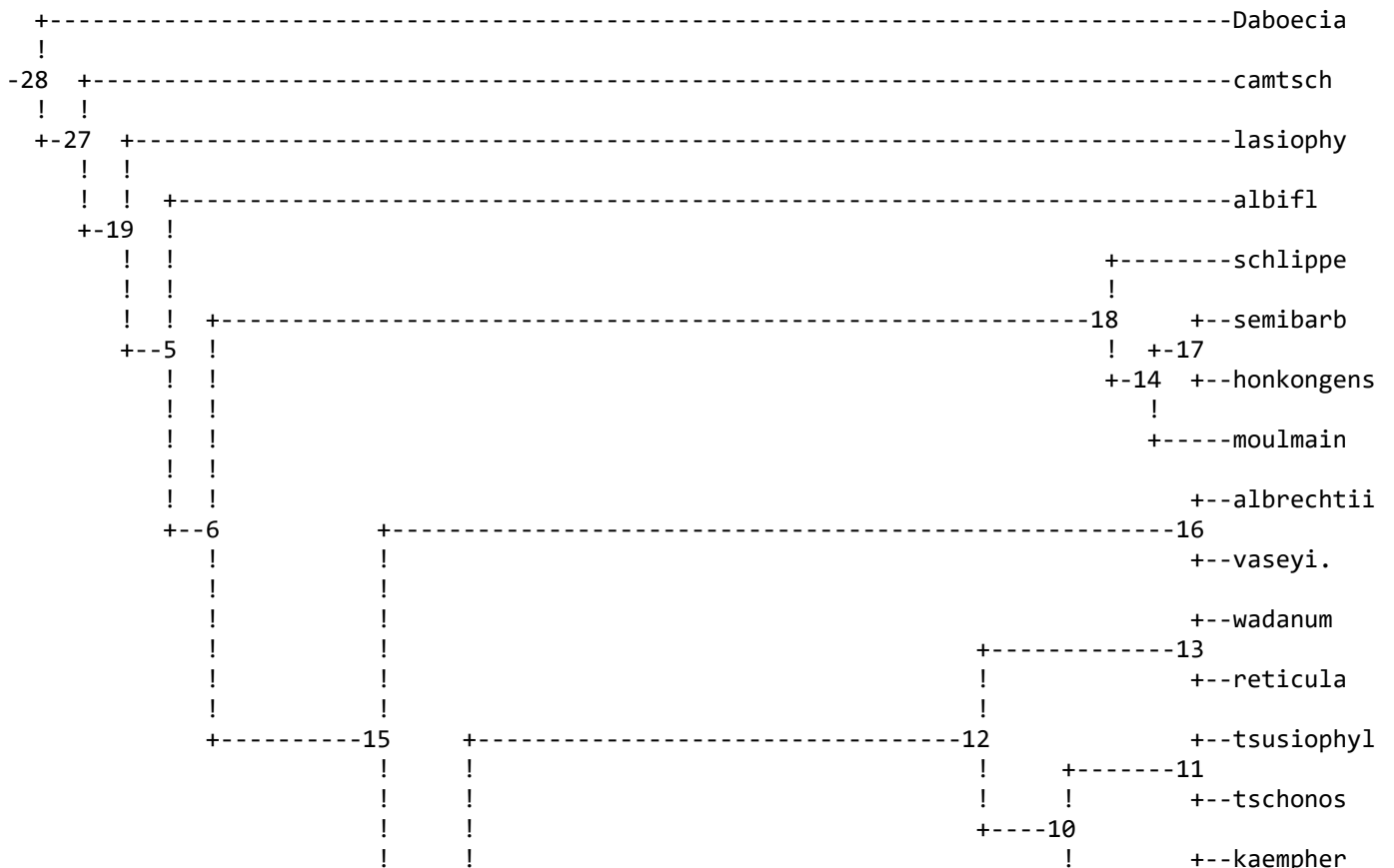
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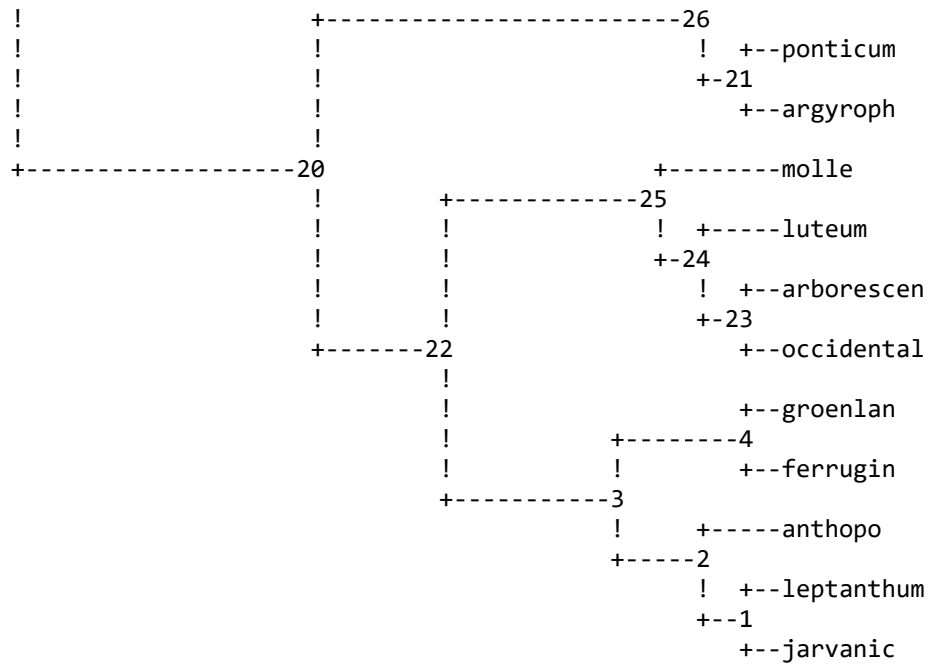
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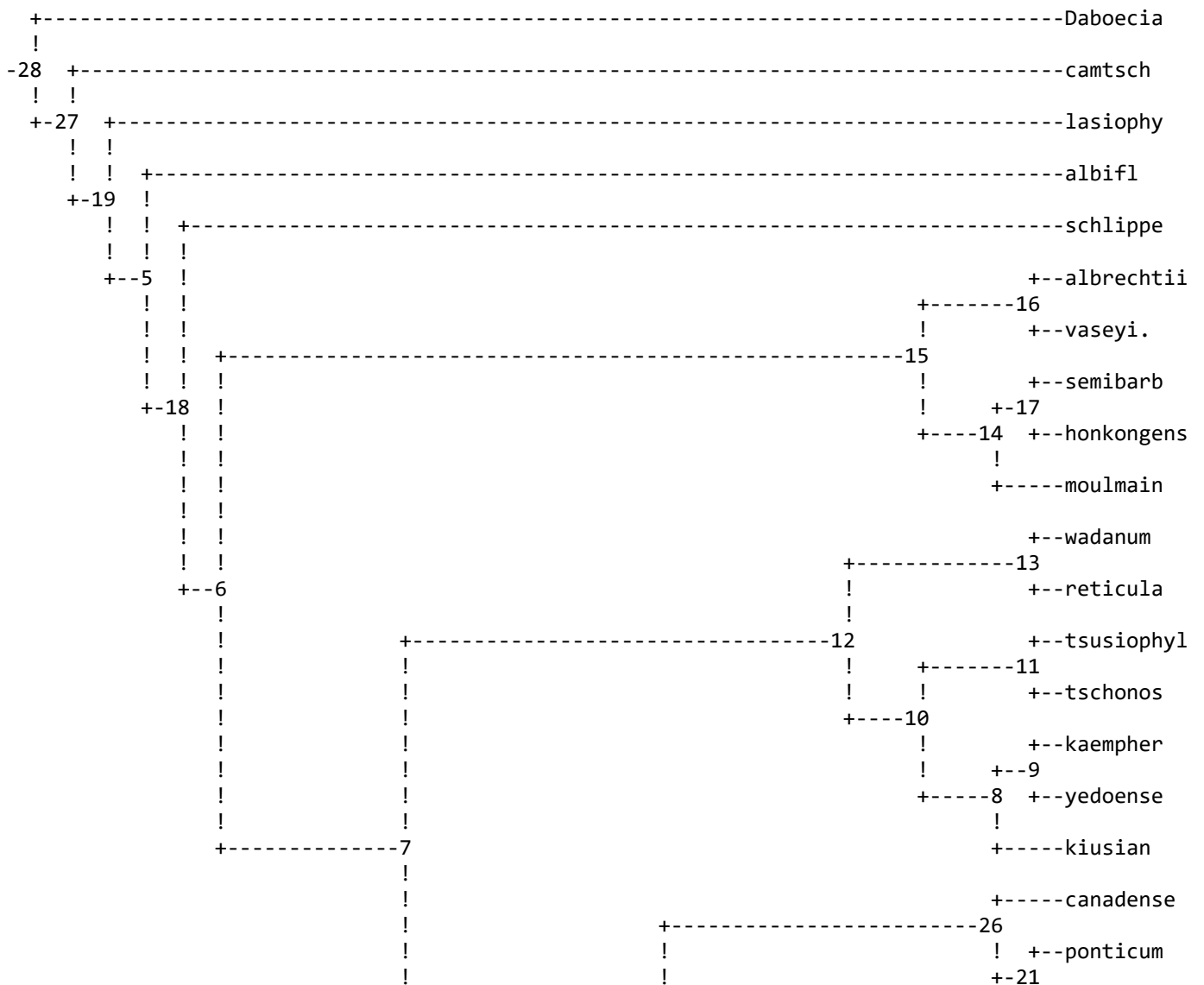


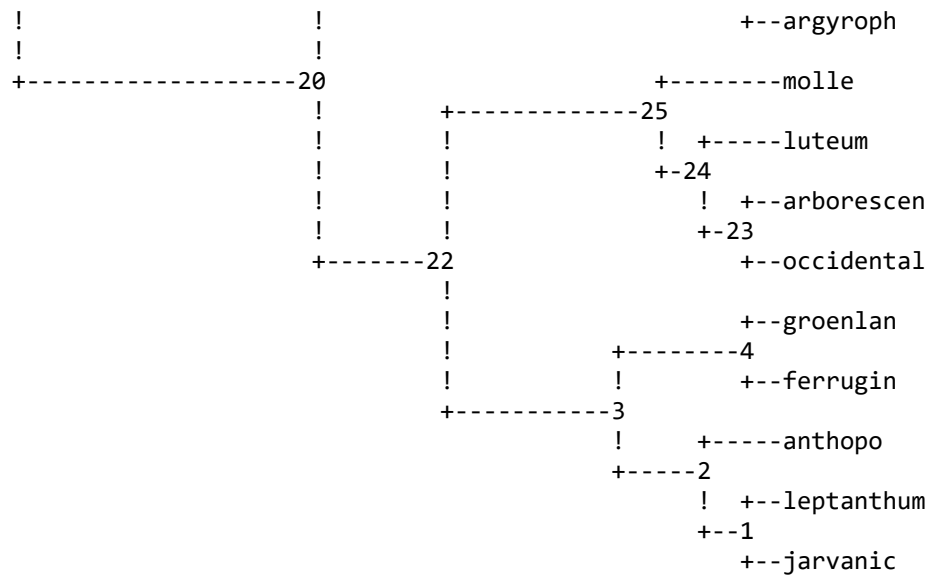




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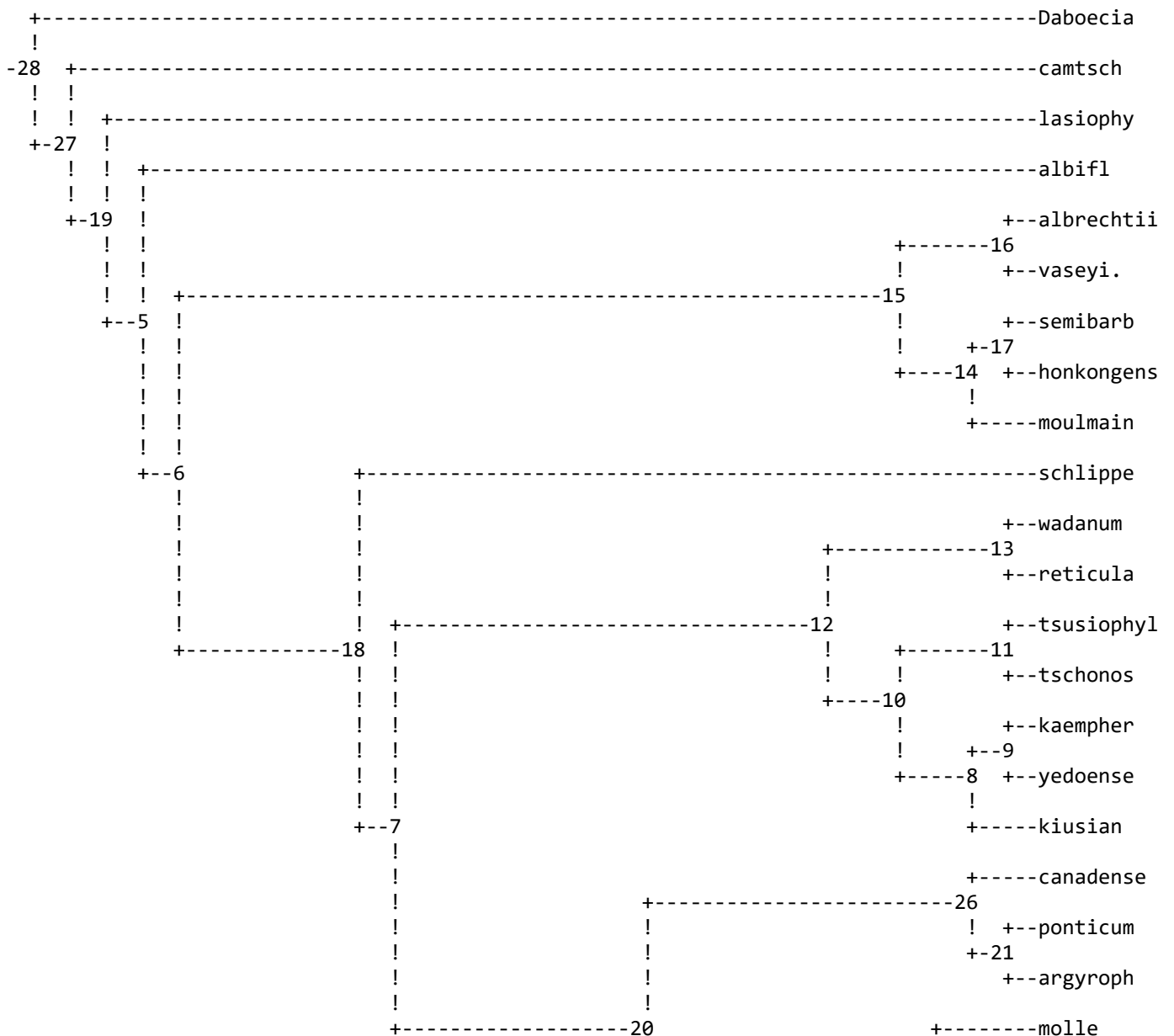
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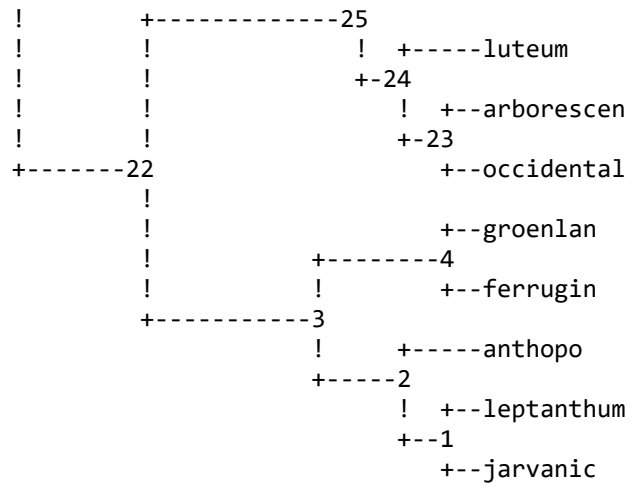




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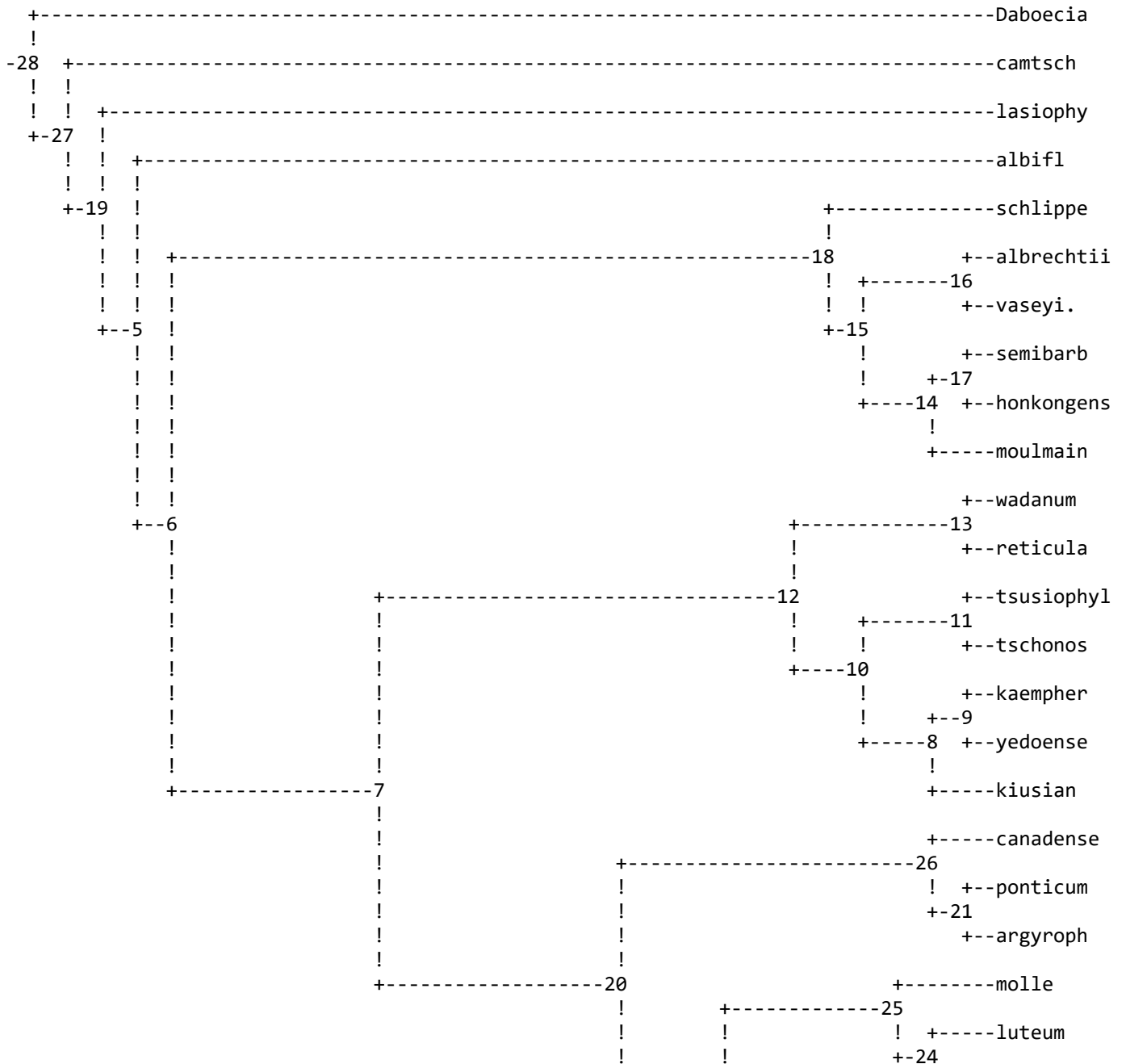
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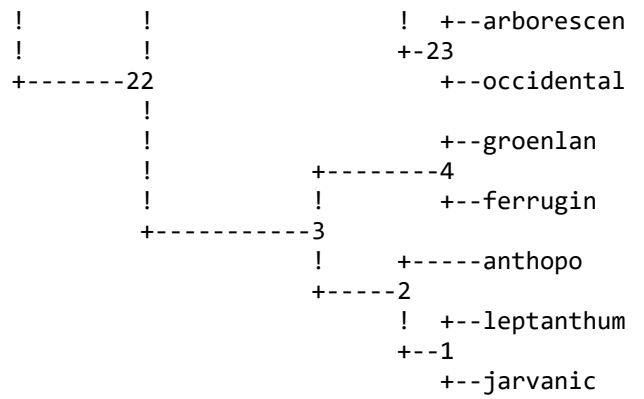




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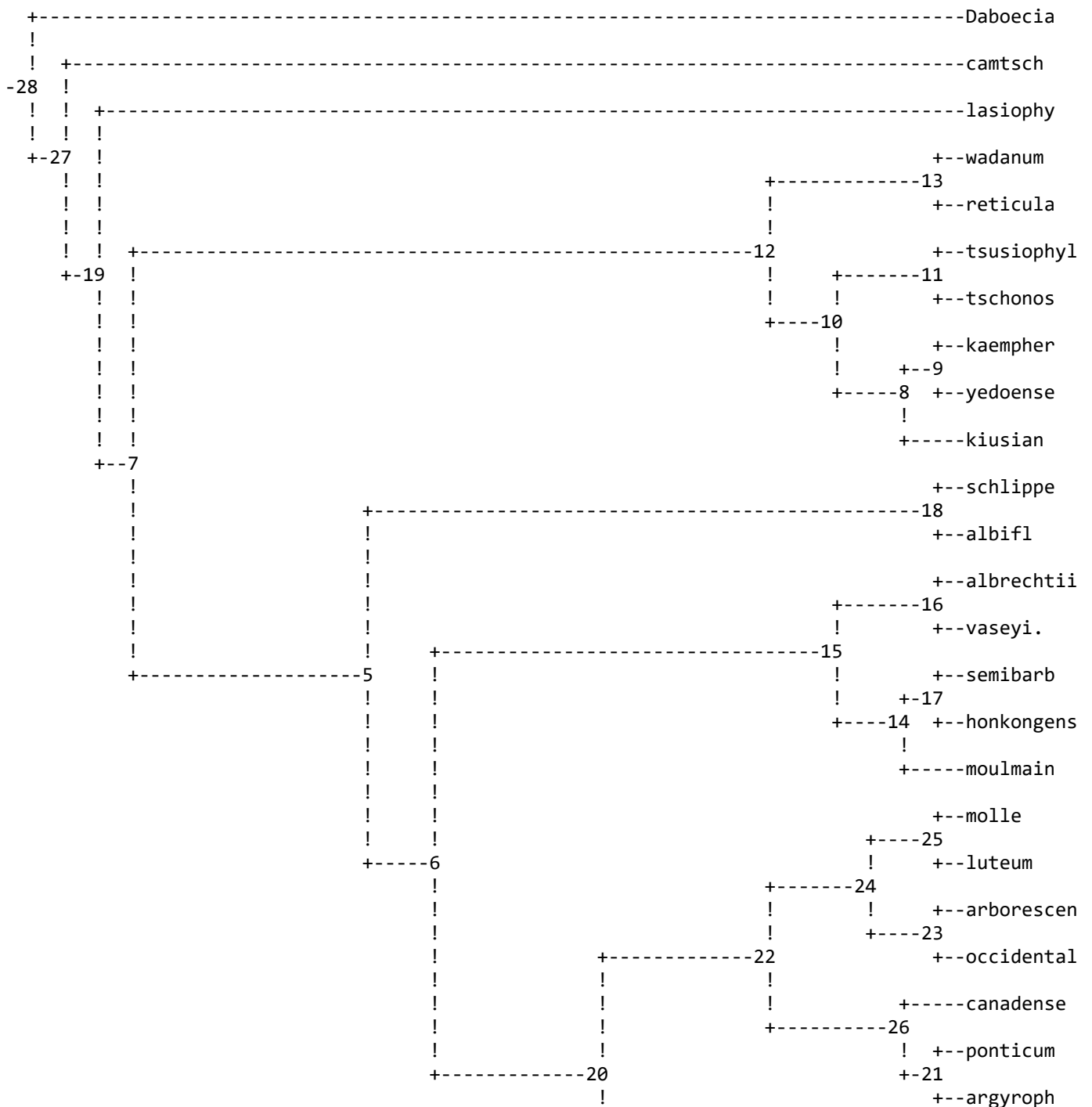
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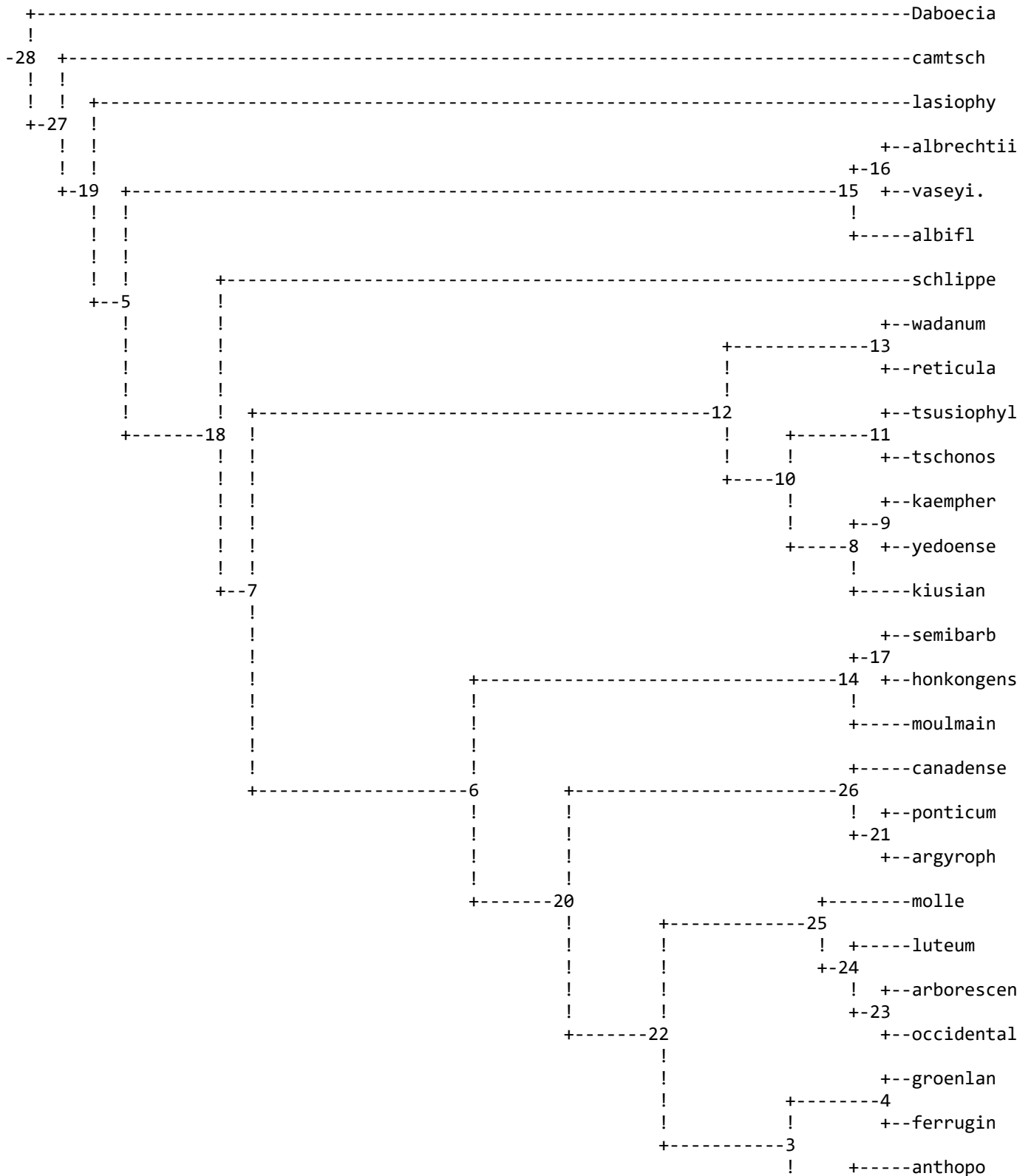
```

!           !           +--ferrugin
+-----3
!           +-----anthopo
+-----2
!           +--leptanthum
+--1
+--jarvanic

```

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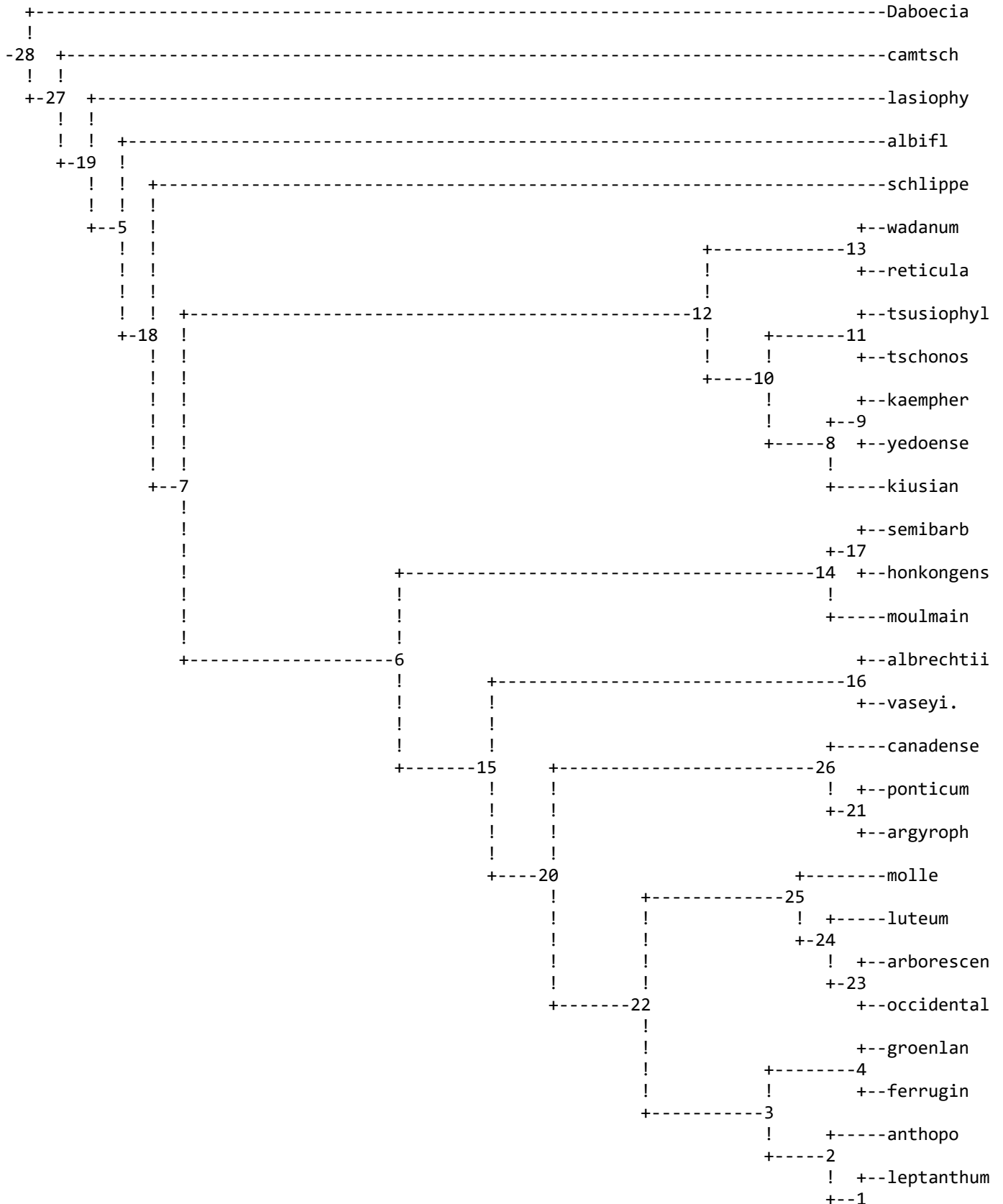
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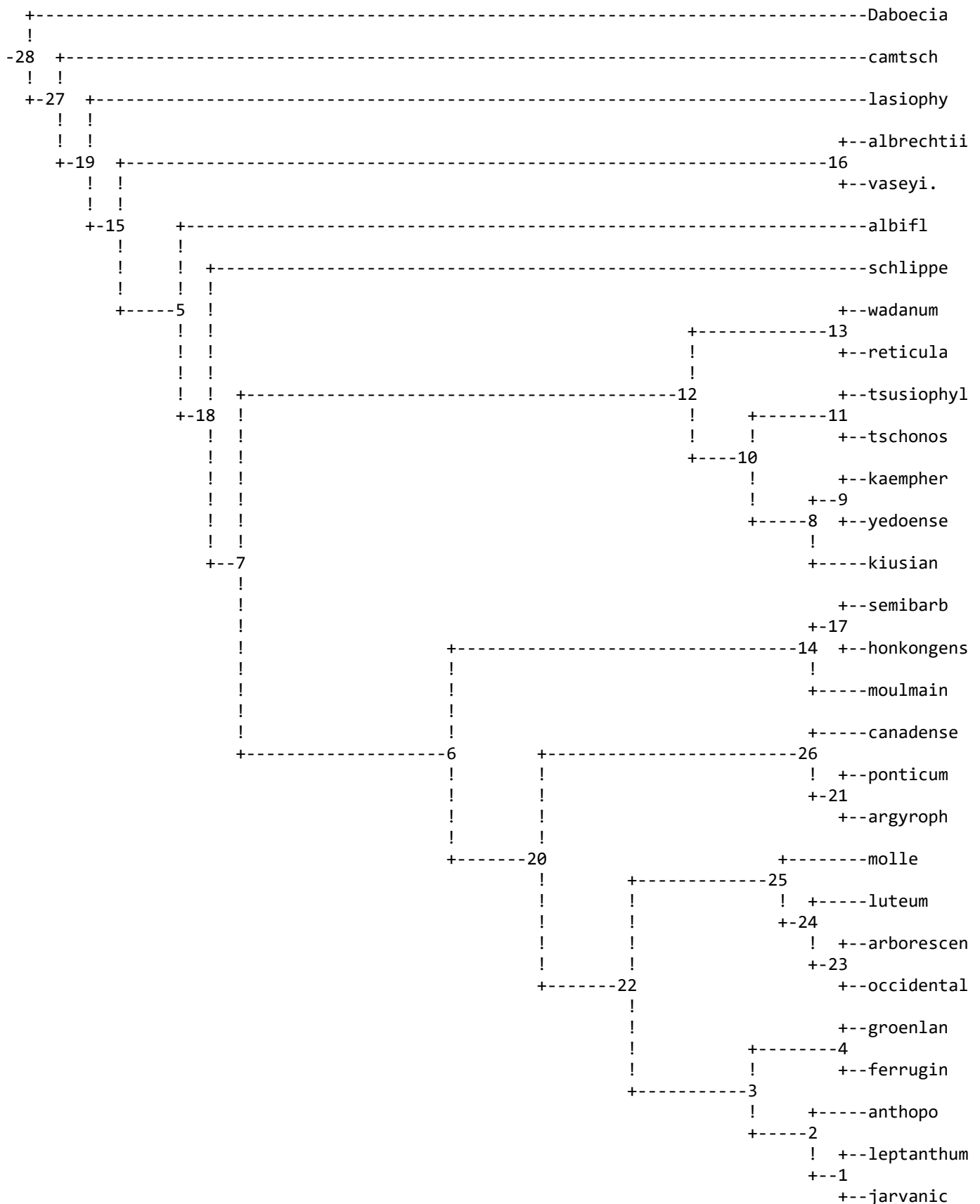
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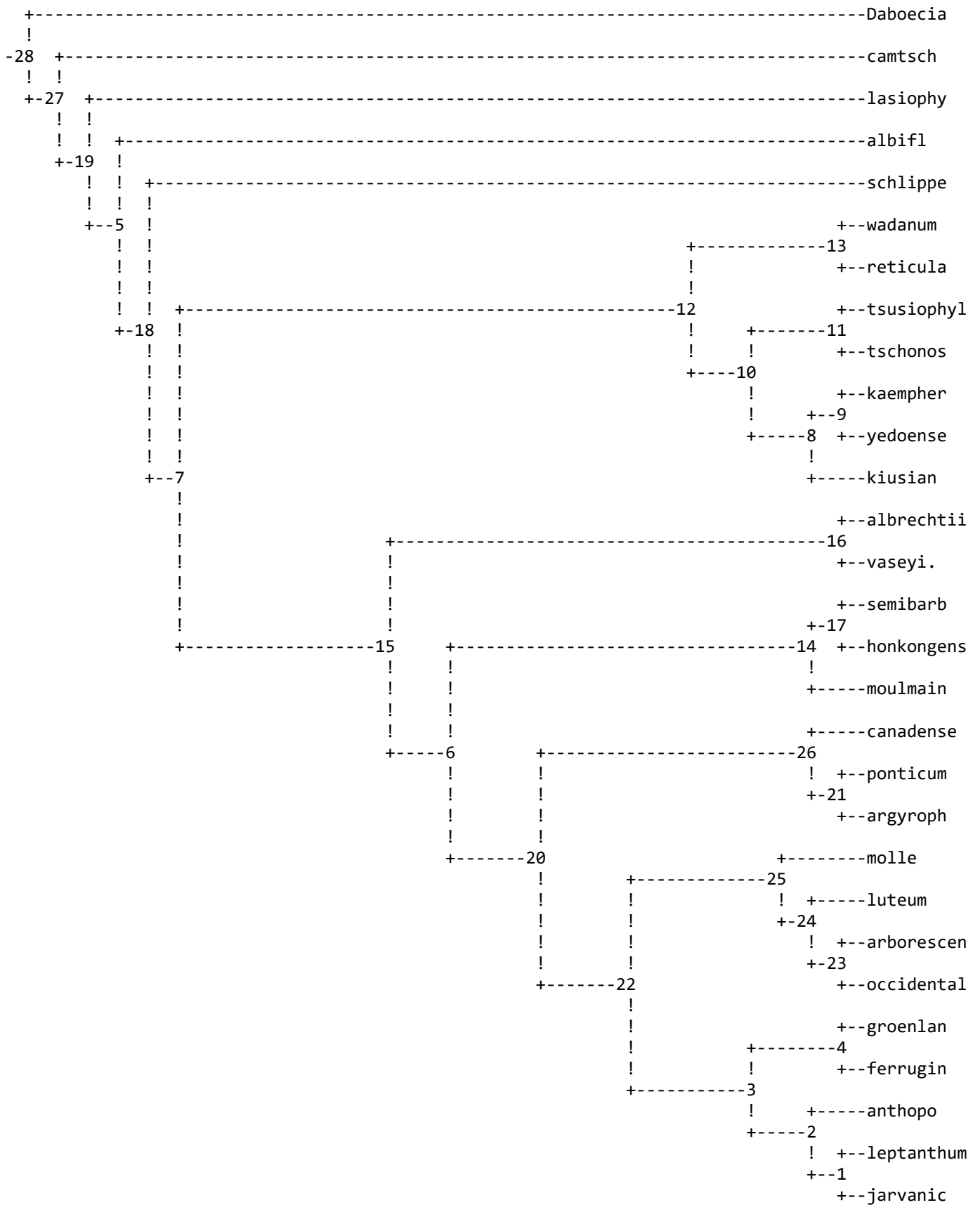
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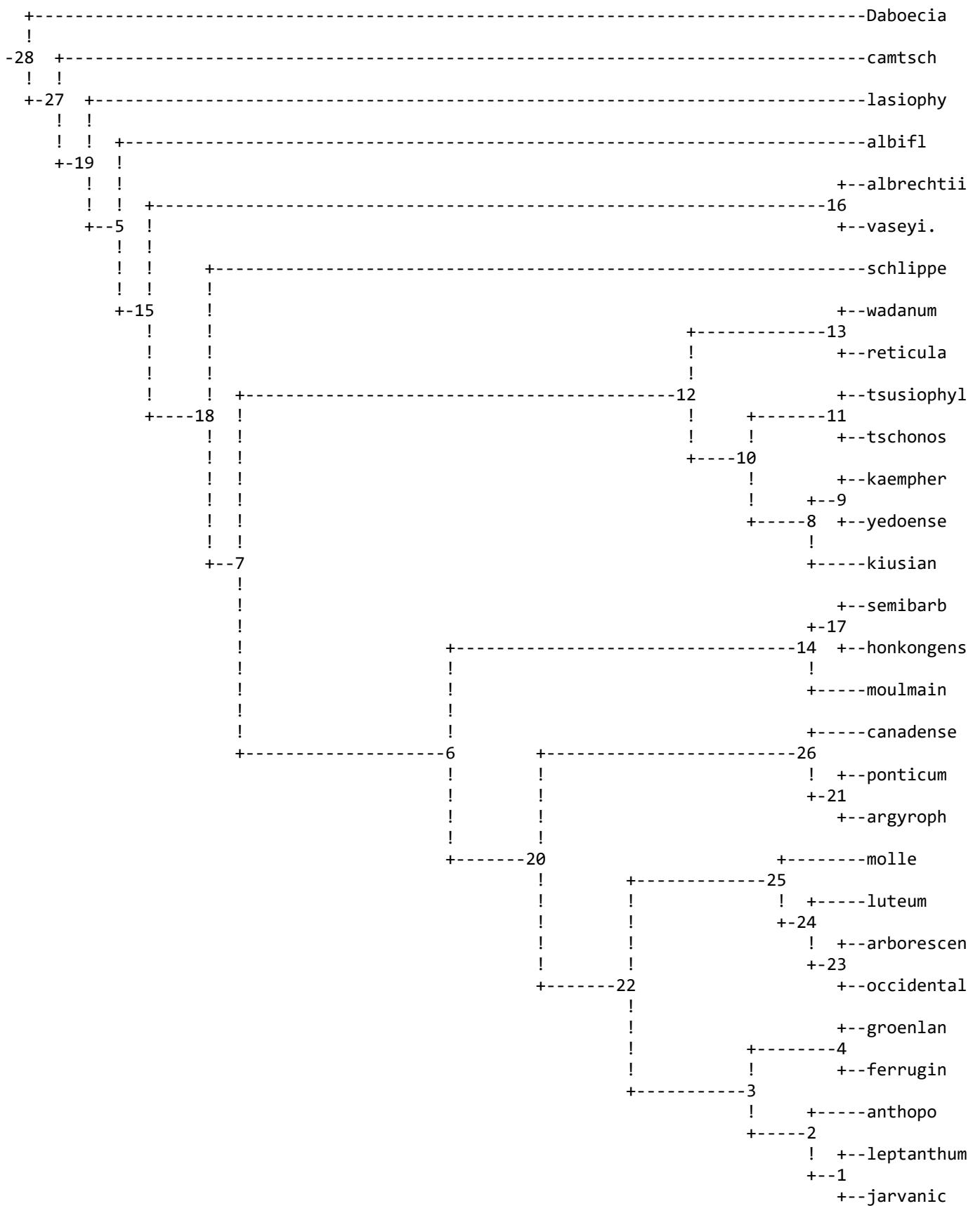


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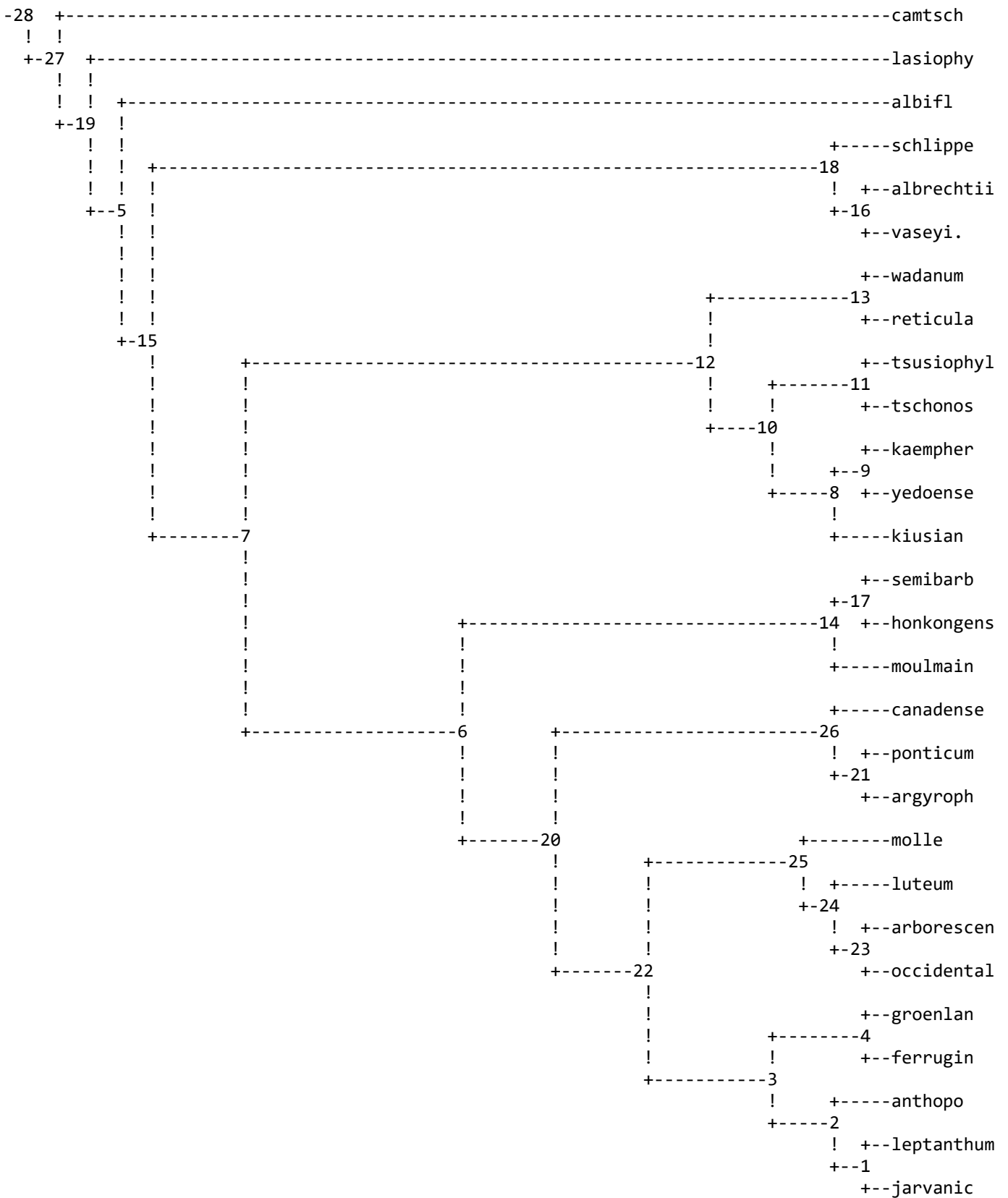
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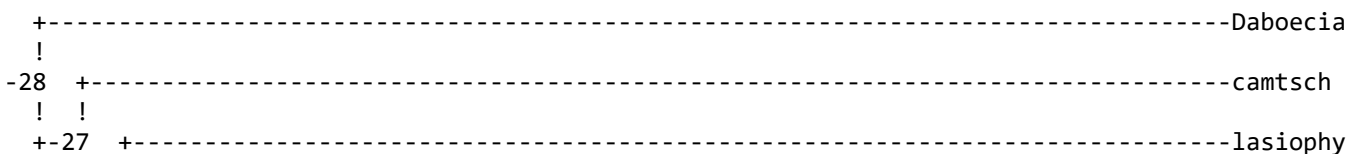
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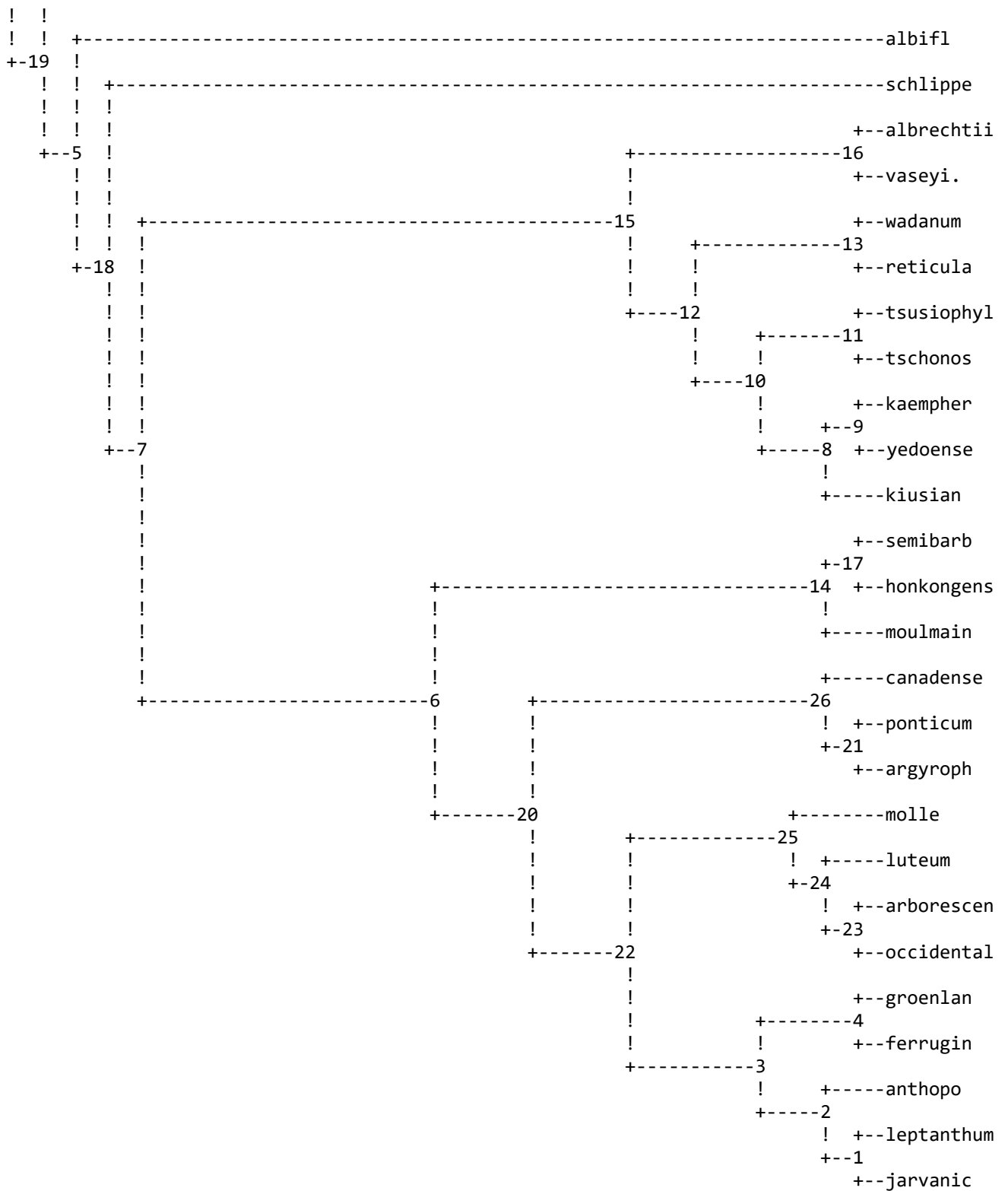




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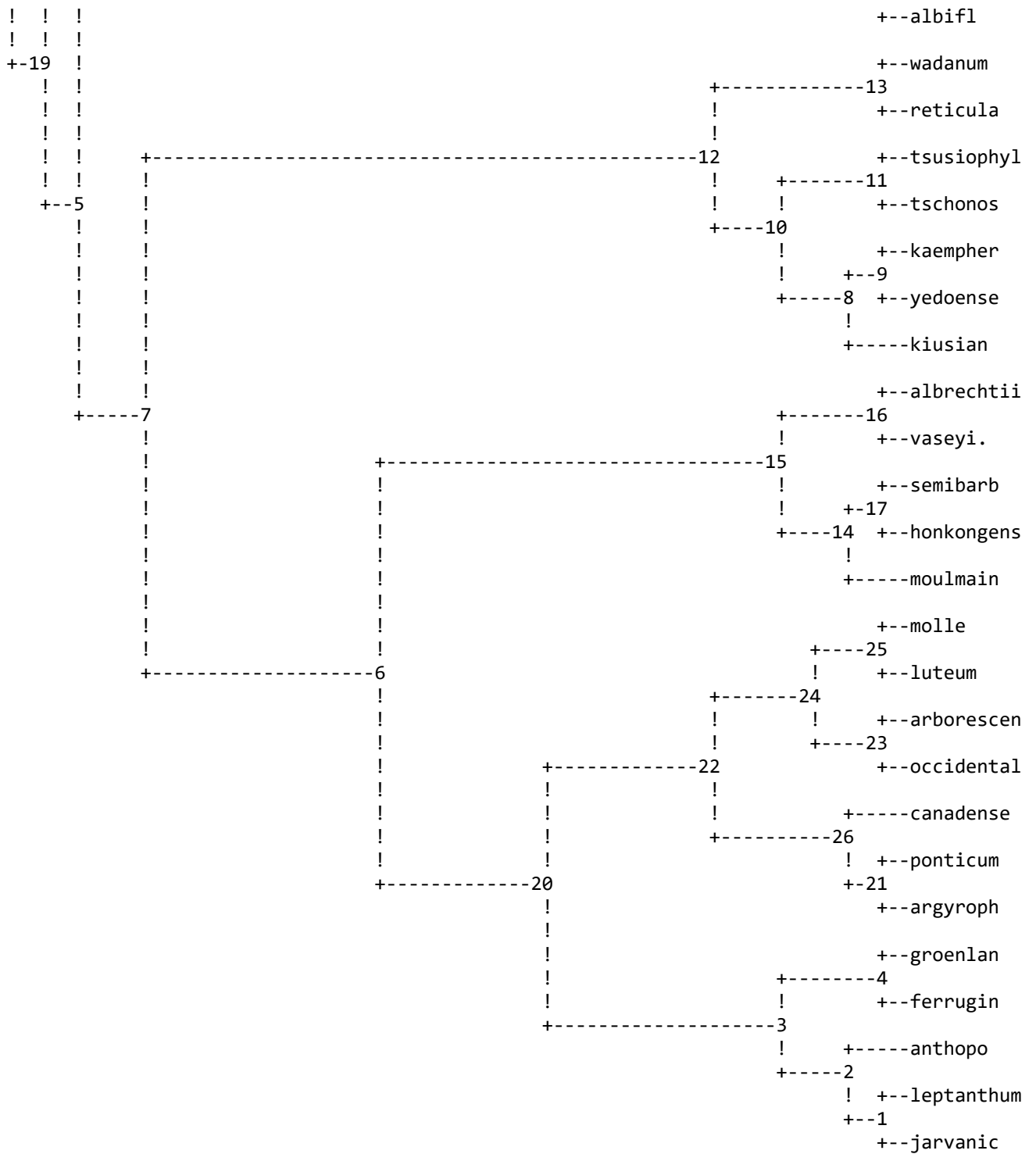




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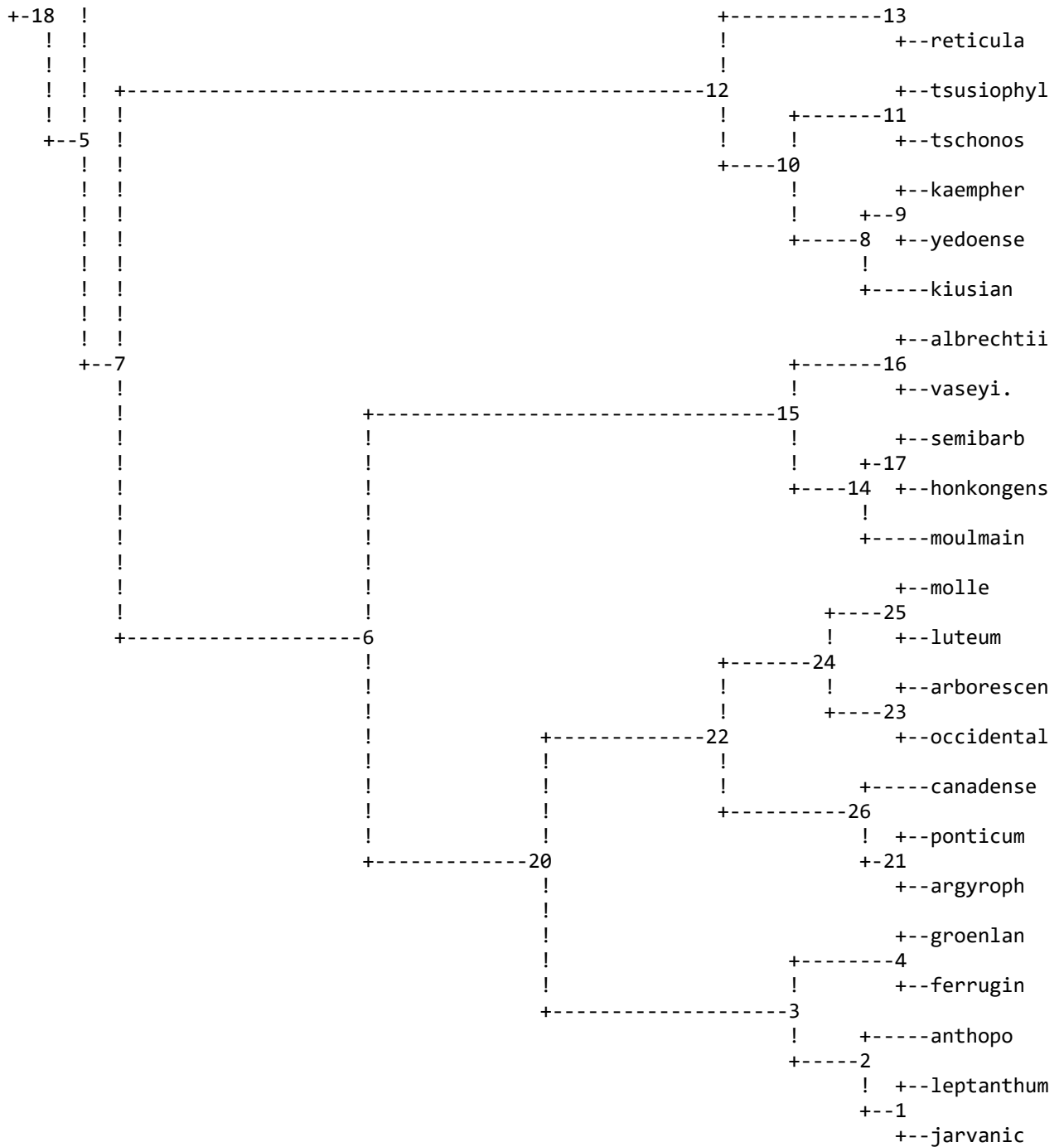




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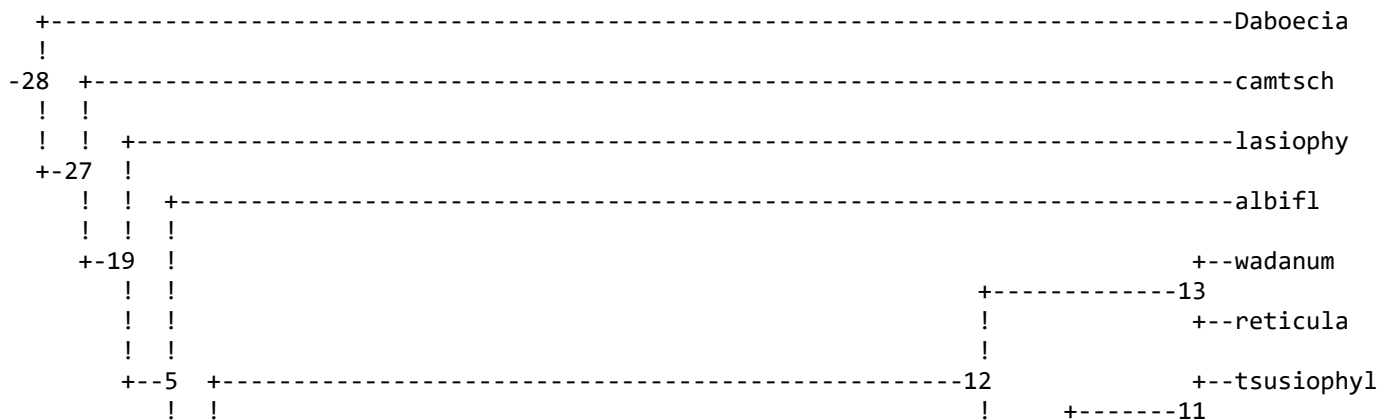
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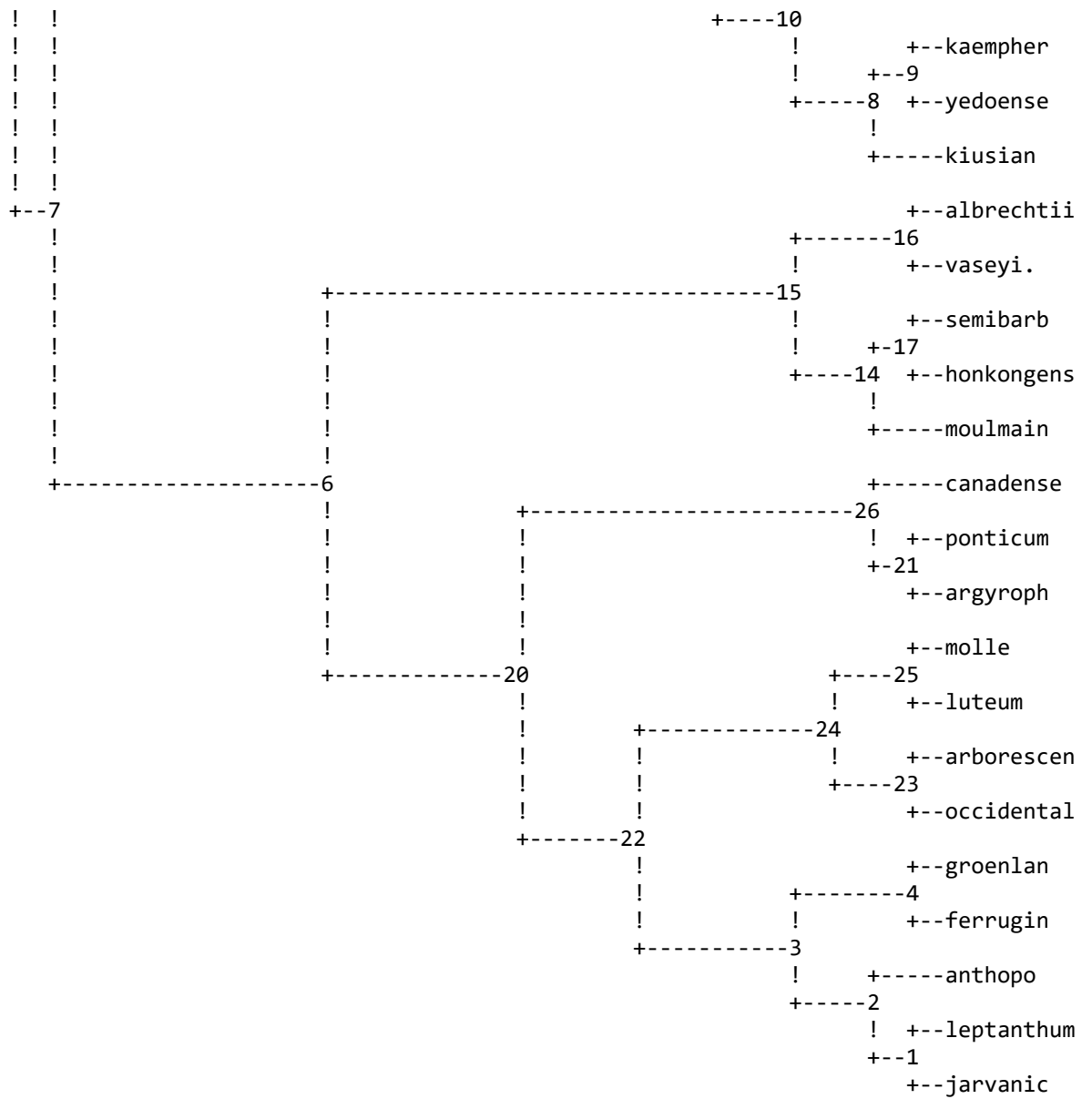
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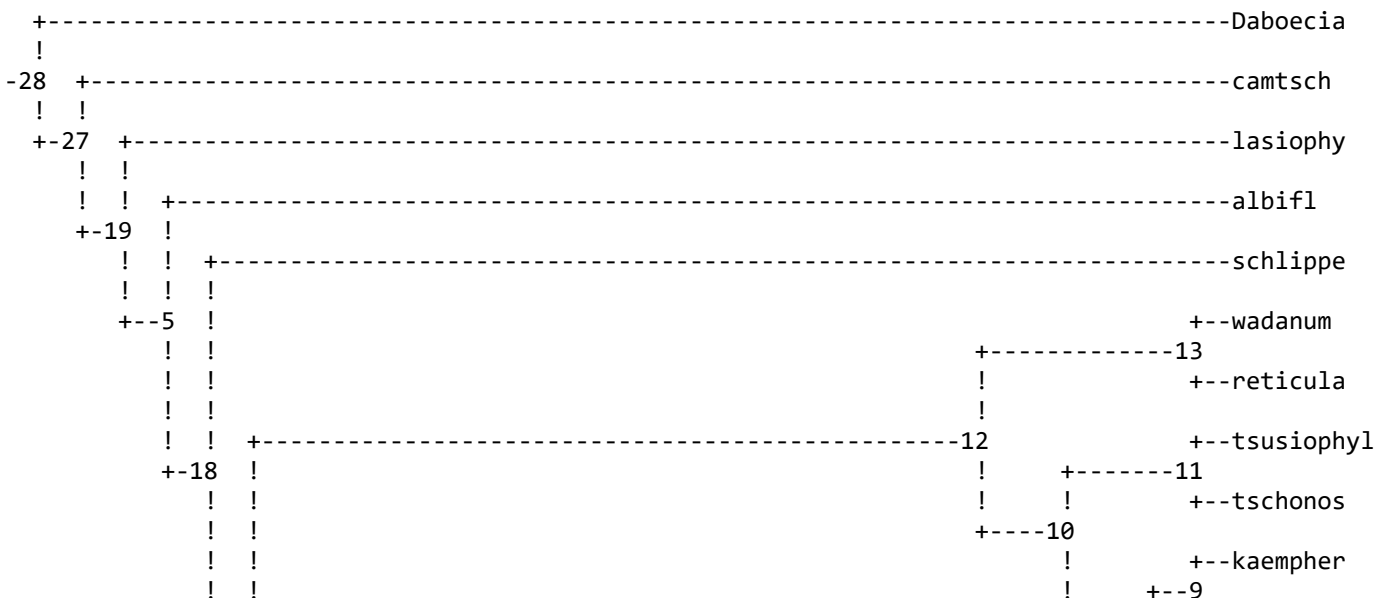


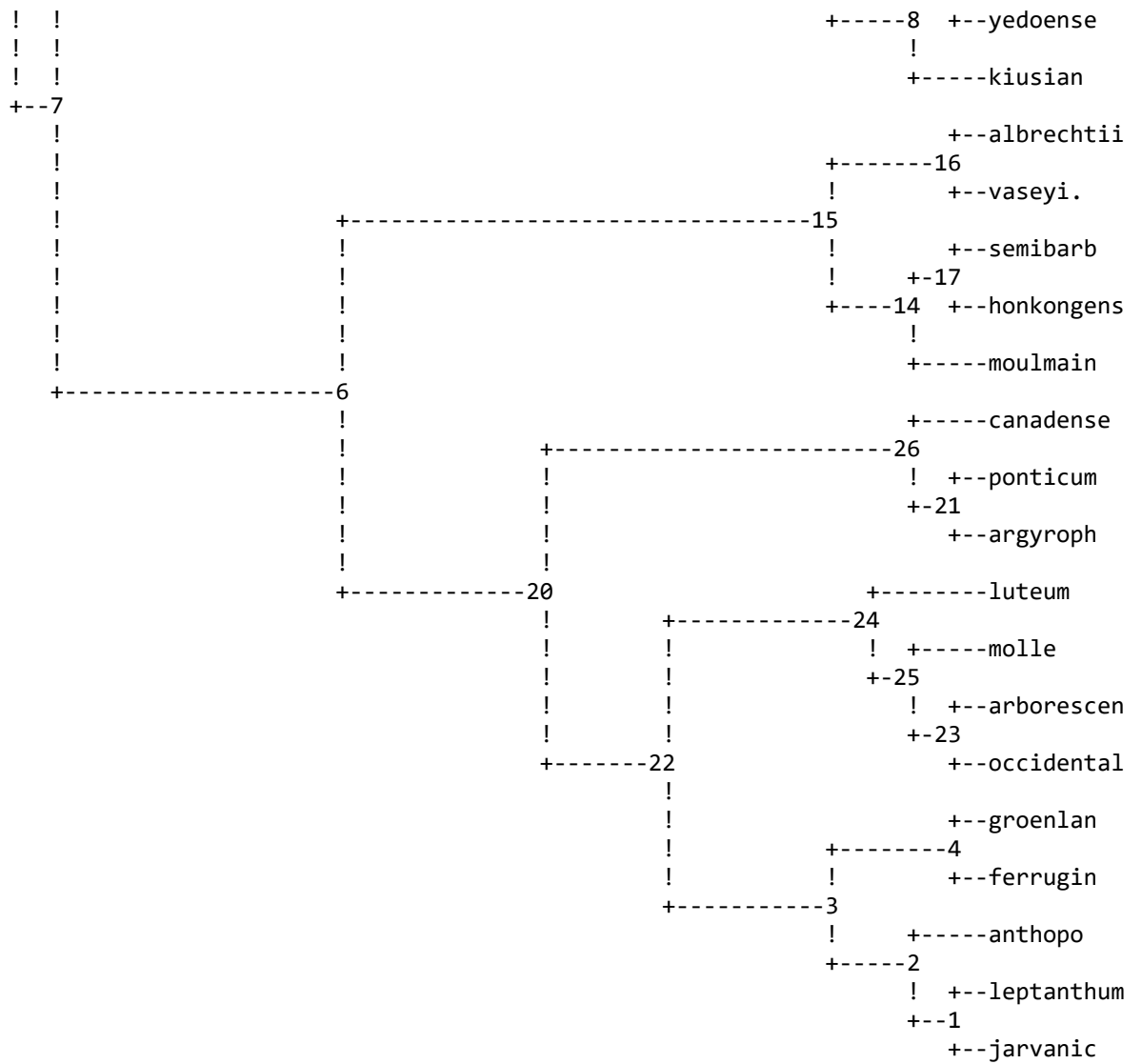




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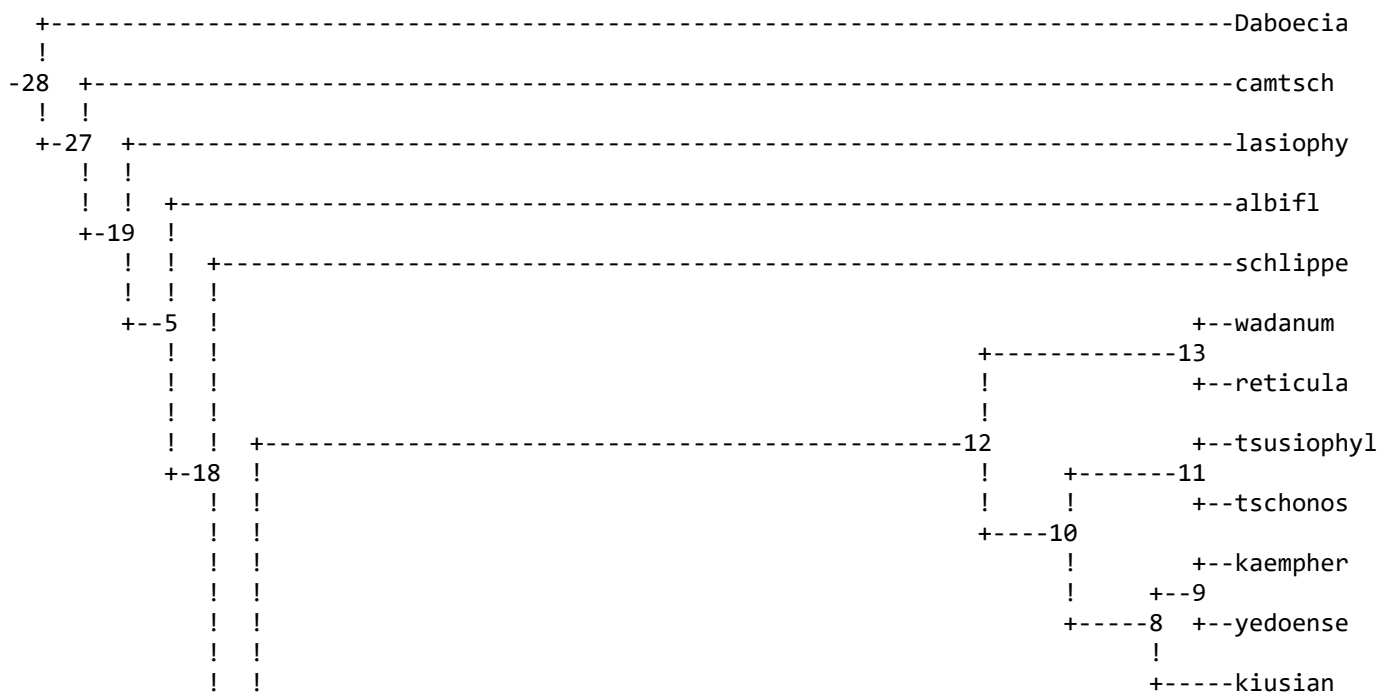
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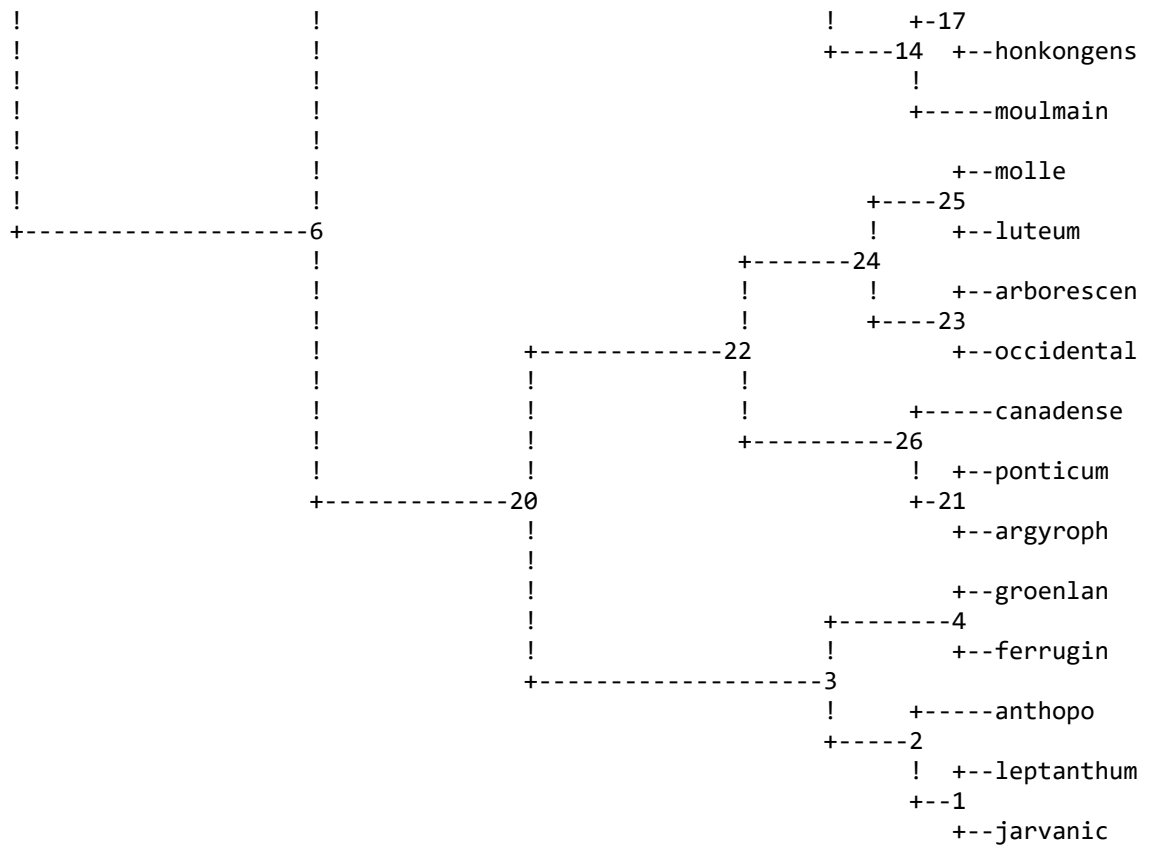
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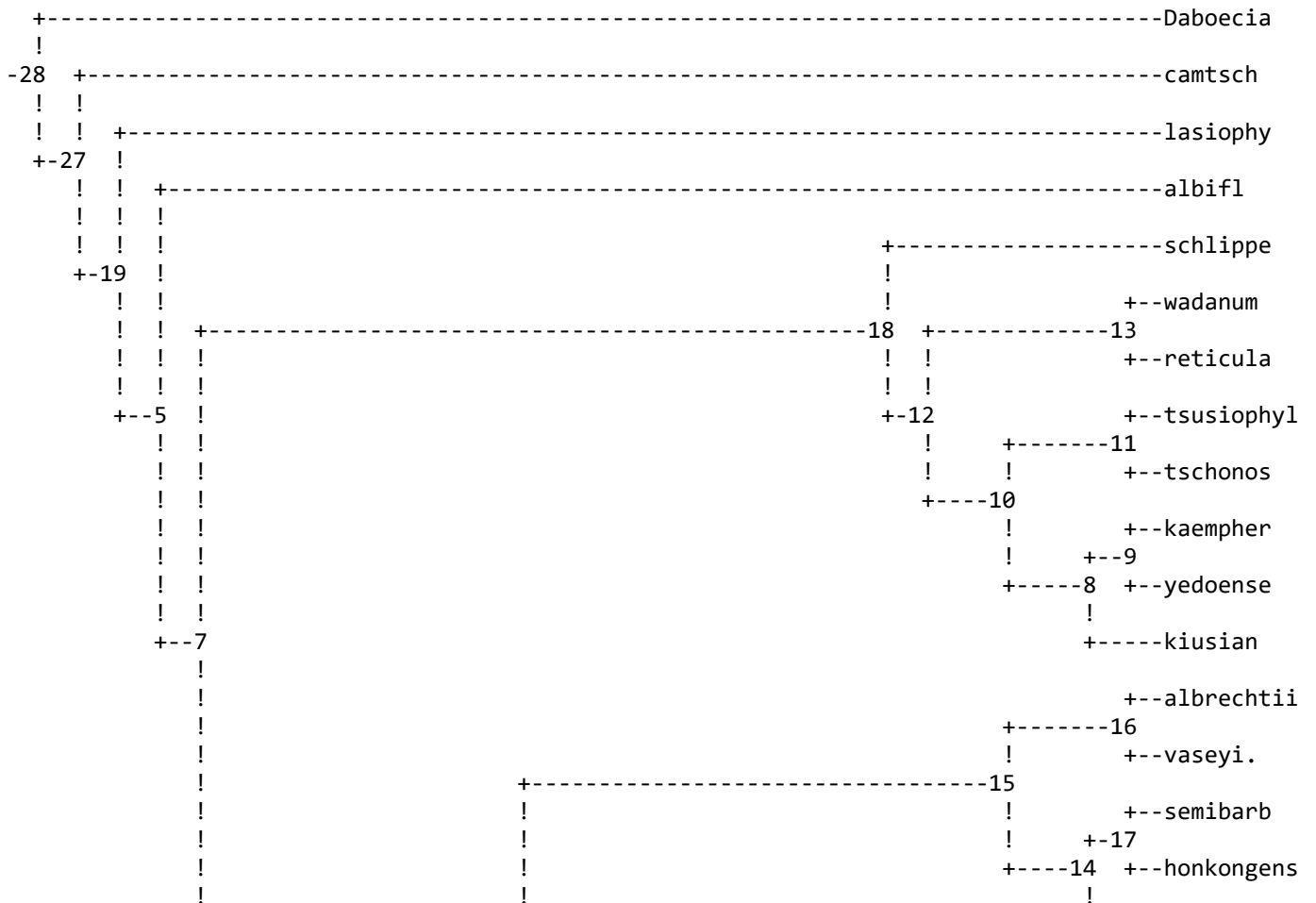


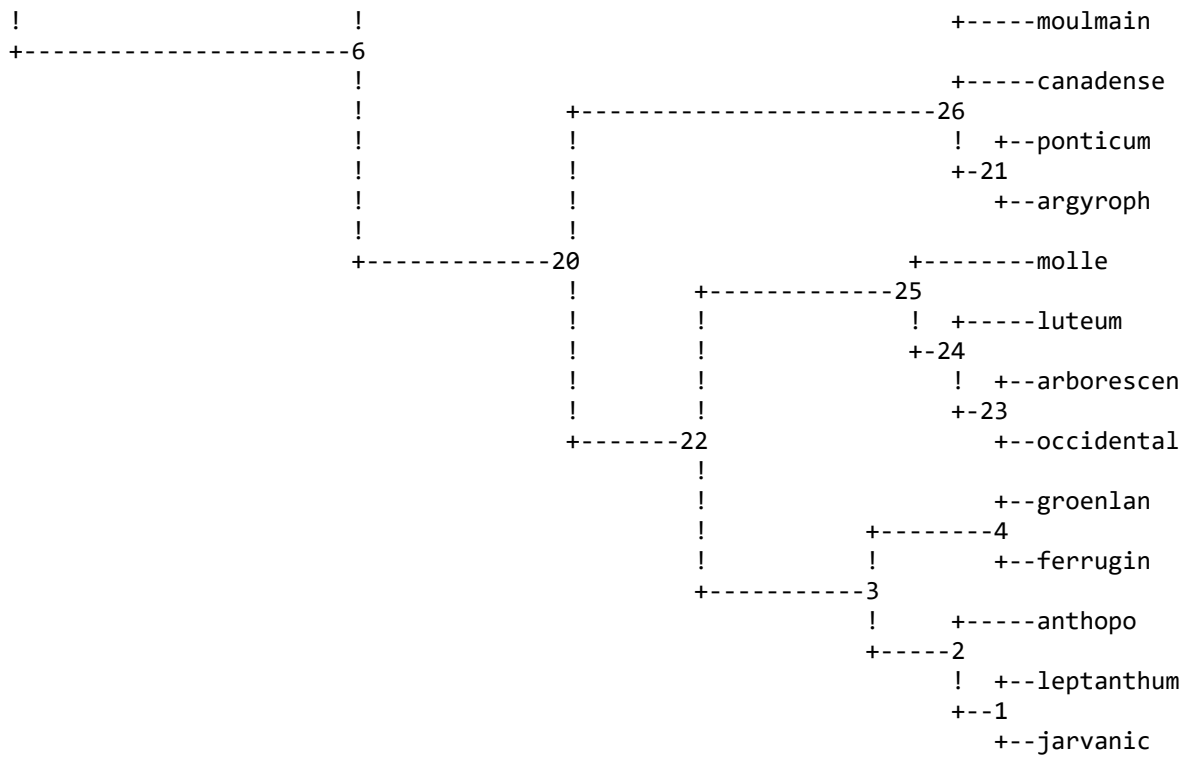




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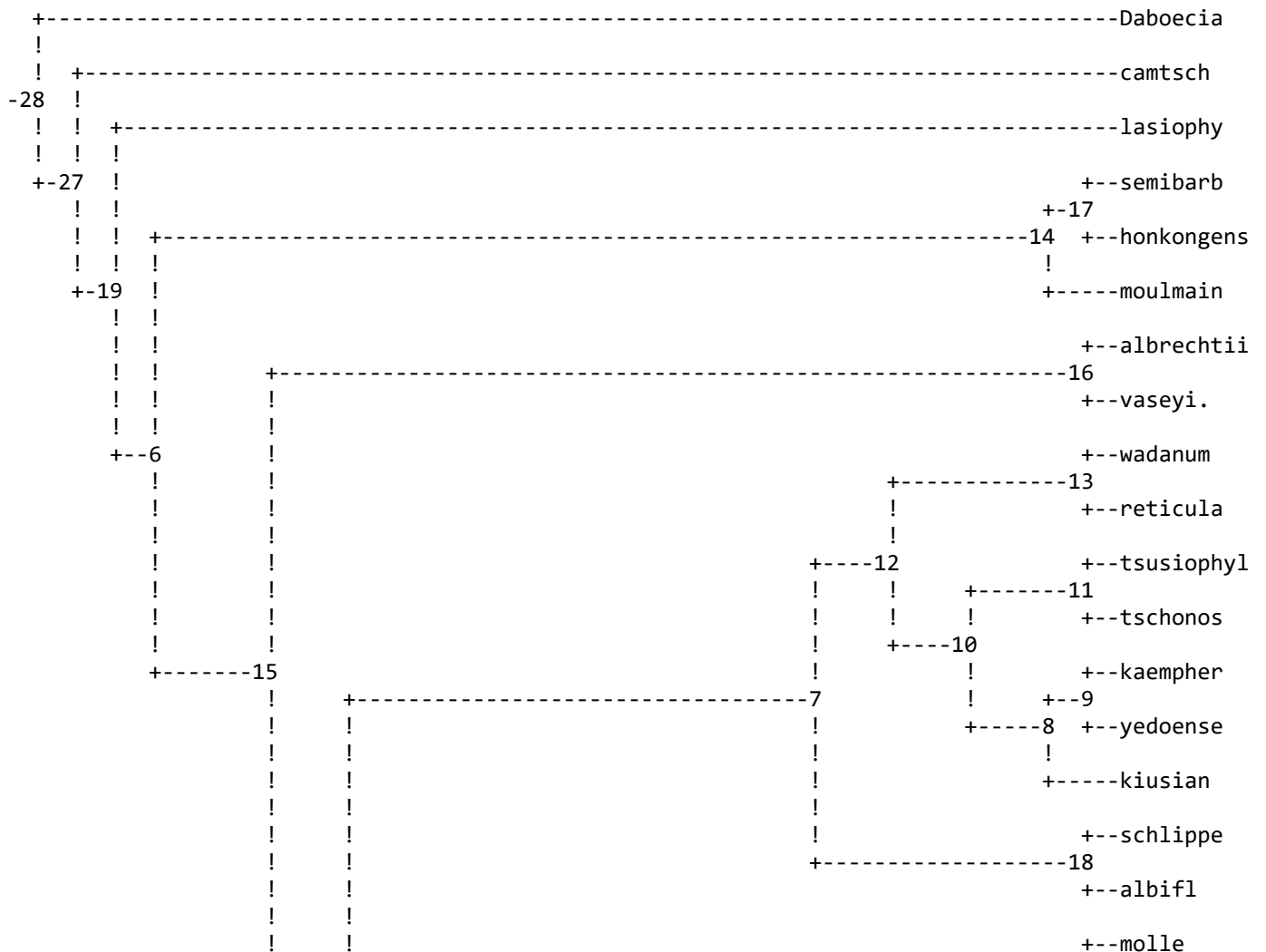
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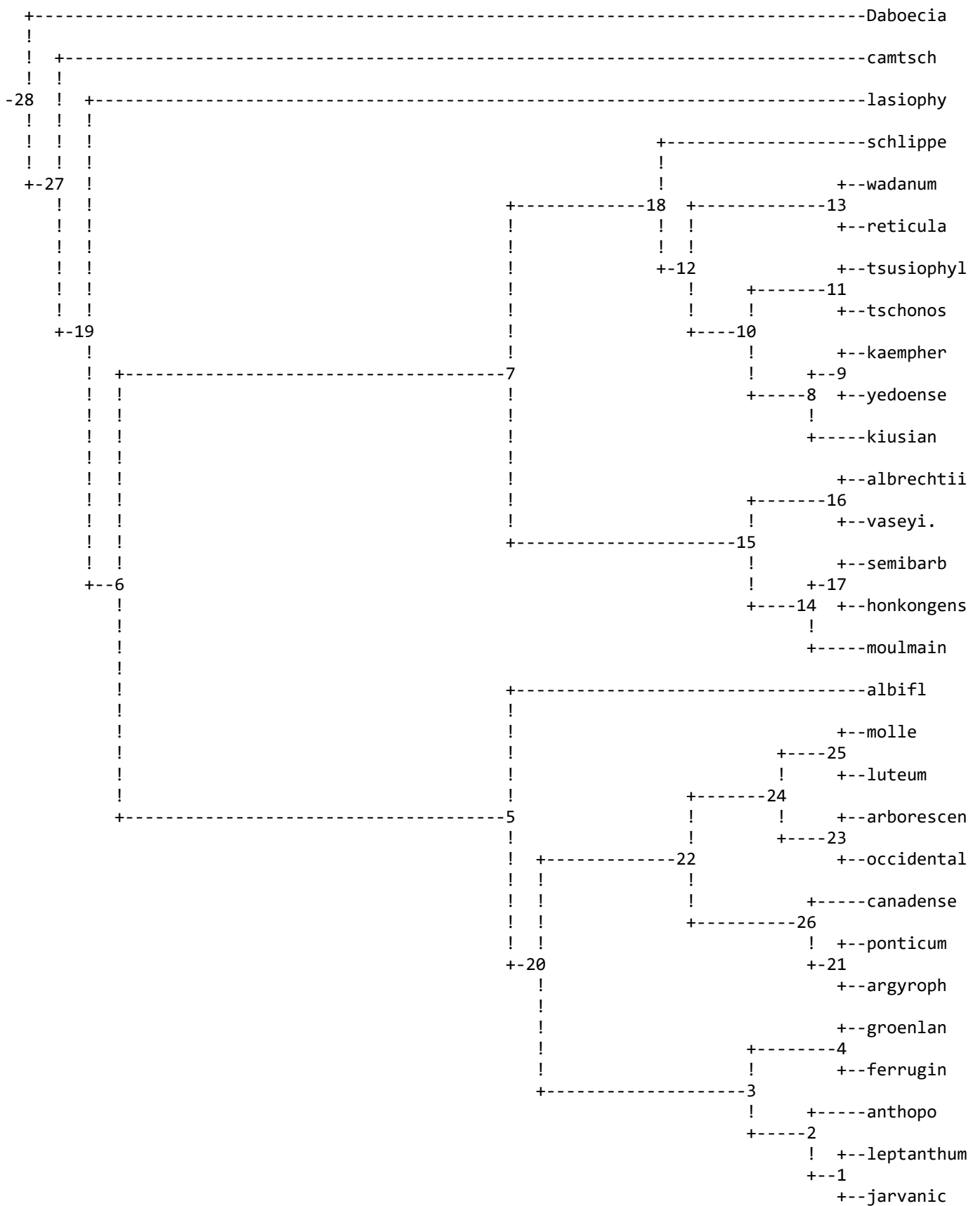










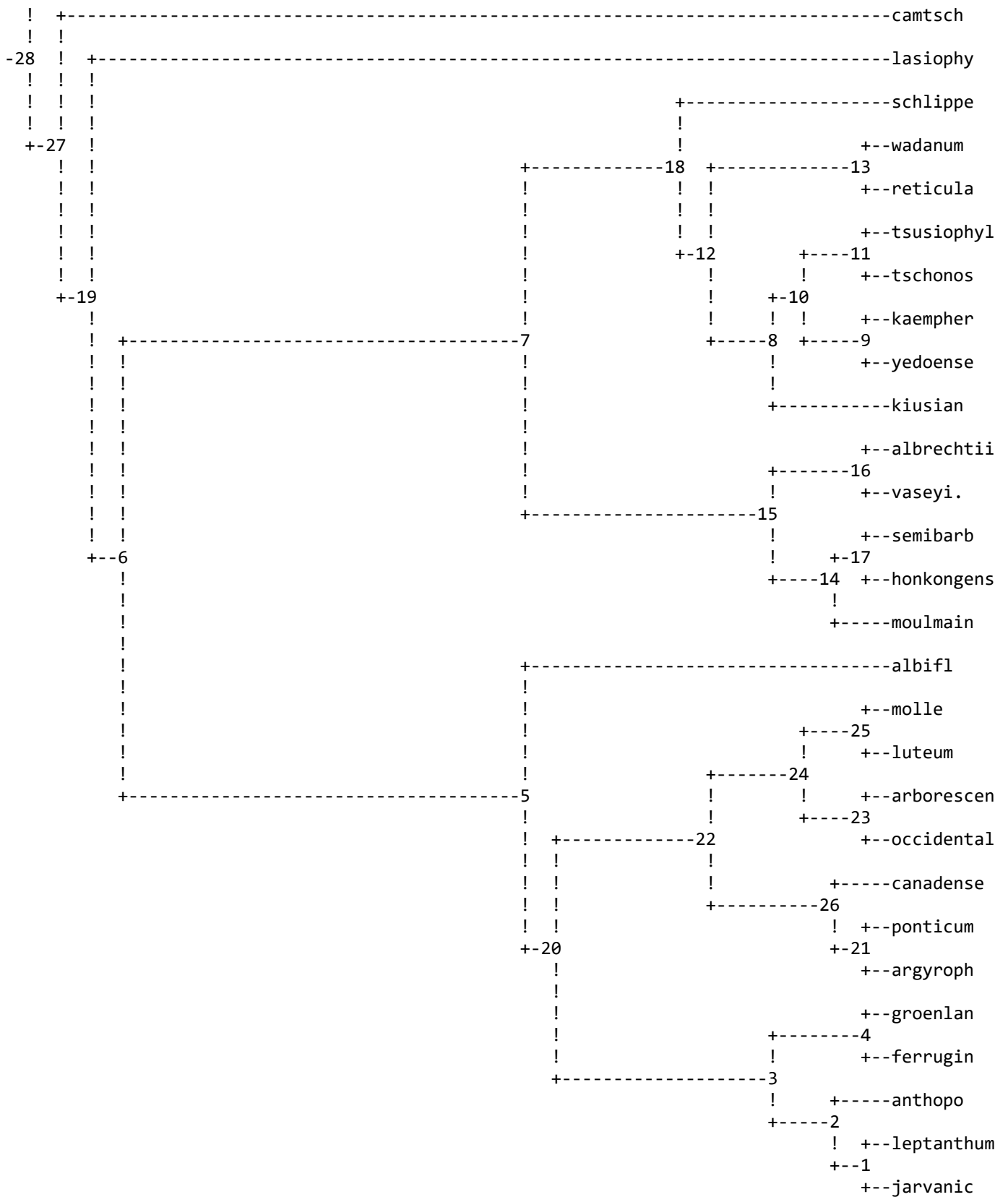


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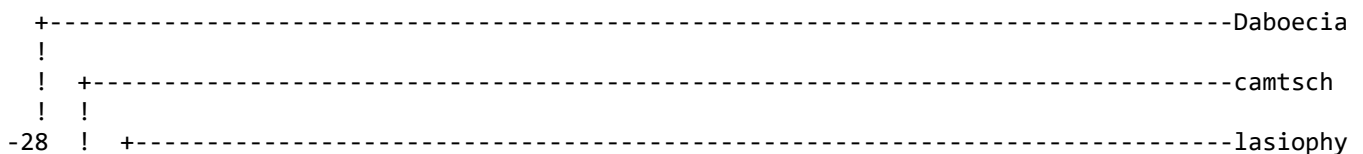






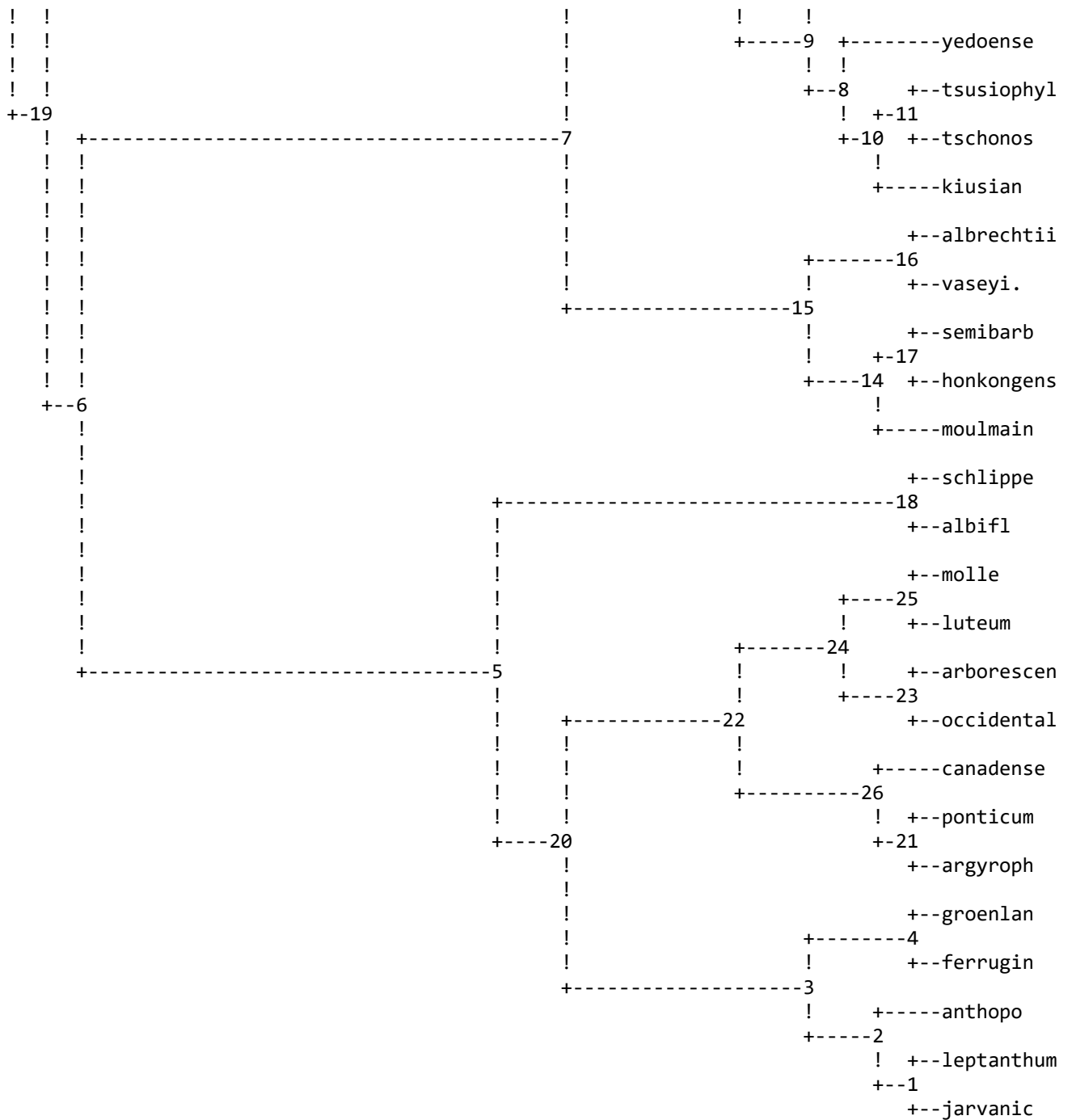
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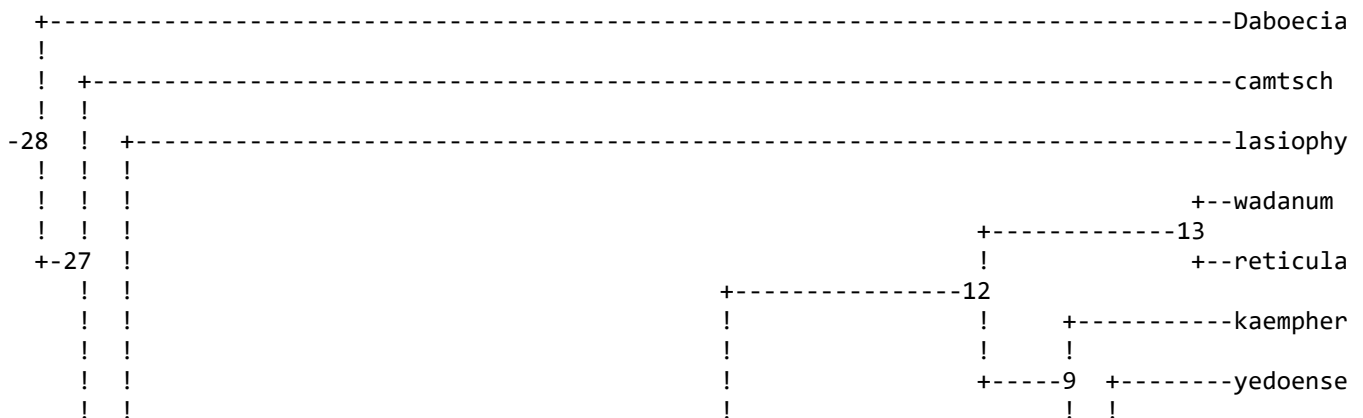






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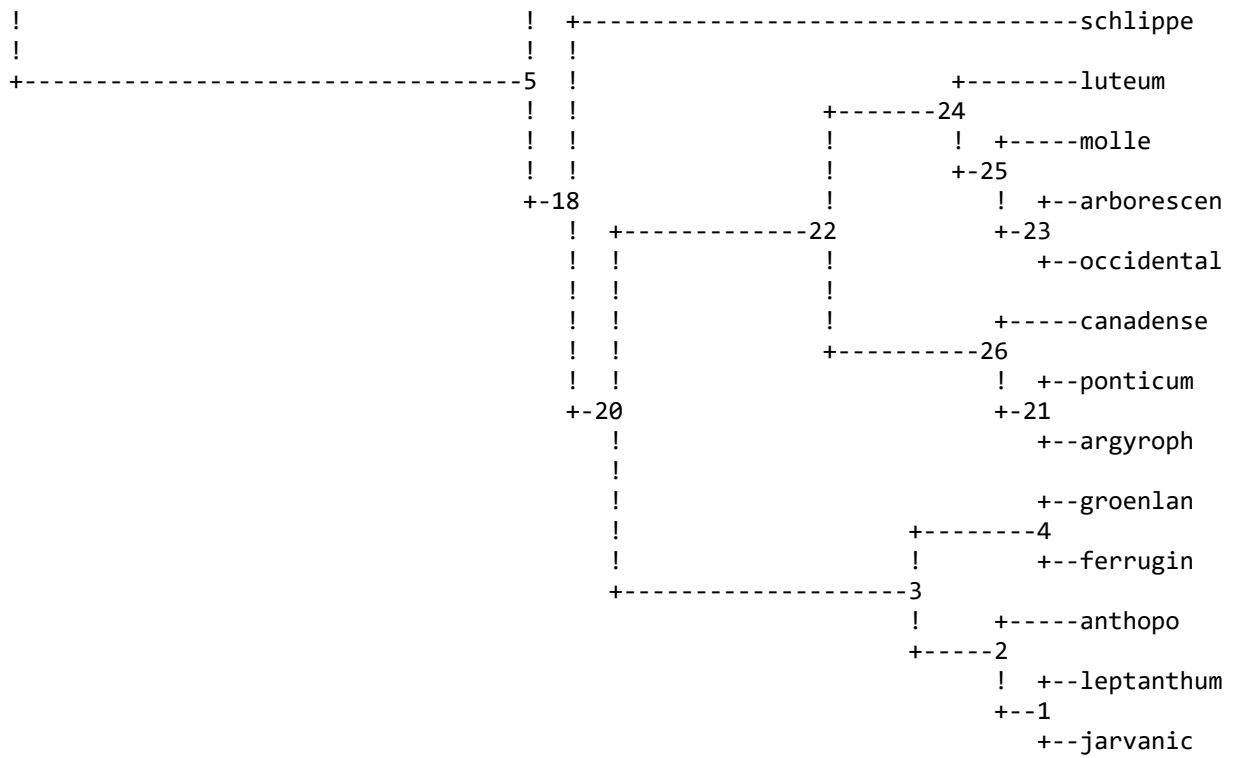






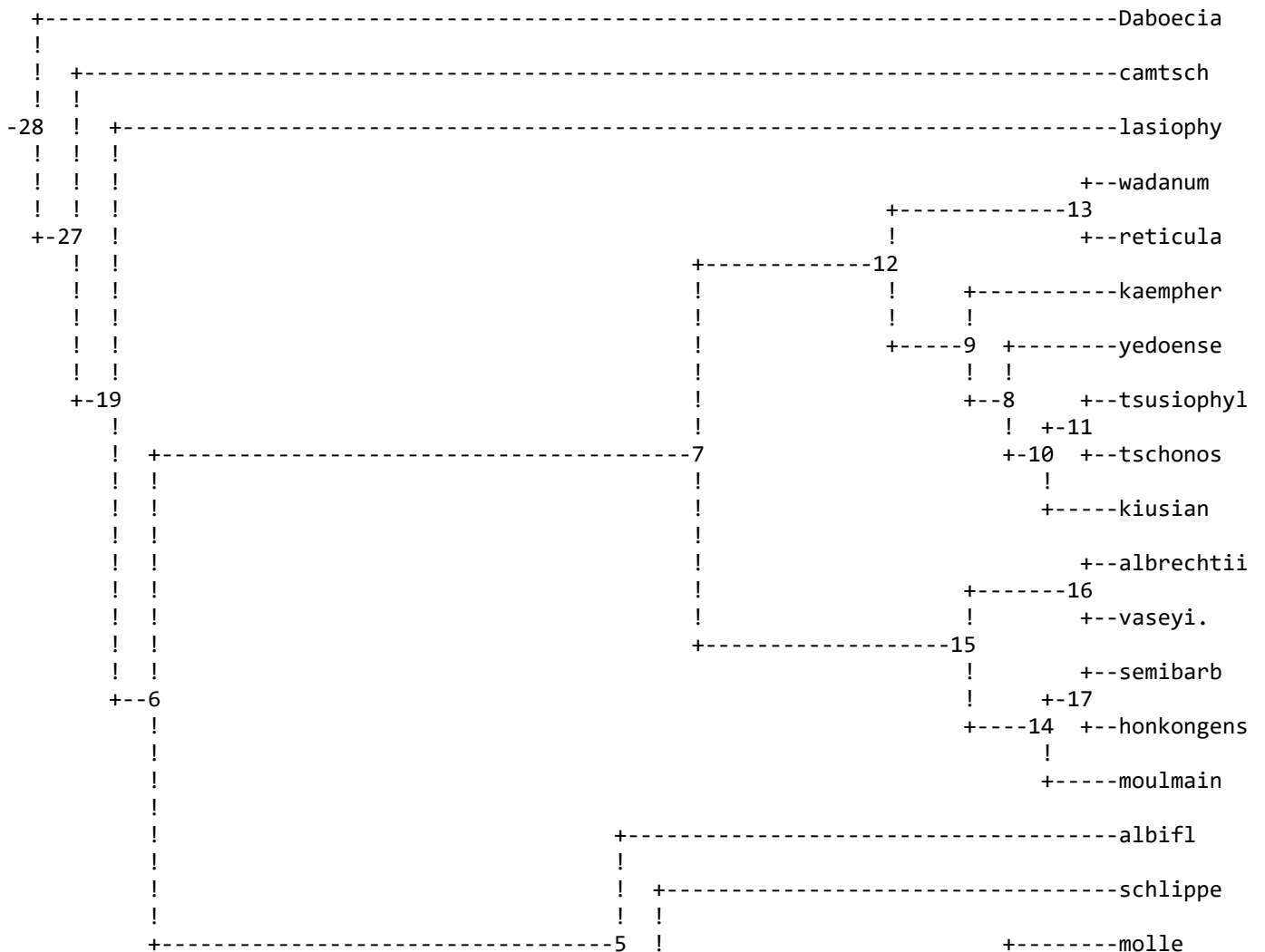


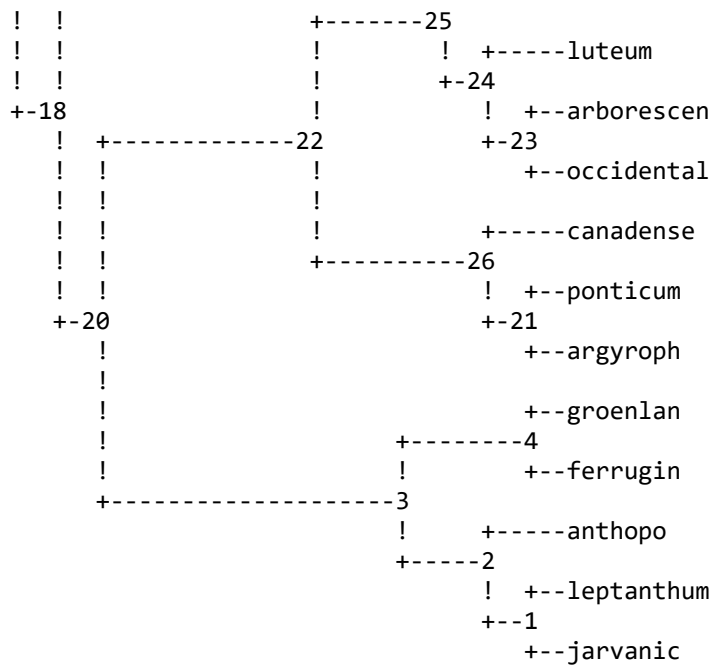




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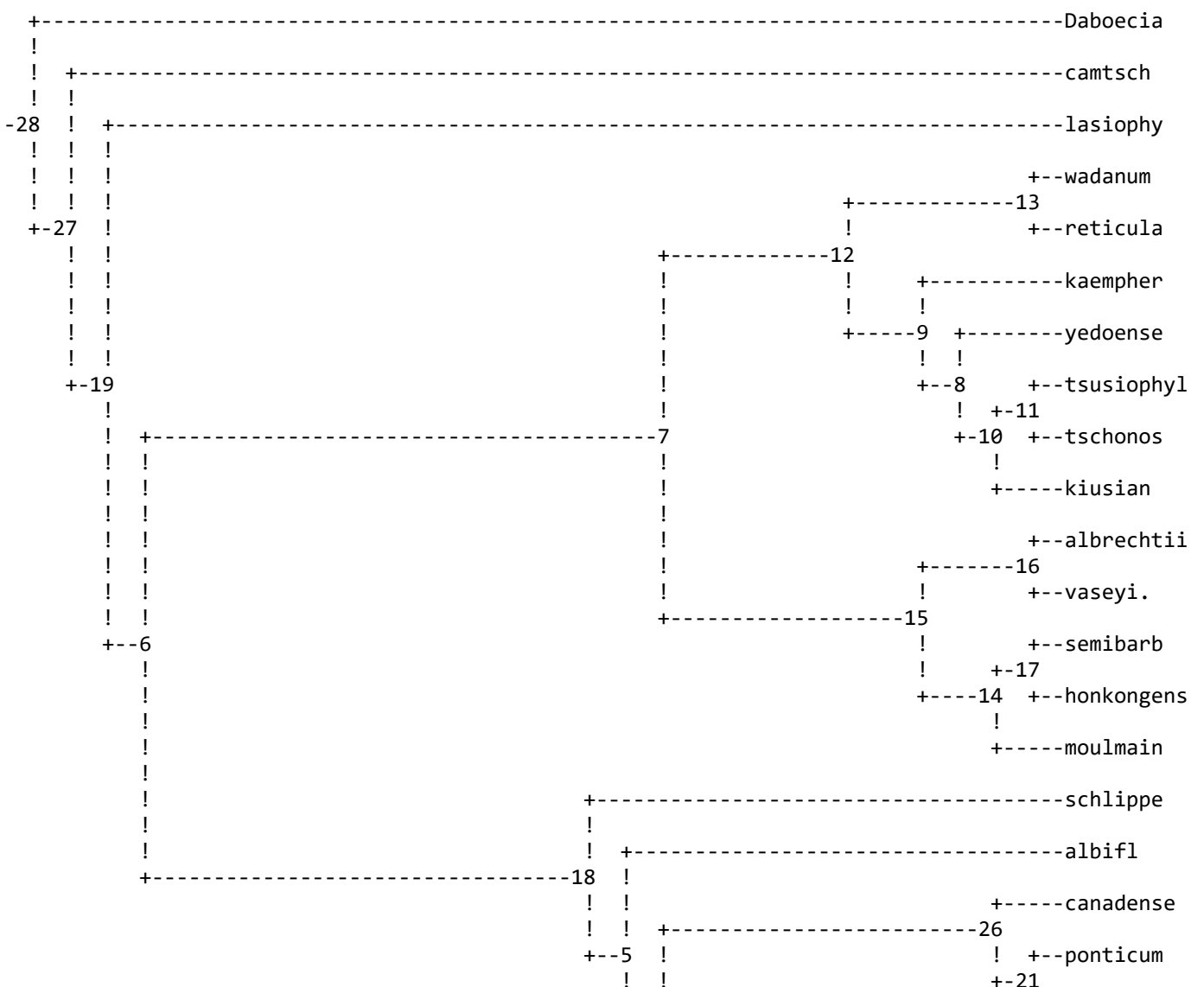
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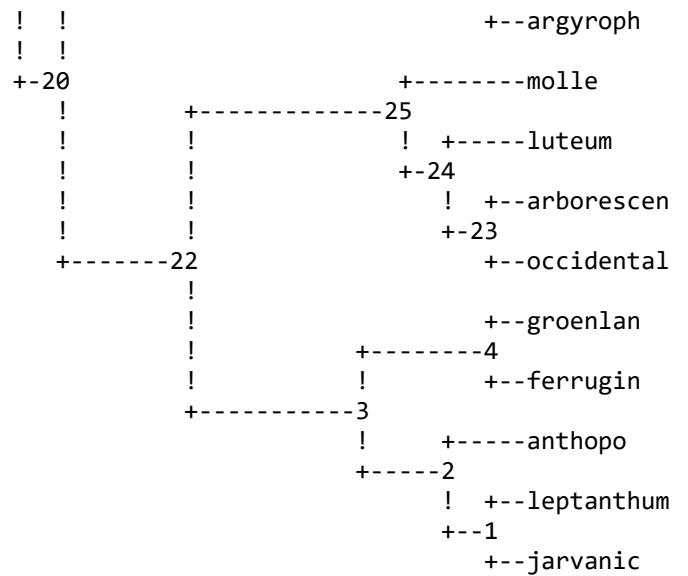




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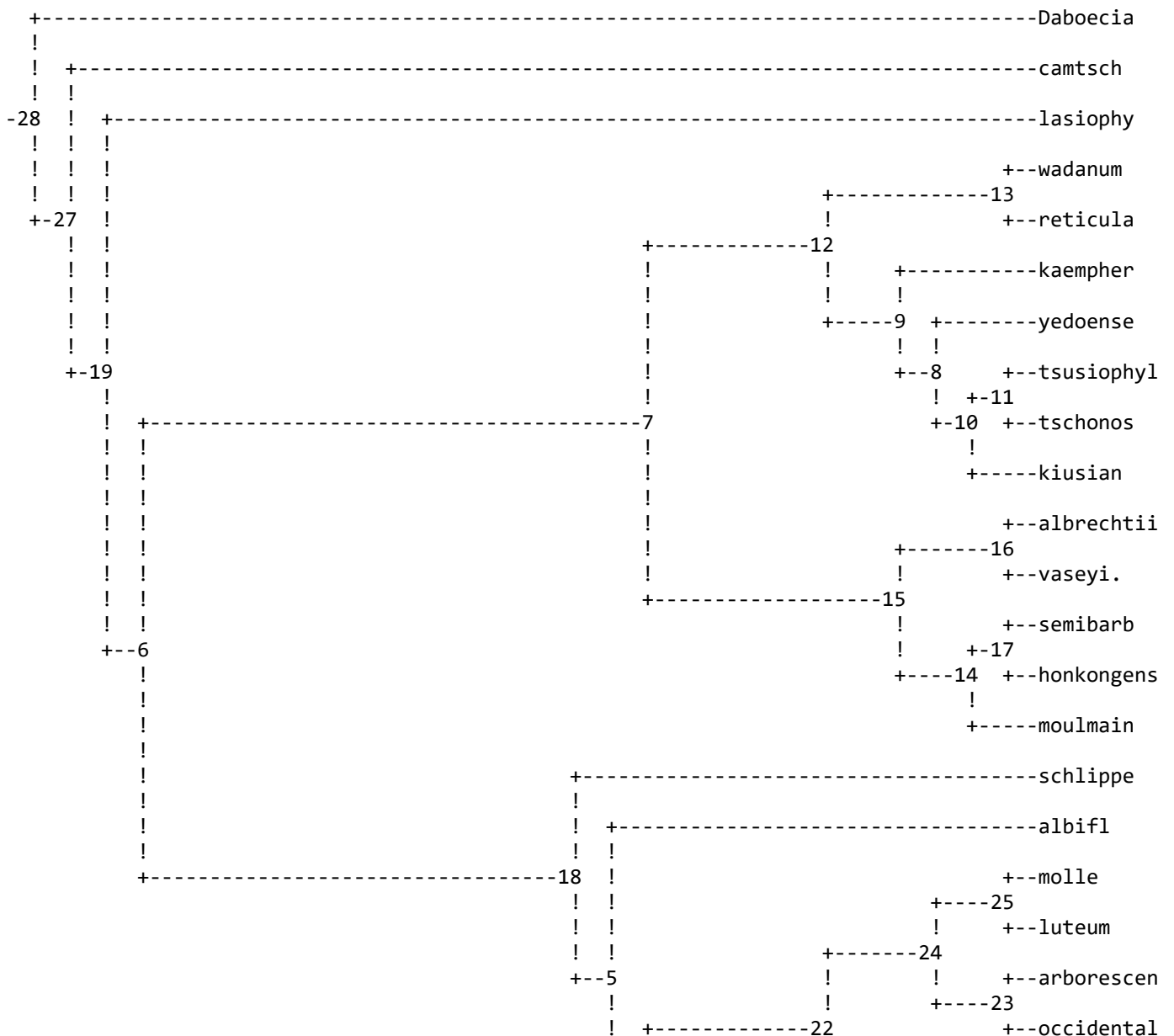
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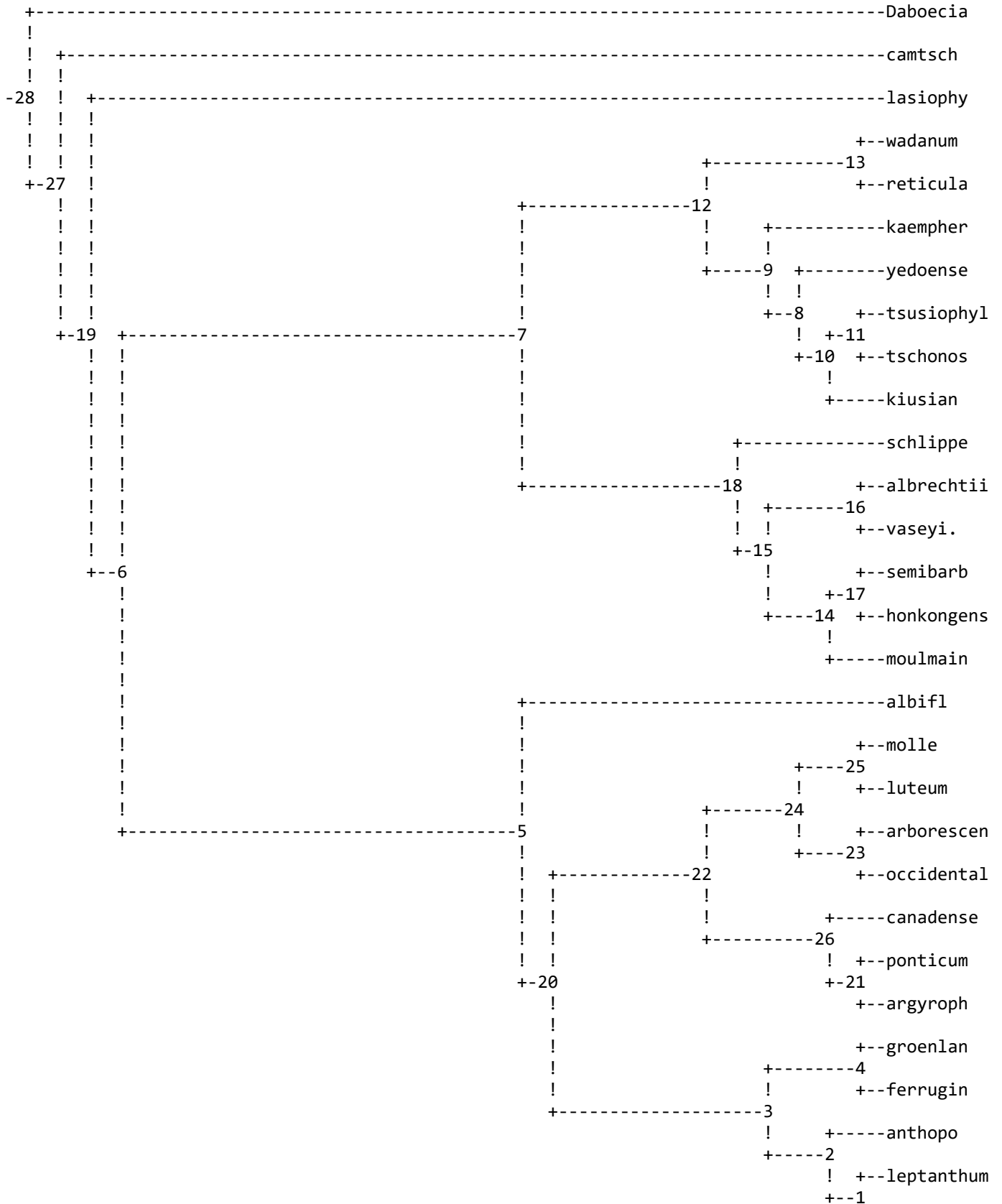
```

+-----2
! +--leptanthum
+--1
+--jarvanic

```

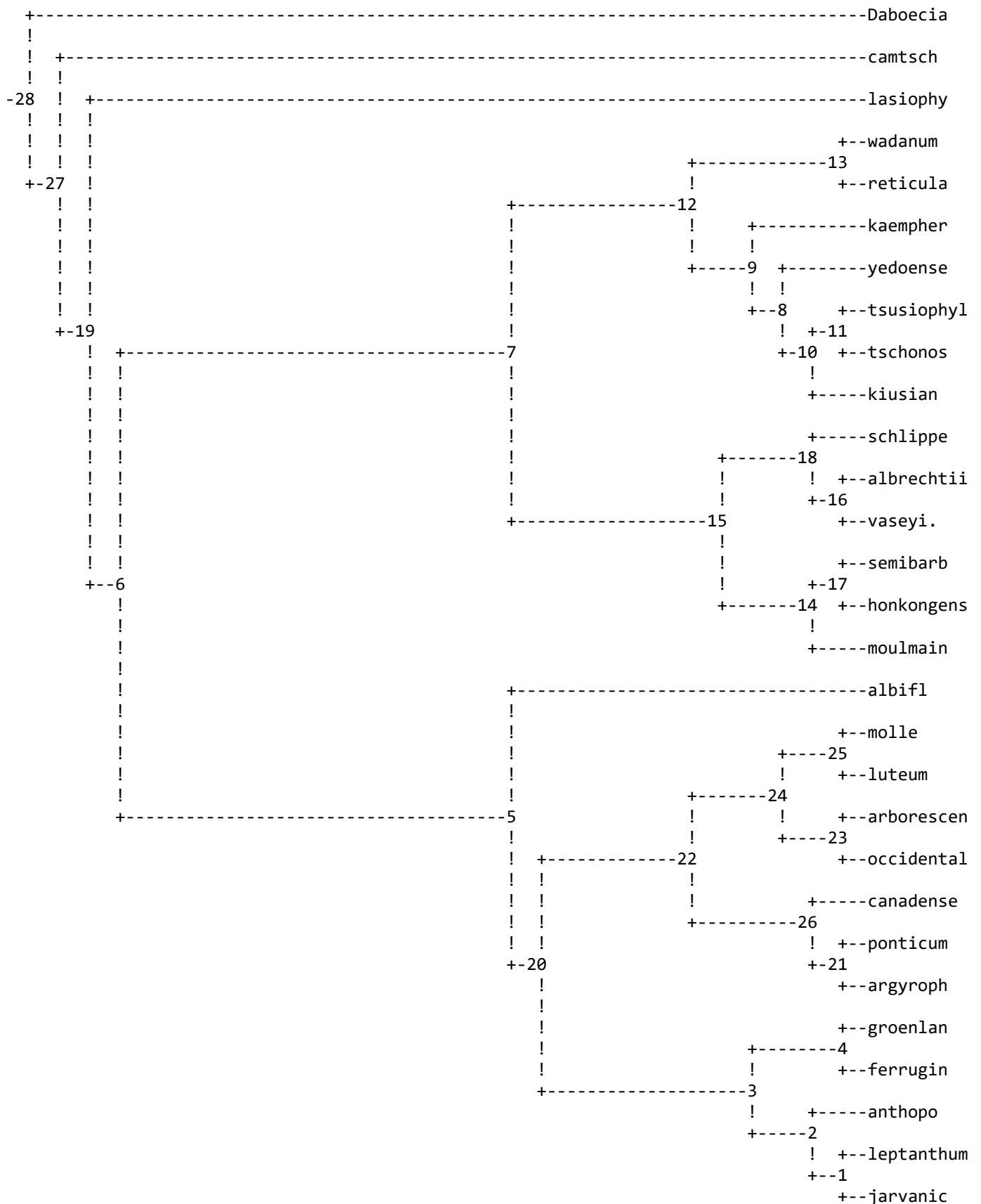
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



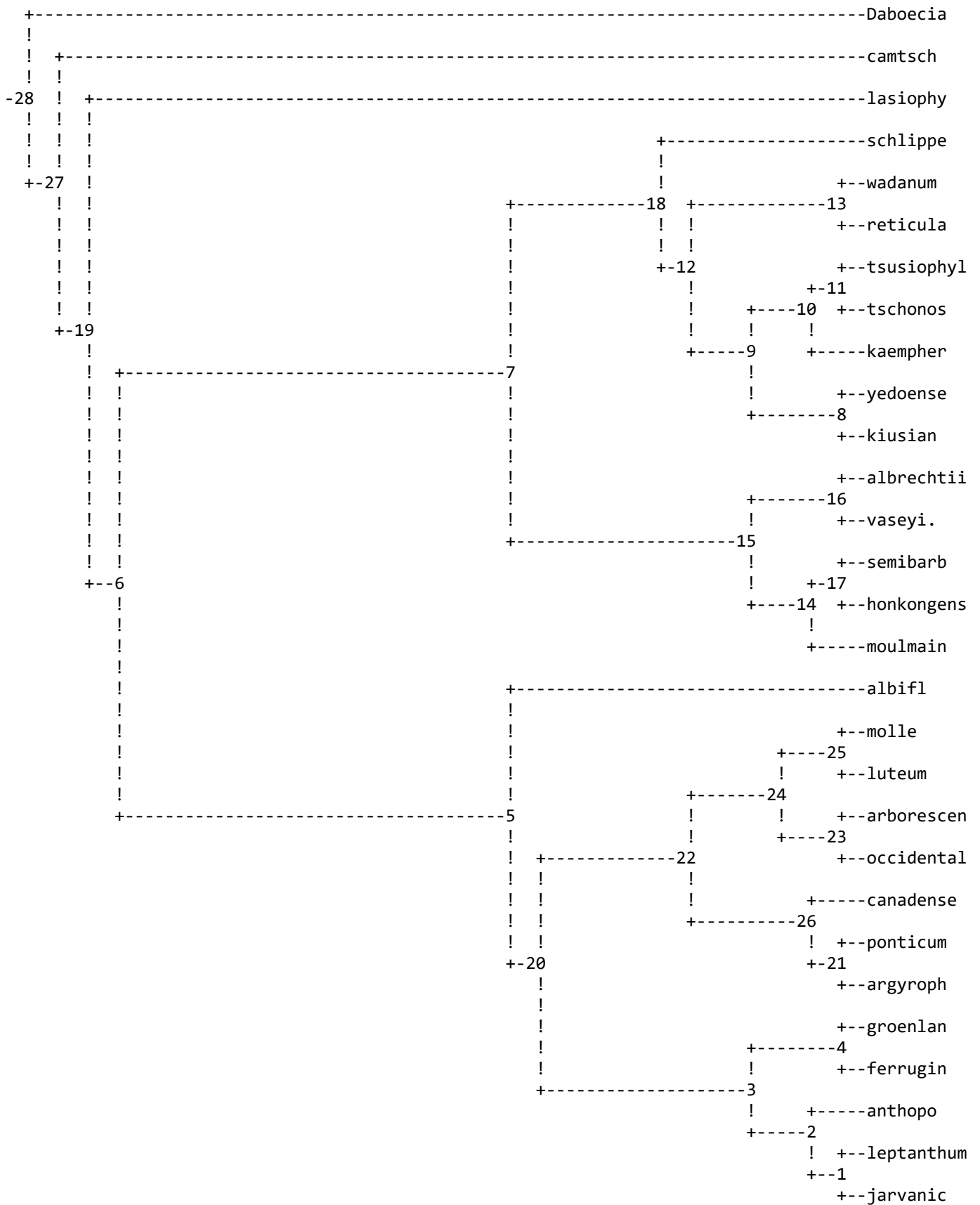
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



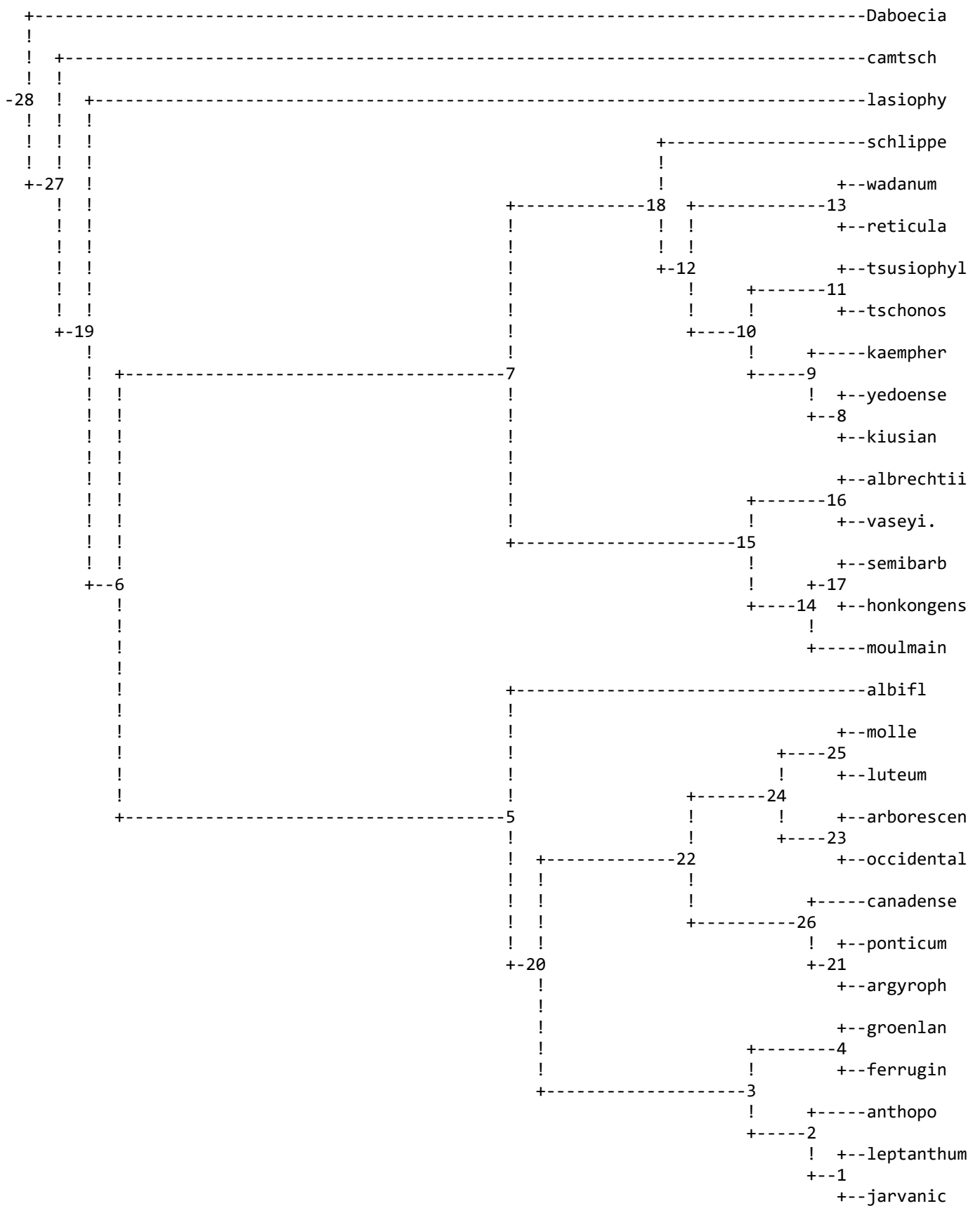
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



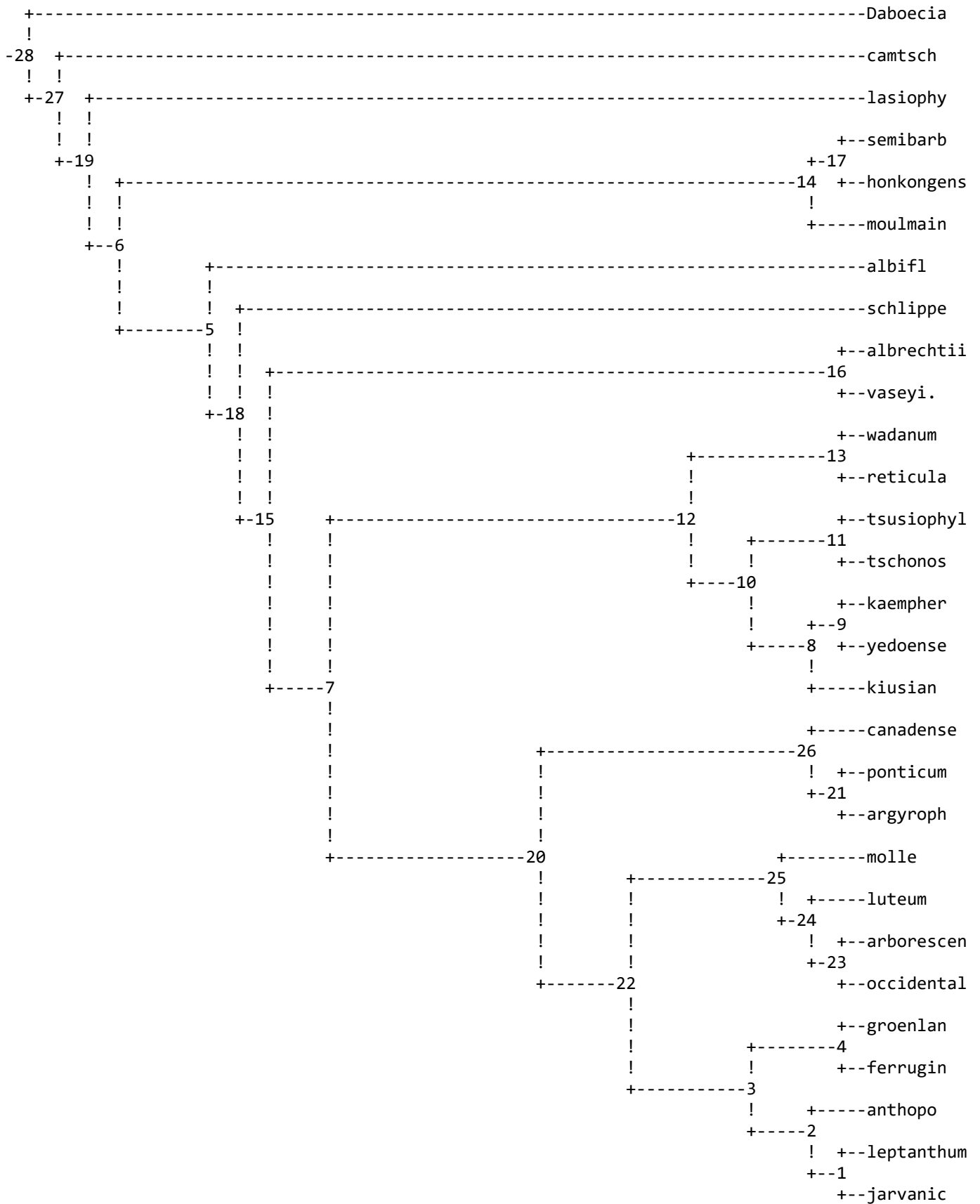
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



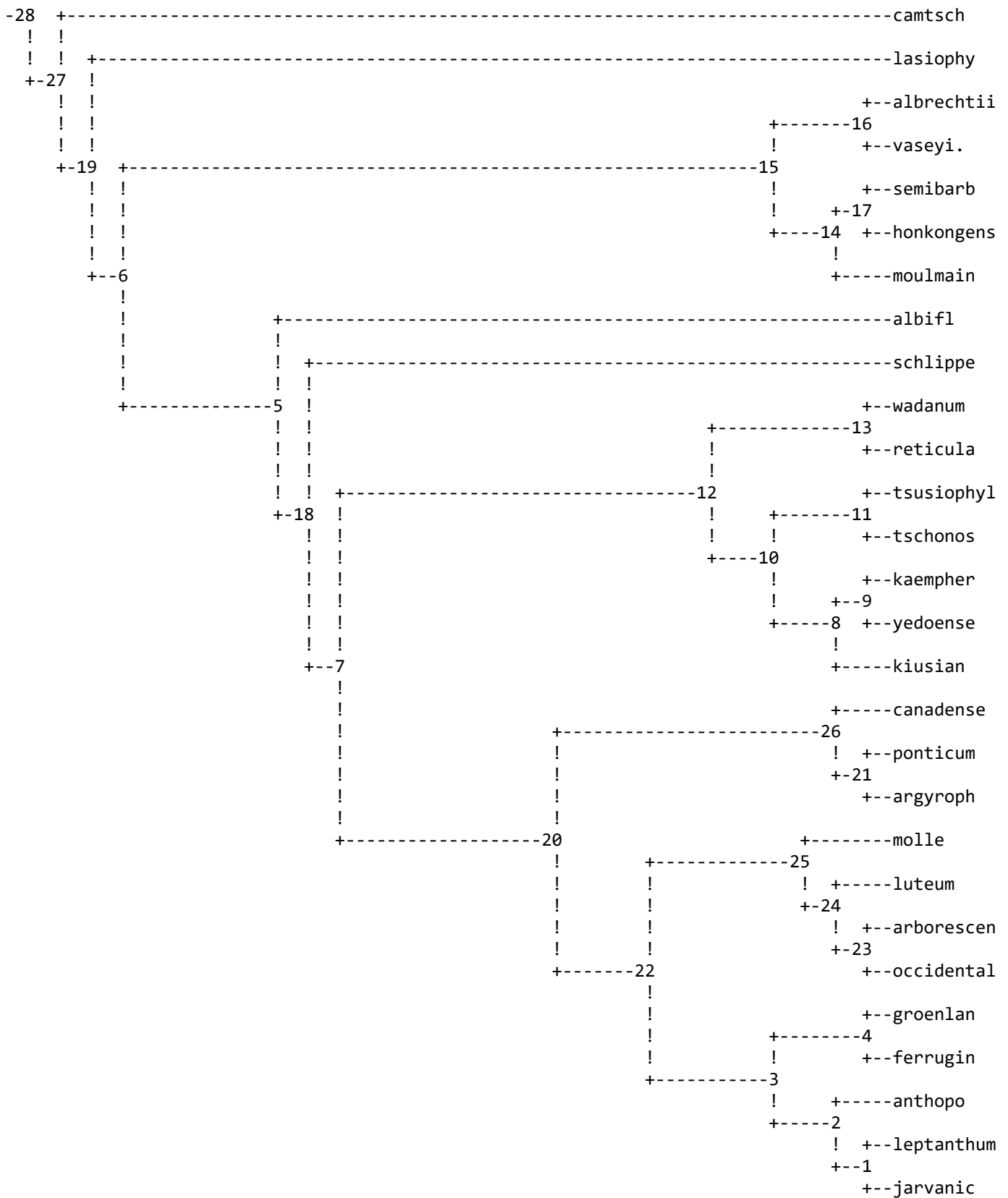
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

```

+-----Daboecia
!

```



remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

Nucleic acid sequence Maximum Likelihood method, version 3.572c

Empirical Base Frequencies:



A 0.21543  
C 0.27250  
G 0.26821  
T(U) 0.24386

Transition/transversion ratio = 2.000000

(Transition/transversion parameter = 1.512042)

```
+camtsch
!
! +canadense
! +-25
! ! ! +molle
! ! +-24
! ! ! +luteum
! ! +-23
! ! ! +arborescen
! ! +-22
! ! +occidental
! !
! ! +ponticum
! ! +-20
! ! ! +argyroph
-27-26 !
! ! ! +albifl
! ! ! !
! ! ! ! +semibarb
! ! ! ! +-16
! ! ! ! +honkongens
! ! ! !
! ! ! +-14 +-13 +wadanum
! ! ! ! +-12
! ! ! ! ! +reticula
! ! ! ! !
! ! ! ! ! +-11 +tsusiophyl
! ! ! ! ! +-10
! +-21 ! ! ! ! ! +tschonos
! ! ! ! +-17 +--9
! ! ! ! ! +kiusian
! ! +-6 ! ! +--7
! ! ! ! ! +--8 +kaempher
! ! ! ! !
! ! ! ! ! +yedoense
! ! ! ! !
! ! ! ! ! +schlippe
! ! +-5 ! +-18
! ! ! ! ! +lasiophy
! ! ! ! !
! ! ! ! +moulmain
! ! ! !
! ! ! ! +albrechtii
! +-19 +-15
! ! +vaseyi.
! !
! ! +groenlan
! ! +-3
! ! ! +ferrugin
! +-4
! ! +anthopo
! +-2
! ! +jarvanic
! +-1
! +leptanthum
!
+-----Daboecia
```

remember: (although rooted by outgroup) this is an unrooted tree!

Ln Likelihood = -2532.62748

Examined 1753 trees

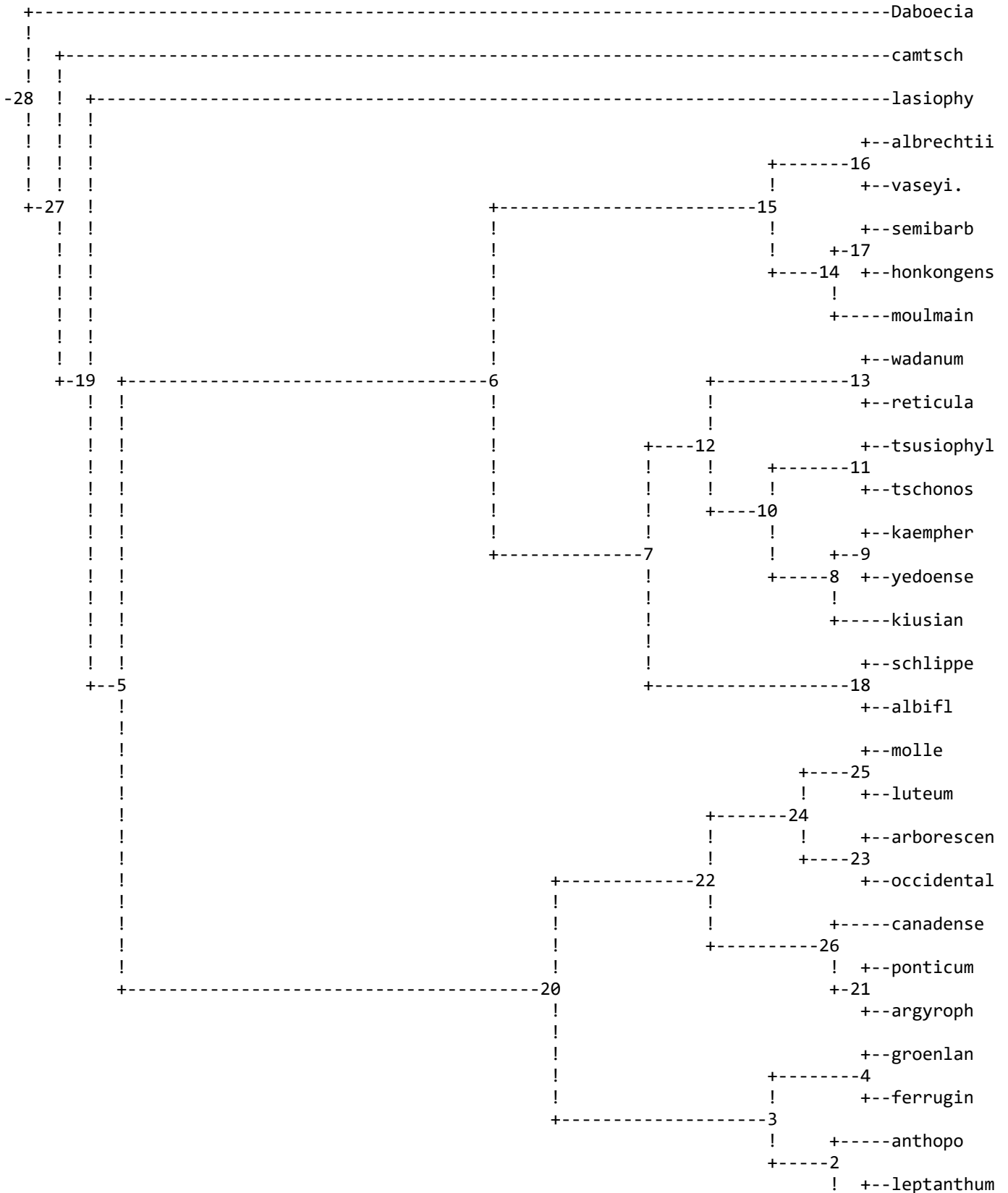
Between	And	Length	Approx. Confidence Limits		
-----	---	-----	-----	-----	-----
27	camtsch	0.01509	( 0.00481,	0.02535)	**
27	26	0.01254	( 0.00326,	0.02182)	**
26	25	0.00455	( zero,	0.01082)	**
25	canadense	0.01123	( 0.00295,	0.01947)	**
25	24	0.00562	( zero,	0.01245)	**
24	molle	0.00324	( zero,	0.00773)	**
24	23	0.00188	( zero,	0.00558)	**
23	luteum	0.00003	( zero,	infinity)	
23	22	0.00381	( zero,	0.00904)	**
22	arborescen	0.00905	( 0.00182,	0.01631)	**
22	occidental	0.00305	( zero,	0.00725)	**
26	21	0.00181	( zero,	0.00631)	
21	20	0.00814	( 0.00107,	0.01519)	**
20	ponticum	0.00451	( zero,	0.00965)	**
20	argyroph	0.00302	( zero,	0.00723)	**
21	19	0.00361	( zero,	0.00934)	**
19	5	0.00160	( zero,	0.00480)	*
5	6	0.00006	( zero,	0.00330)	
6	14	0.00006	( zero,	0.00330)	
14	albifl	0.00455	( zero,	0.00970)	**
14	17	0.00173	( zero,	0.00506)	**
17	13	0.00171	( zero,	0.00507)	**
13	16	0.00637	( 0.00007,	0.01273)	**
16	semibarb	0.02143	( 0.01028,	0.03283)	**
16	honkongens	0.01139	( 0.00308,	0.01981)	**
13	11	0.00304	( zero,	0.00731)	**
11	12	0.00714	( 0.00049,	0.01376)	**
12	wadanum	0.00296	( zero,	0.00711)	**
12	reticula	0.00006	( zero,	0.00357)	
11	9	0.00960	( 0.00196,	0.01729)	**
9	10	0.00316	( zero,	0.00755)	**
10	tsusiophyl	0.00148	( zero,	0.00442)	**
10	tschonos	0.00452	( zero,	0.00963)	**
9	8	0.00454	( zero,	0.00969)	**
8	7	0.00003	( zero,	infinity)	
7	kiusian	0.00003	( zero,	infinity)	
7	kaempher	0.00302	( zero,	0.00719)	**
8	yedoense	0.00006	( zero,	infinity)	
17	18	0.00006	( zero,	0.00338)	
18	schlippe	0.01377	( 0.00474,	0.02275)	**
18	lasiophy	0.01216	( 0.00375,	0.02062)	**
6	moulmain	0.01675	( 0.00685,	0.02668)	**
5	15	0.00150	( zero,	0.00456)	*
15	albrechtii	0.00610	( 0.00010,	0.01206)	**
15	vaseyi.	0.01069	( 0.00273,	0.01858)	**
19	4	0.01319	( 0.00356,	0.02276)	**
4	3	0.00462	( zero,	0.00979)	**
3	groenlan	0.00003	( zero,	infinity)	
3	ferrugin	0.00150	( zero,	0.00445)	**
4	2	0.00184	( zero,	0.00554)	*
2	anthopo	0.00147	( zero,	0.00438)	**
2	1	0.00913	( 0.00176,	0.01651)	**
1	jarvanic	0.00751	( 0.00083,	0.01421)	**
1	leptanthum	0.02288	( 0.01137,	0.03464)	**
27	Daboecia	0.11261	( 0.08543,	0.14090)	**

\* = significantly positive,  $P < 0.05$

\*\* = significantly positive,  $P < 0.01$

=====  
DNA compatibility algorithm, version 3.572c

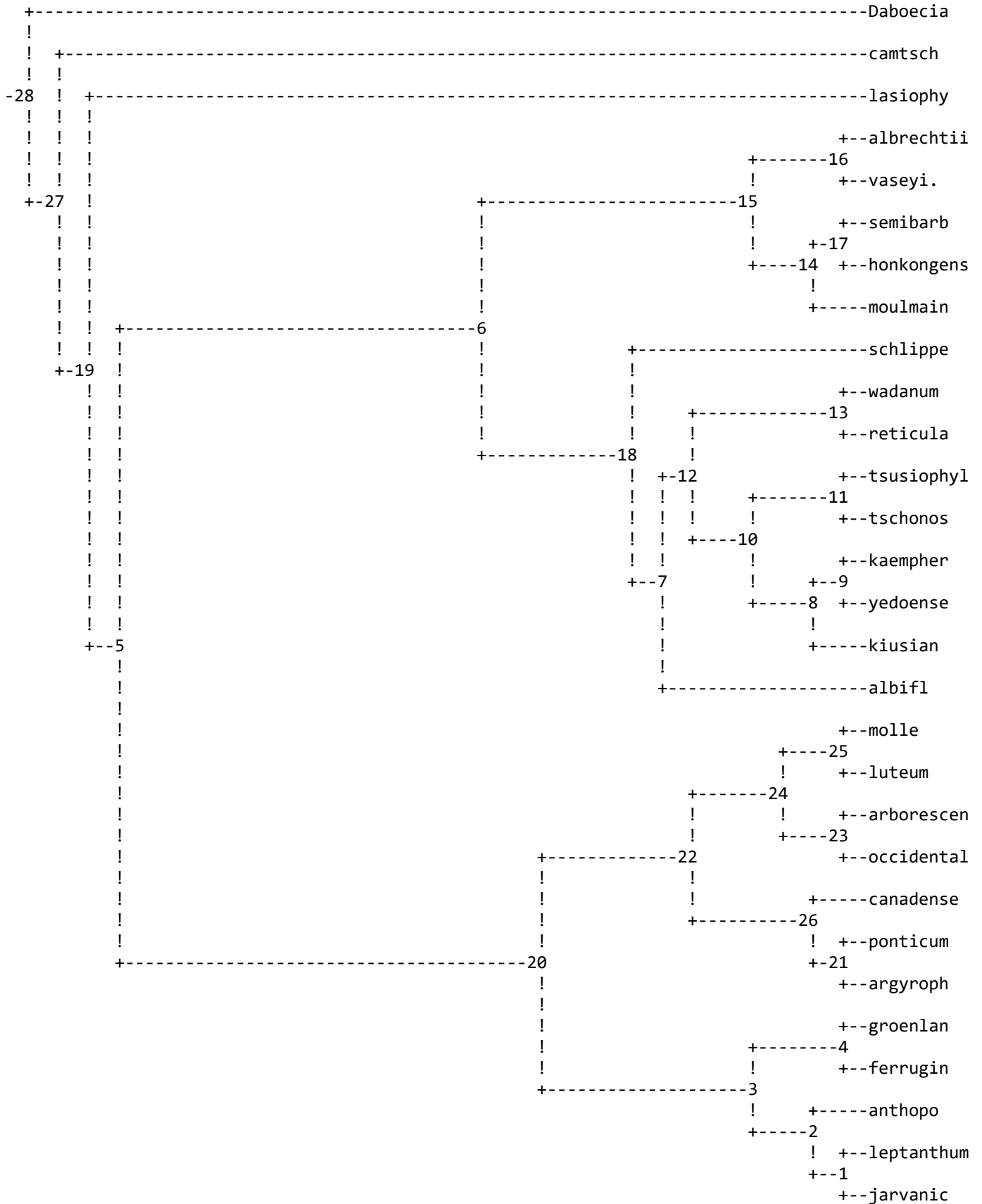
100 trees in all found



+++1  
+++jarvanic

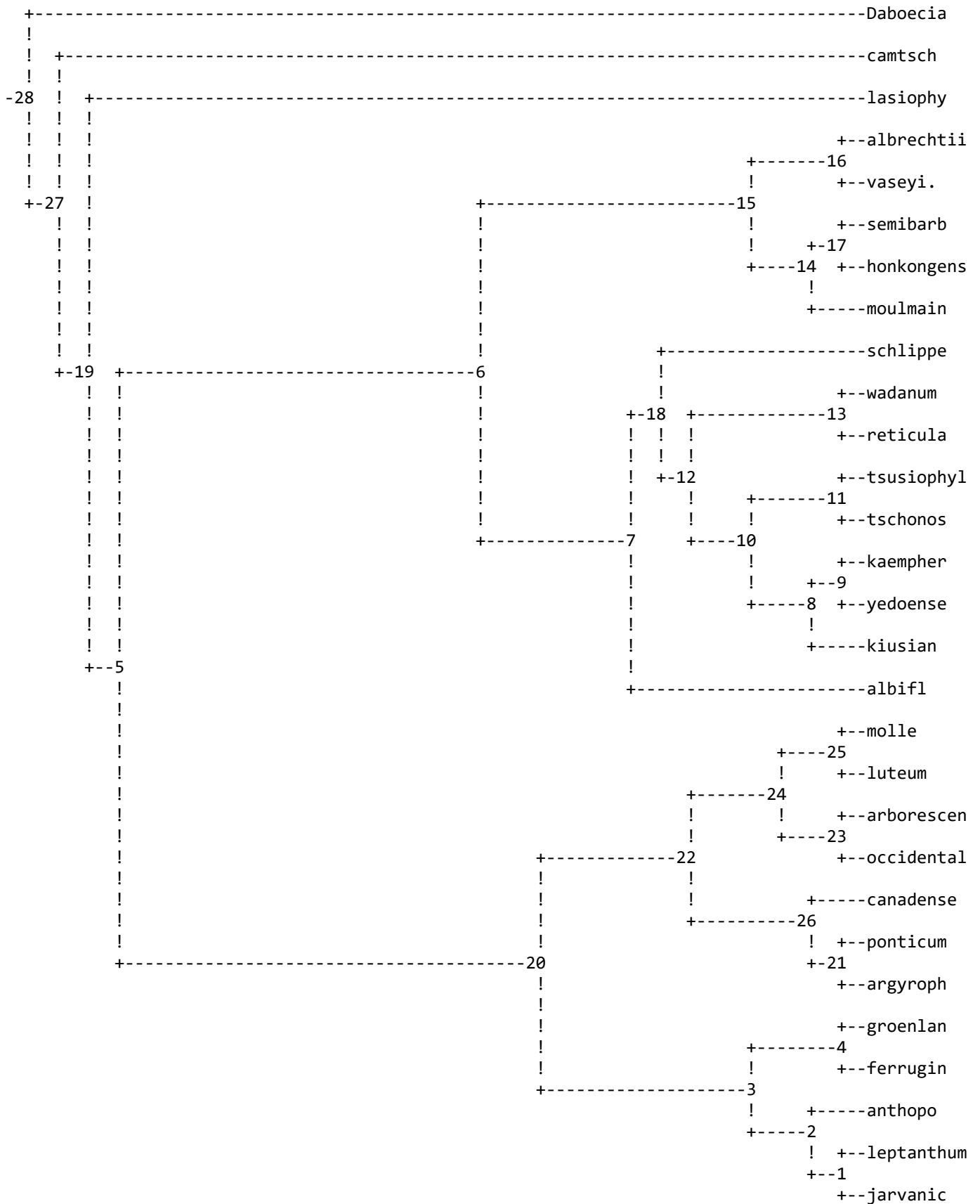
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



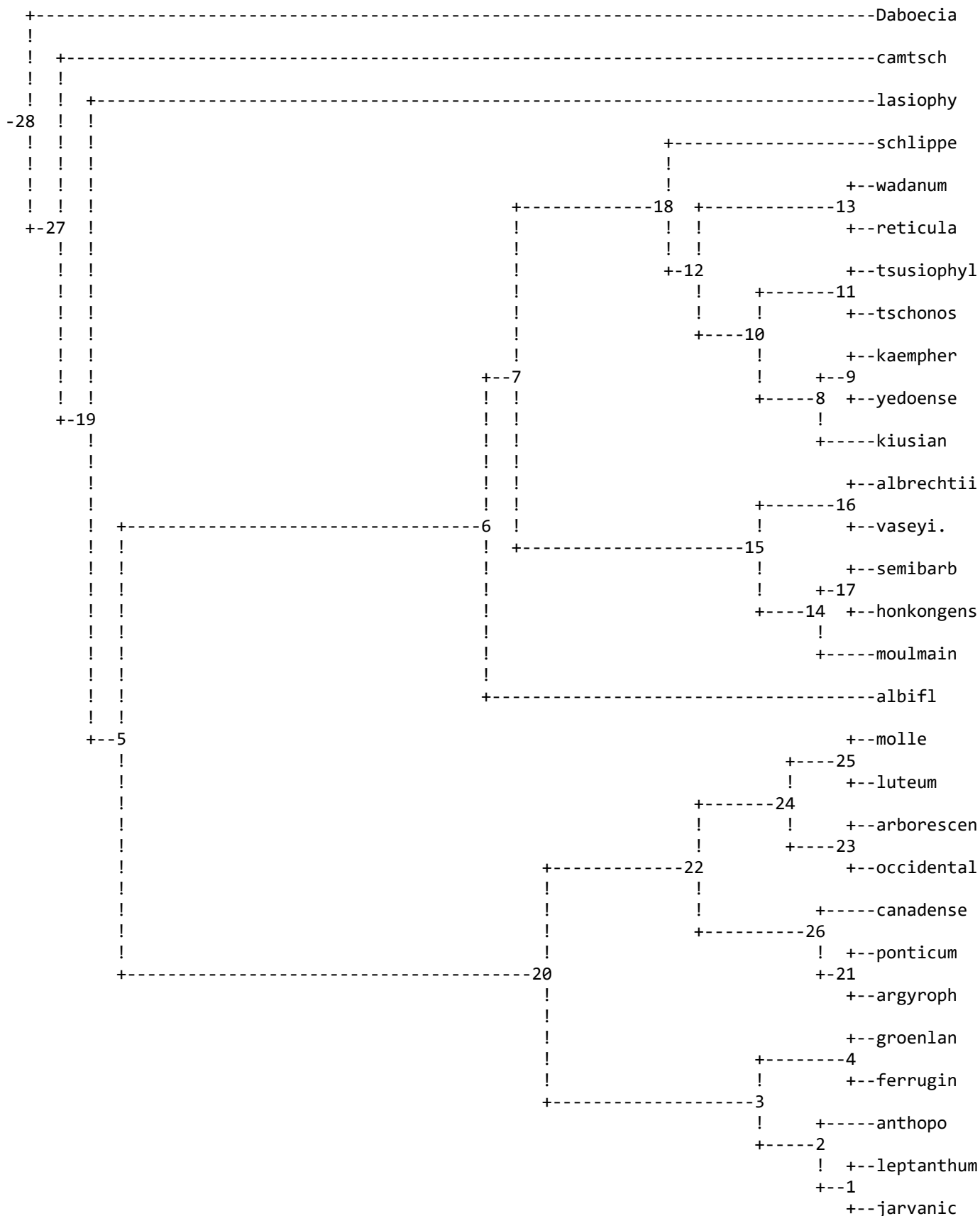
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

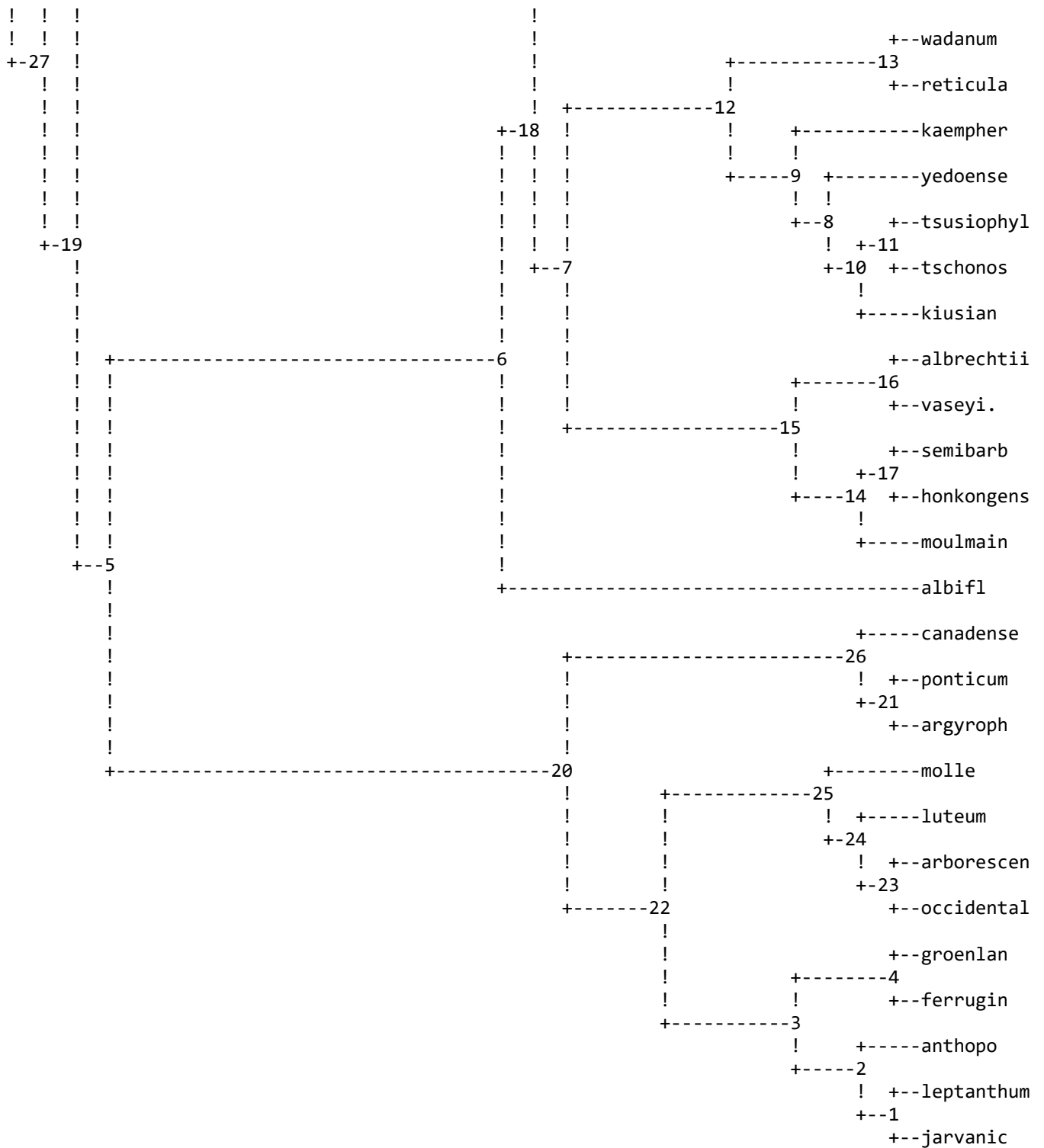
total number of compatible sites is 638.0





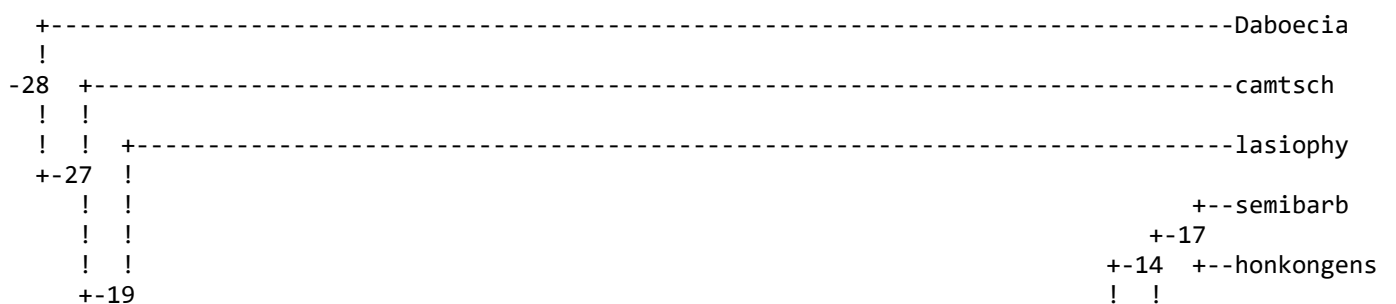


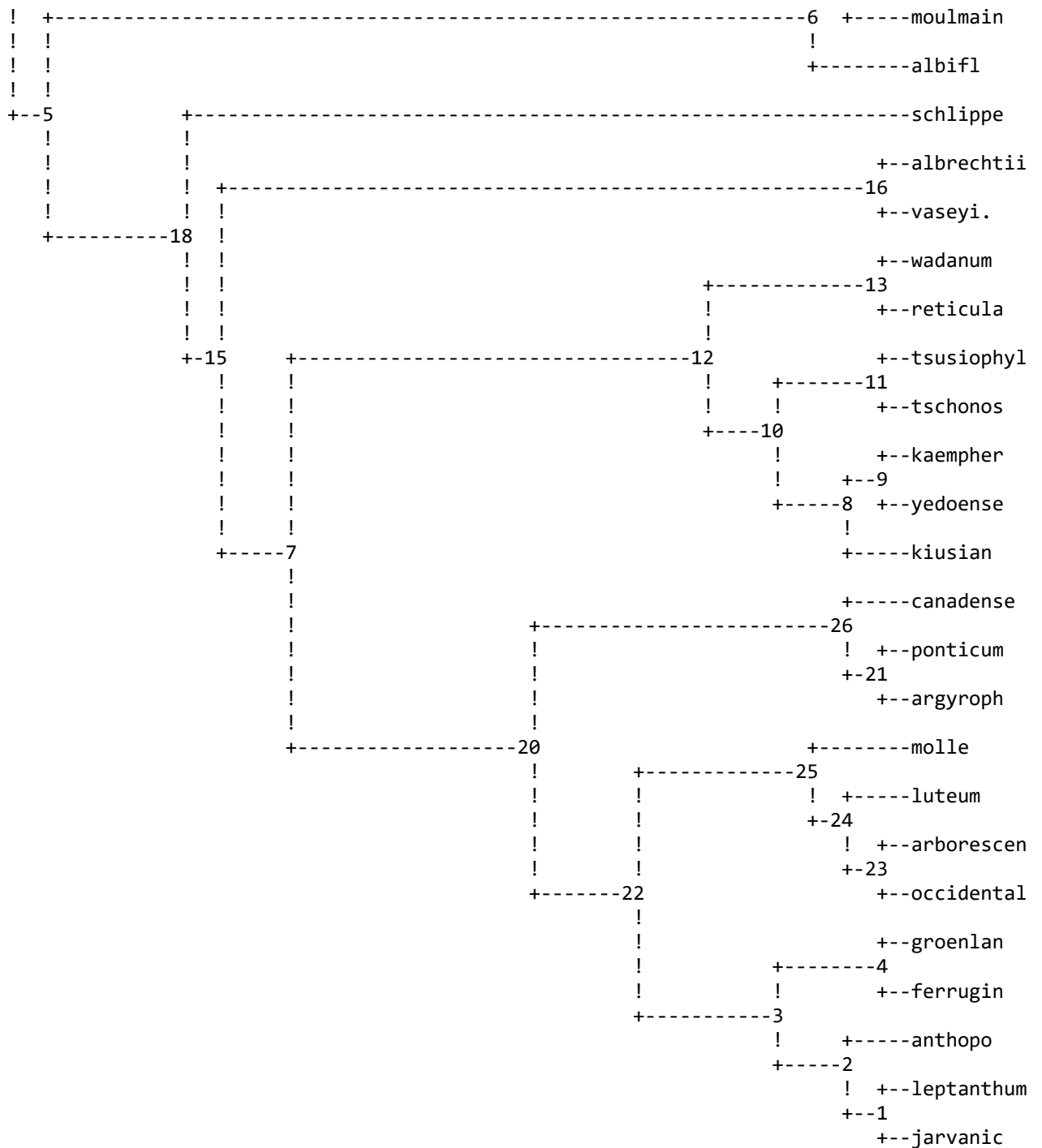




remember: (although rooted by outgroup) this is an unrooted tree!

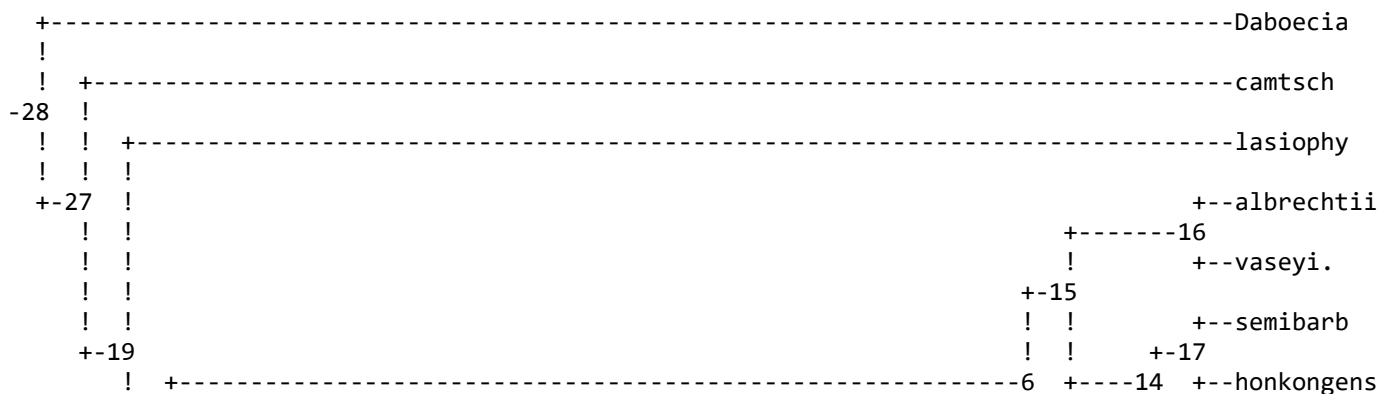
total number of compatible sites is 638.0



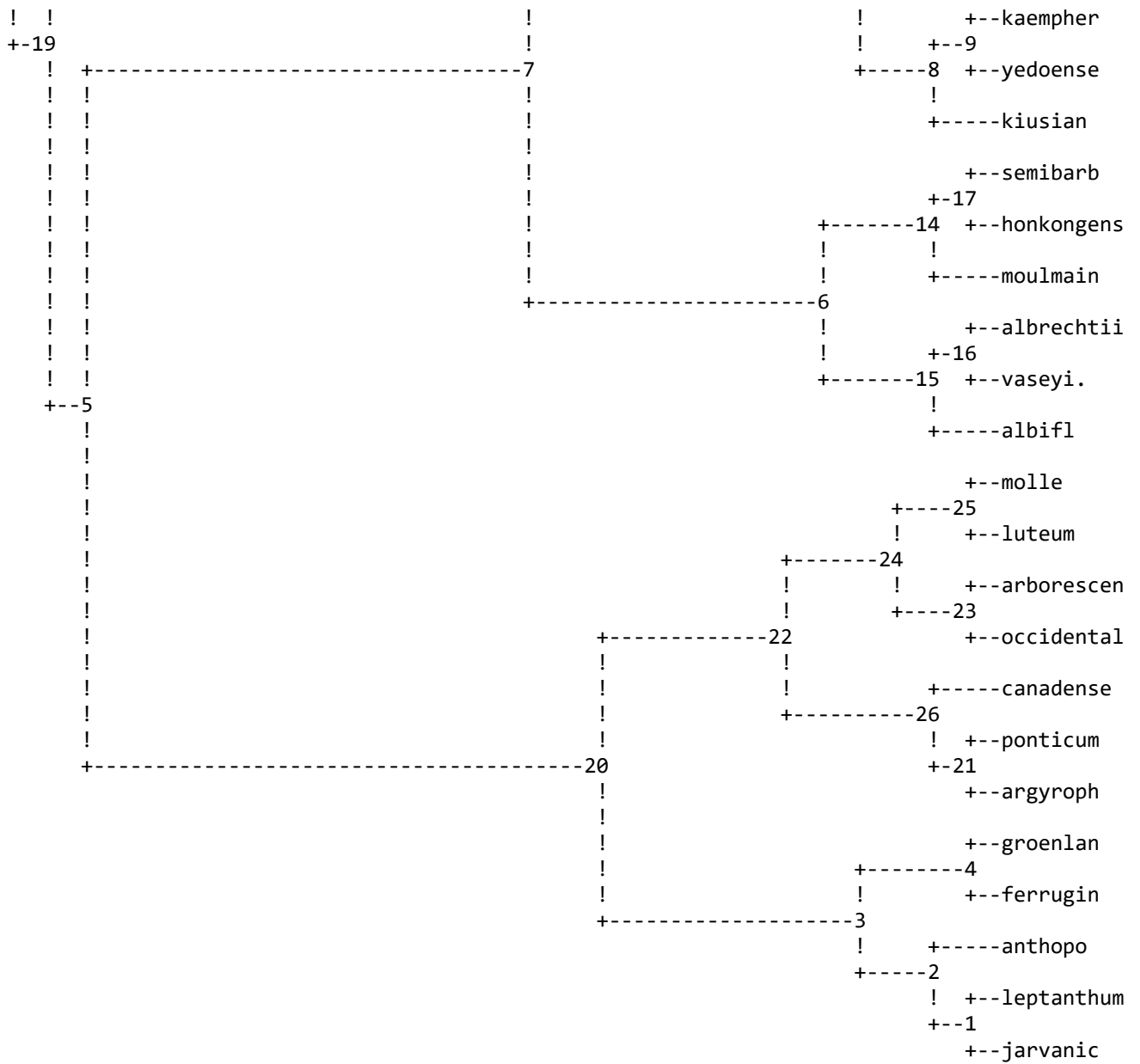


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

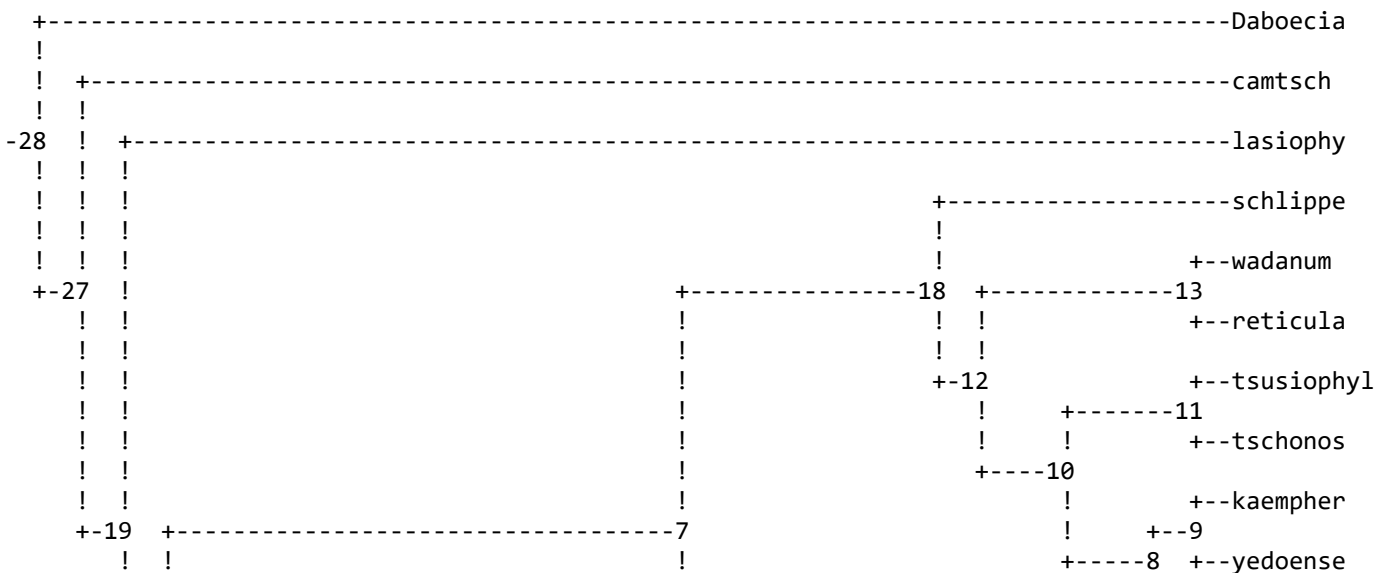


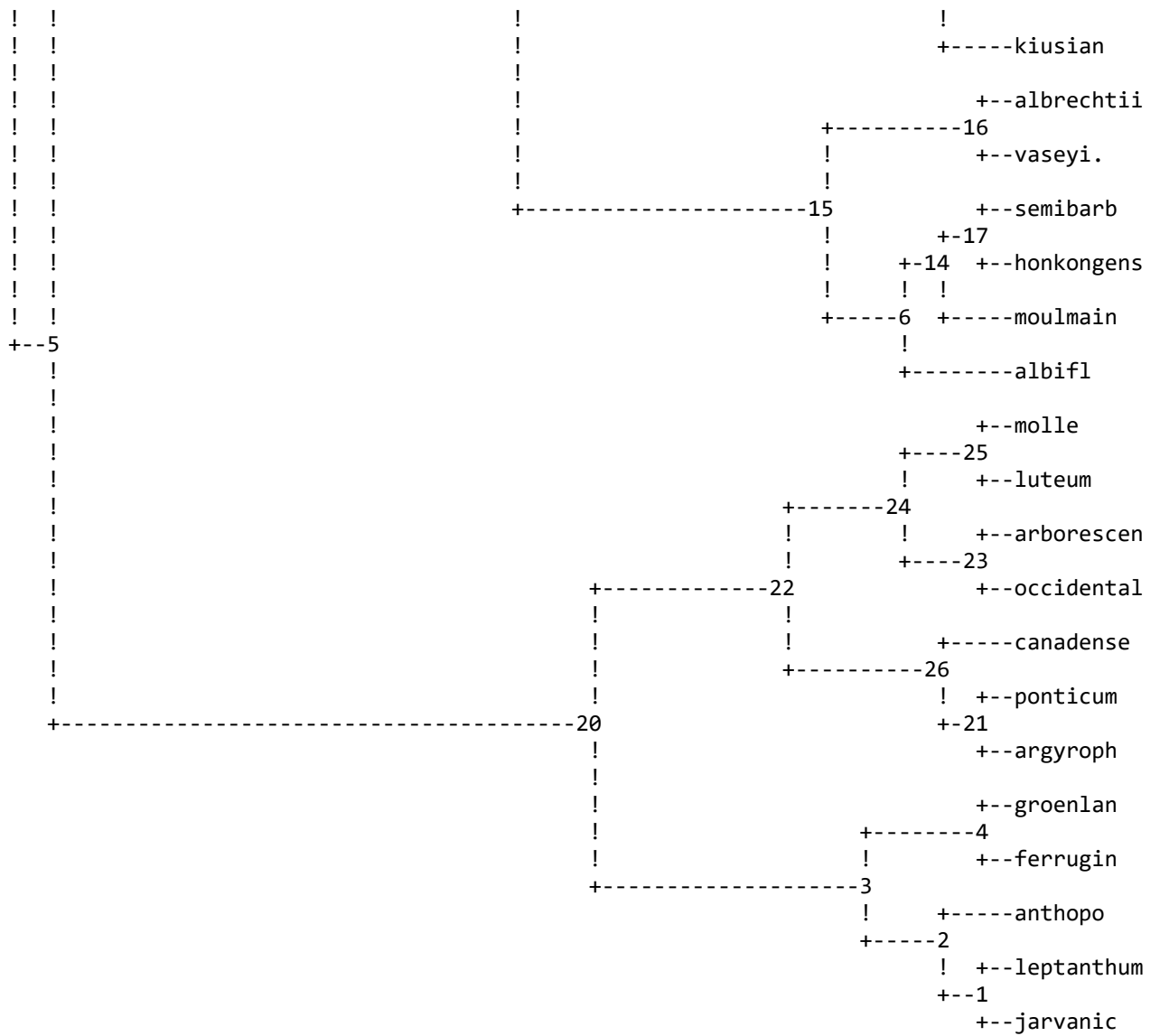




remember: (although rooted by outgroup) this is an unrooted tree!

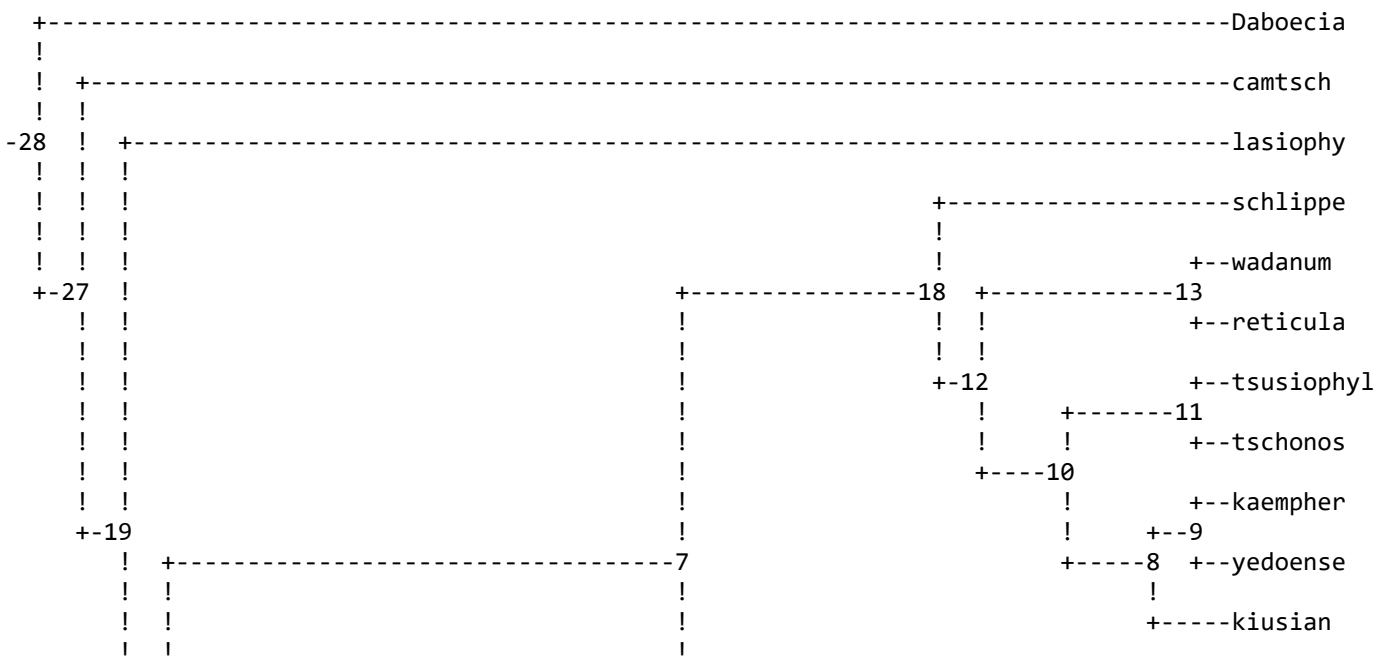
total number of compatible sites is 638.0



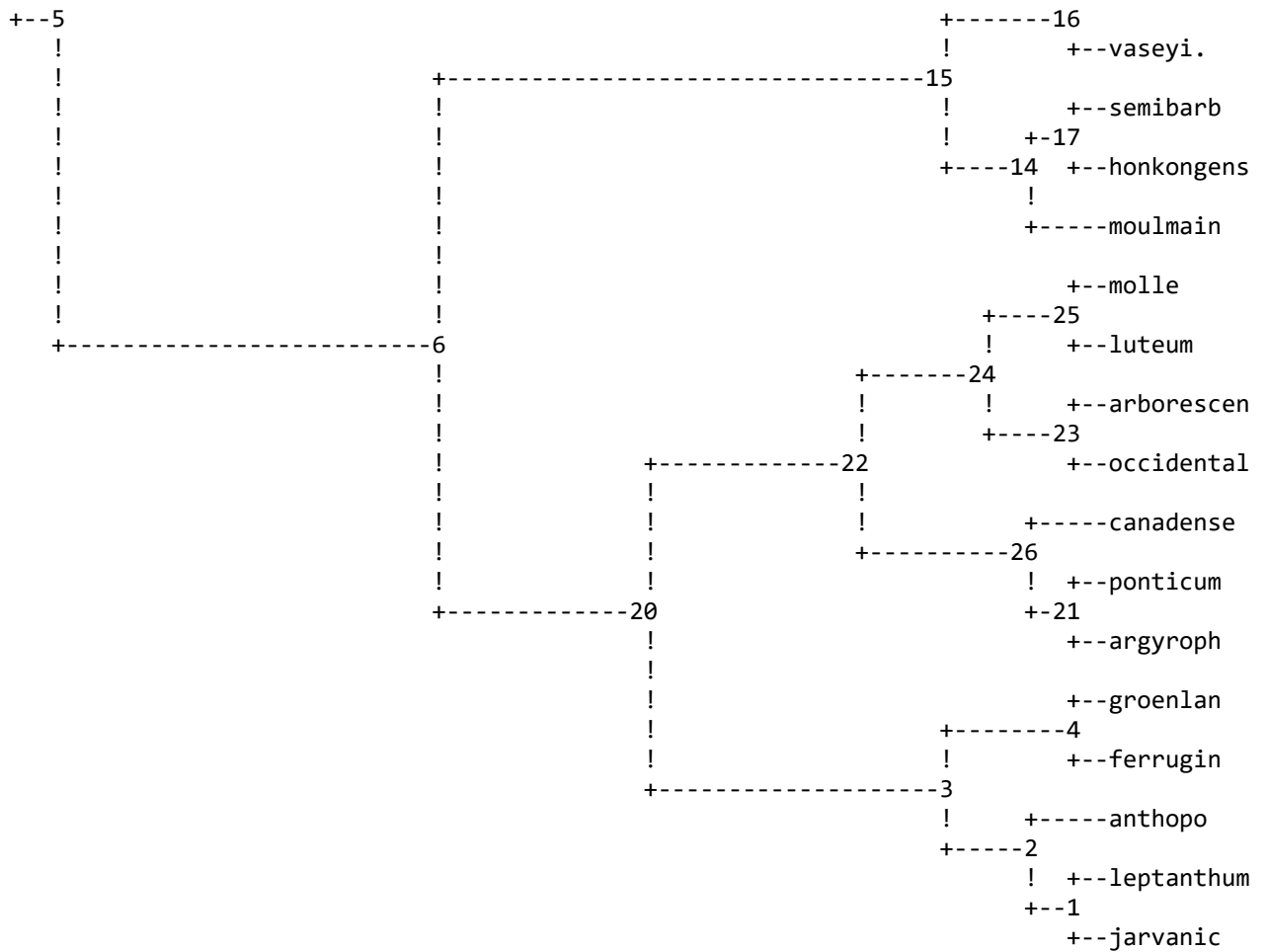


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

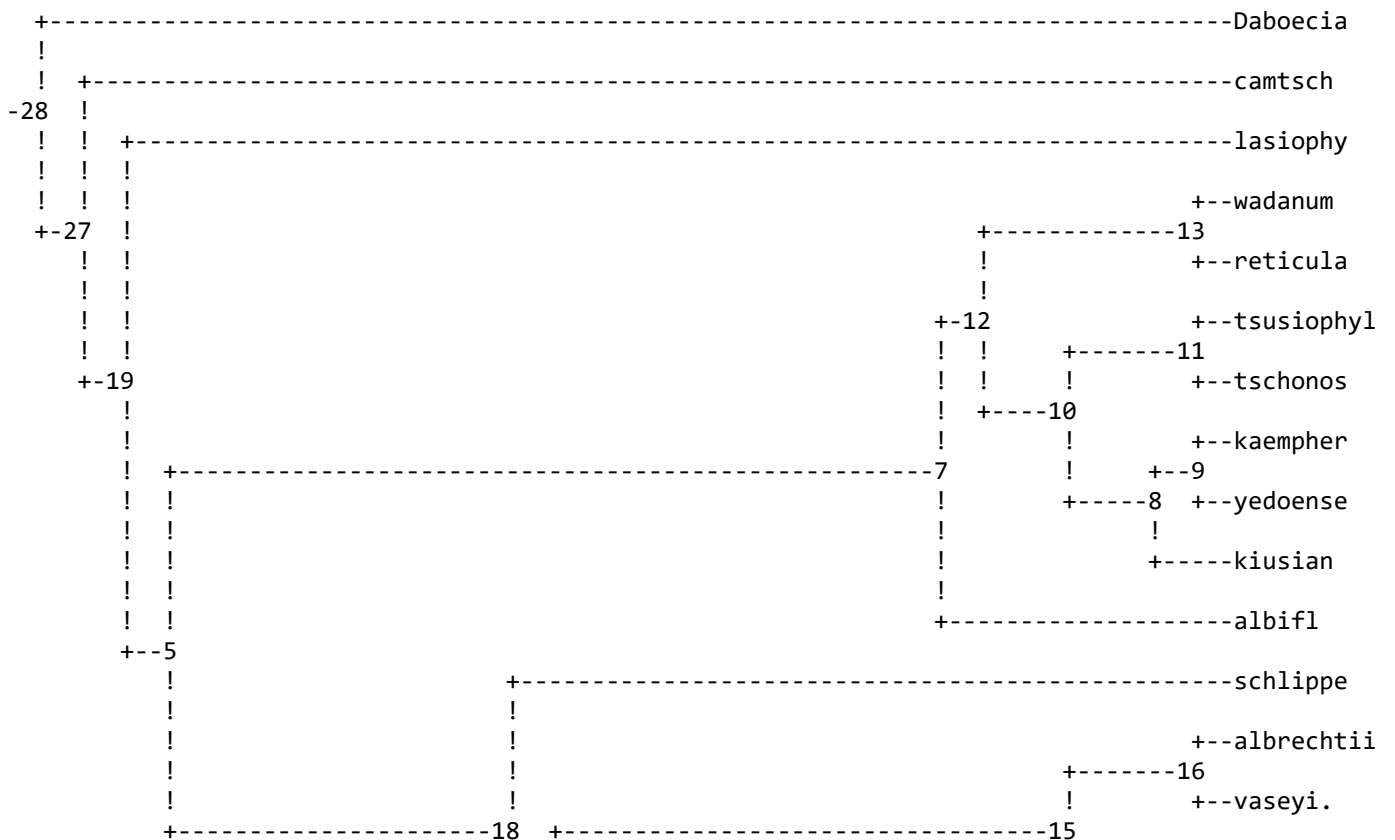






remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0





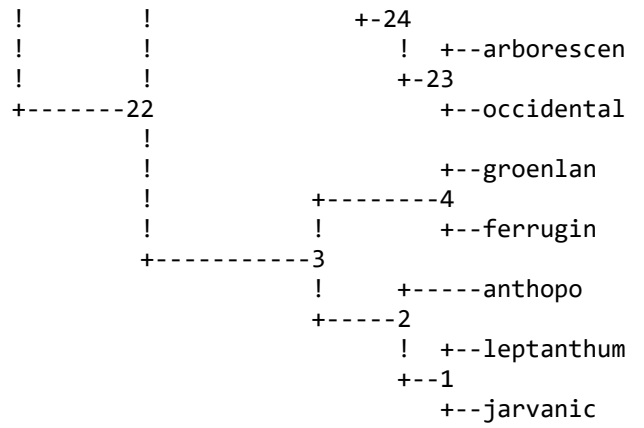






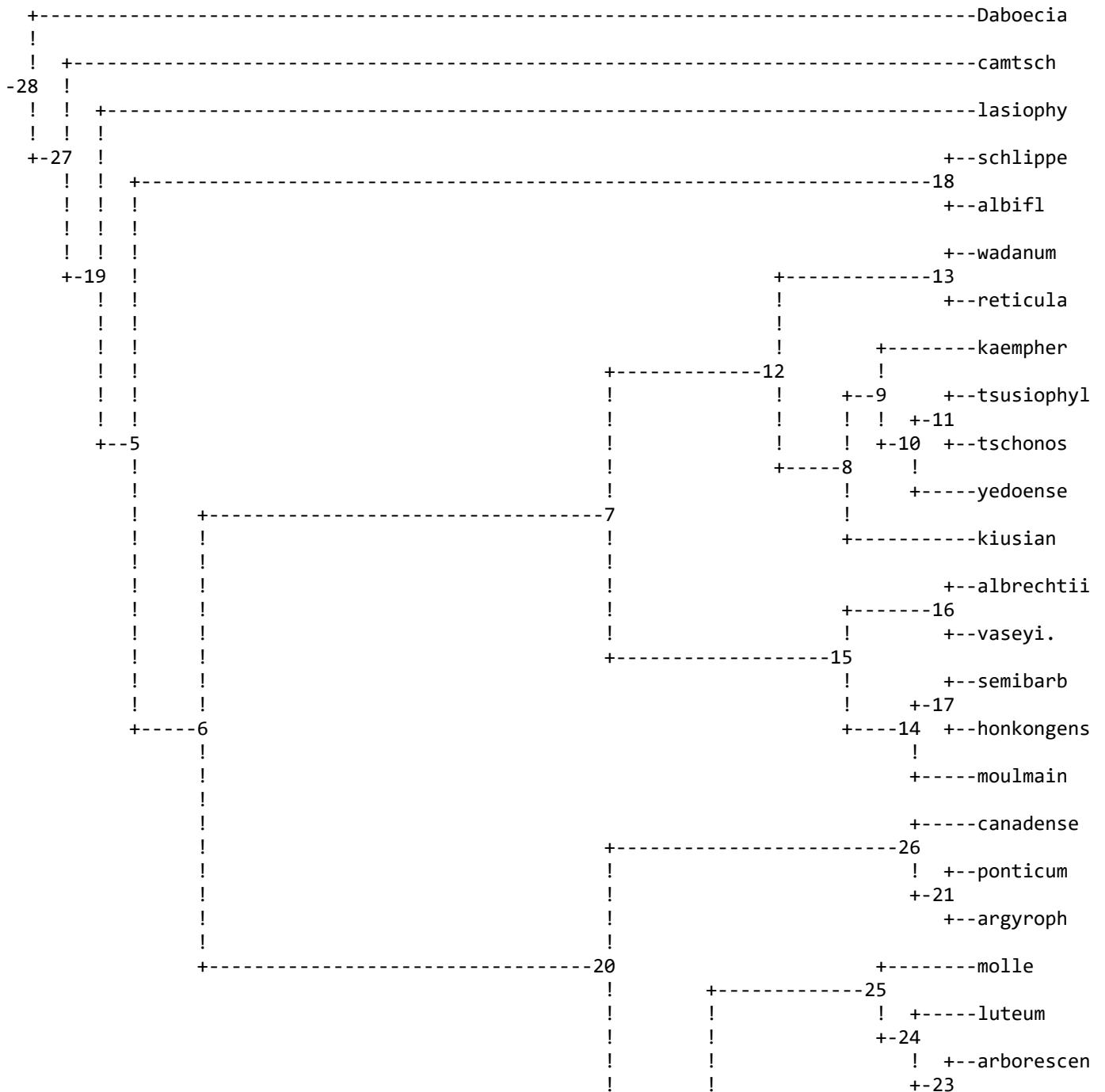






remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0









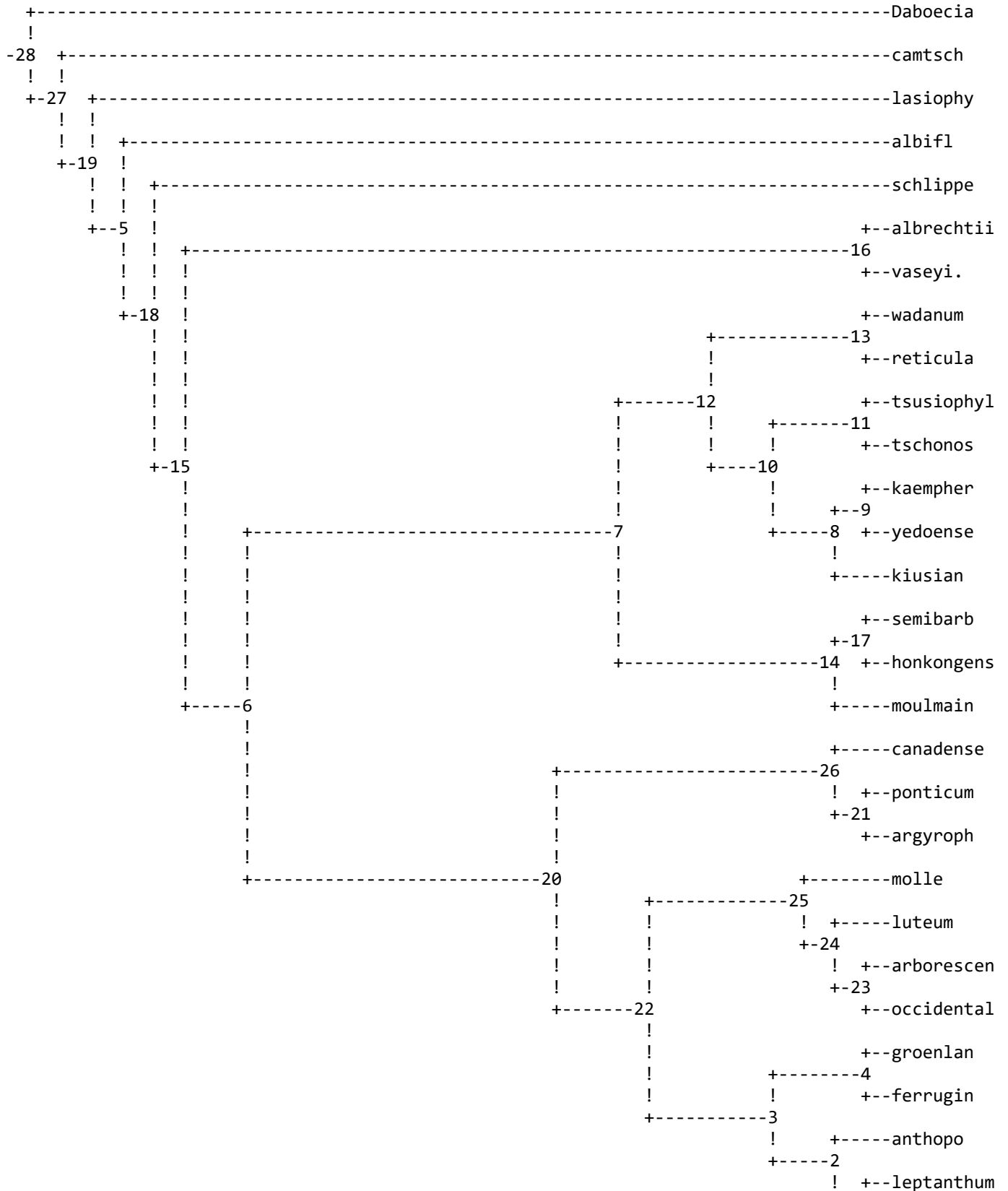
```

! +-----anthopo
+-----2
! +---leptanthum
+--1
+--jarvanic

```

remember: (although rooted by outgroup) this is an unrooted tree!

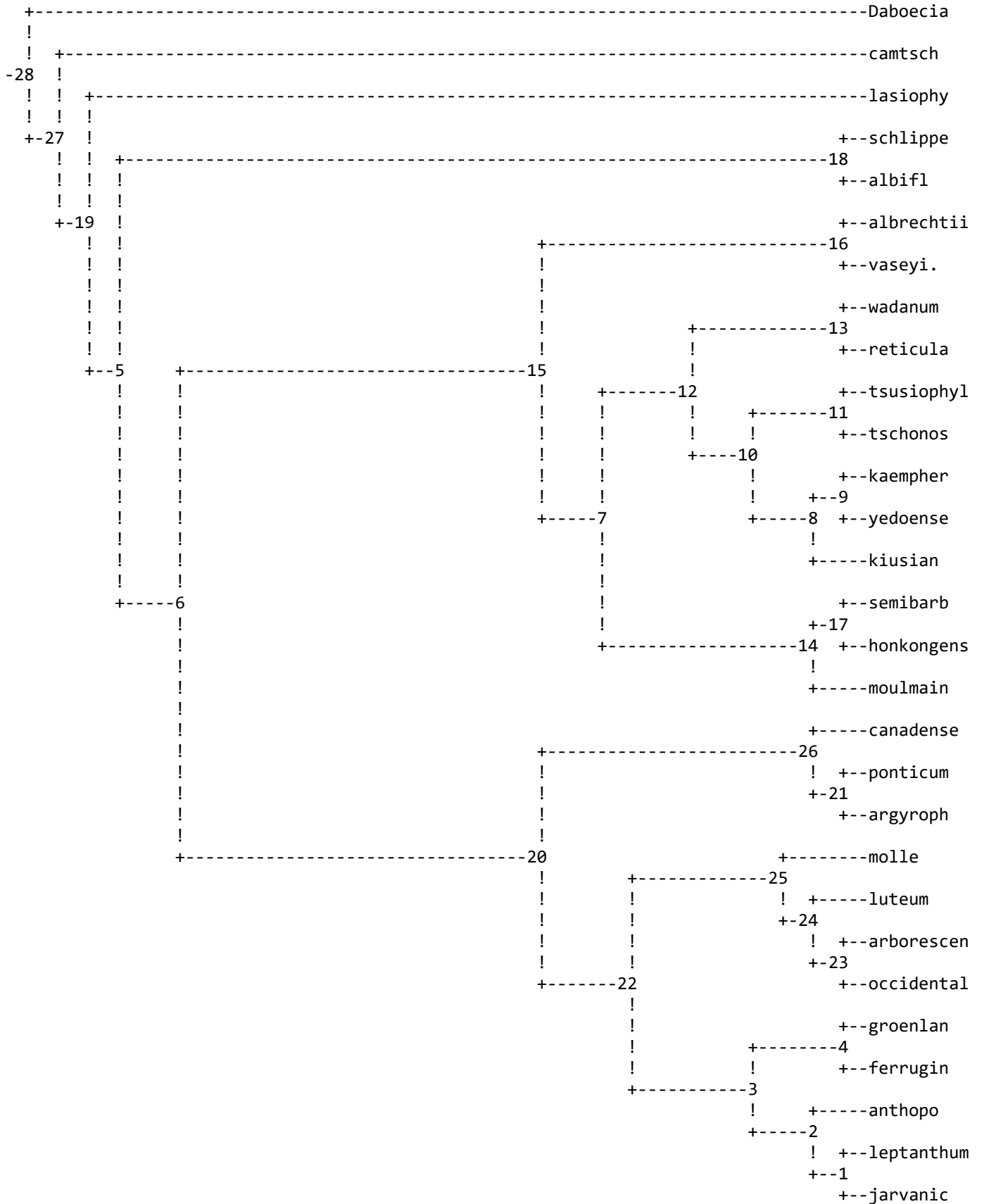
total number of compatible sites is 638.0



+-1  
+-jarvanic

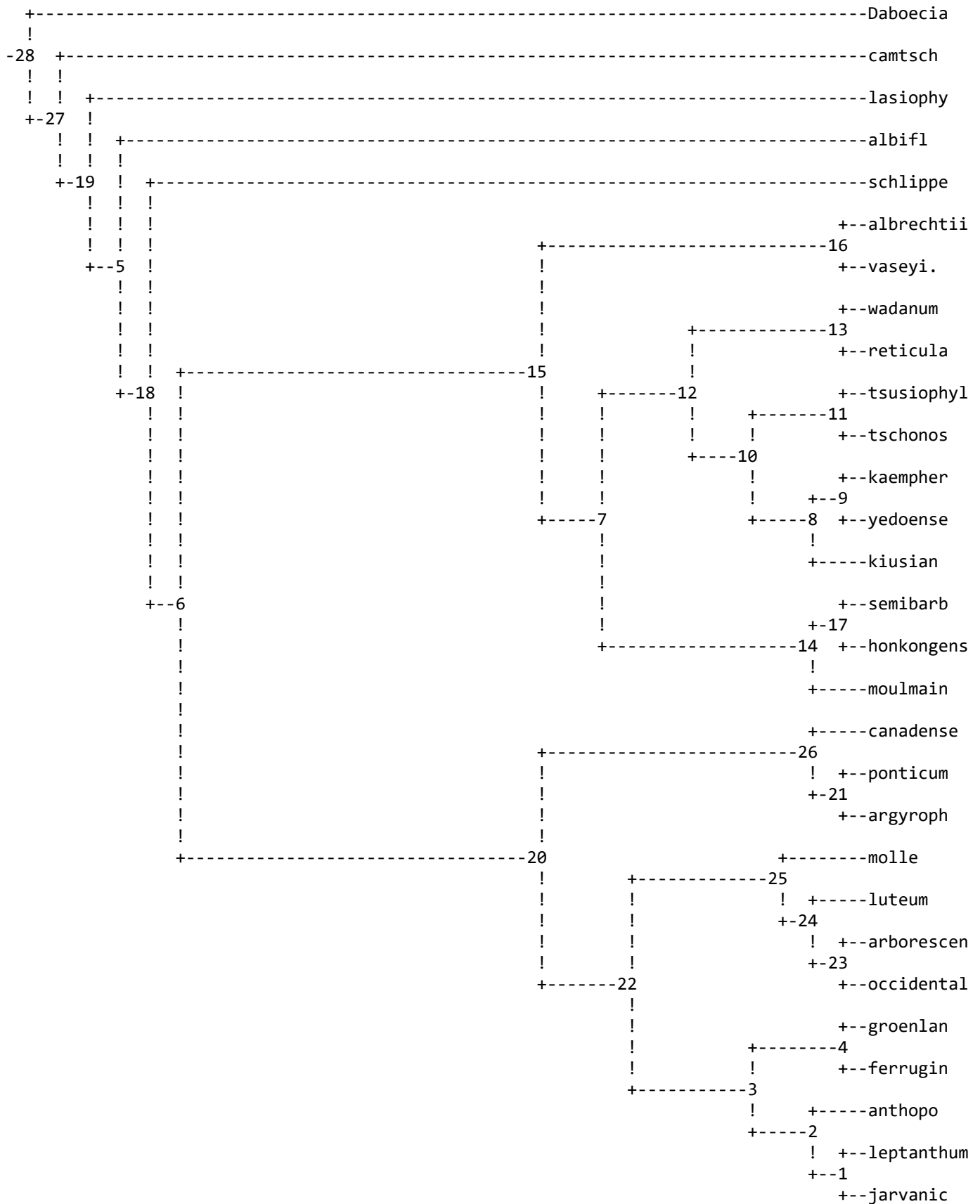
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



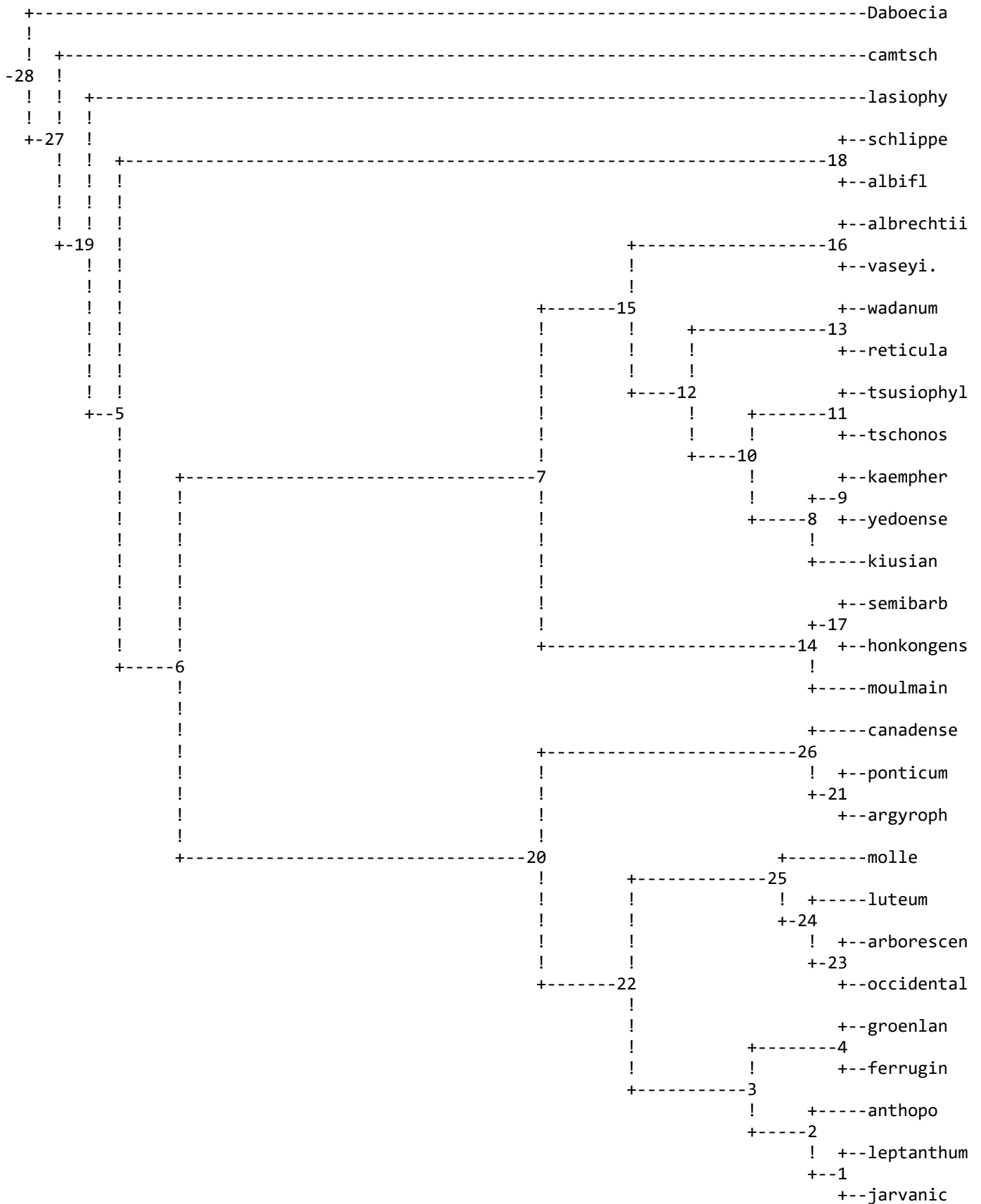
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



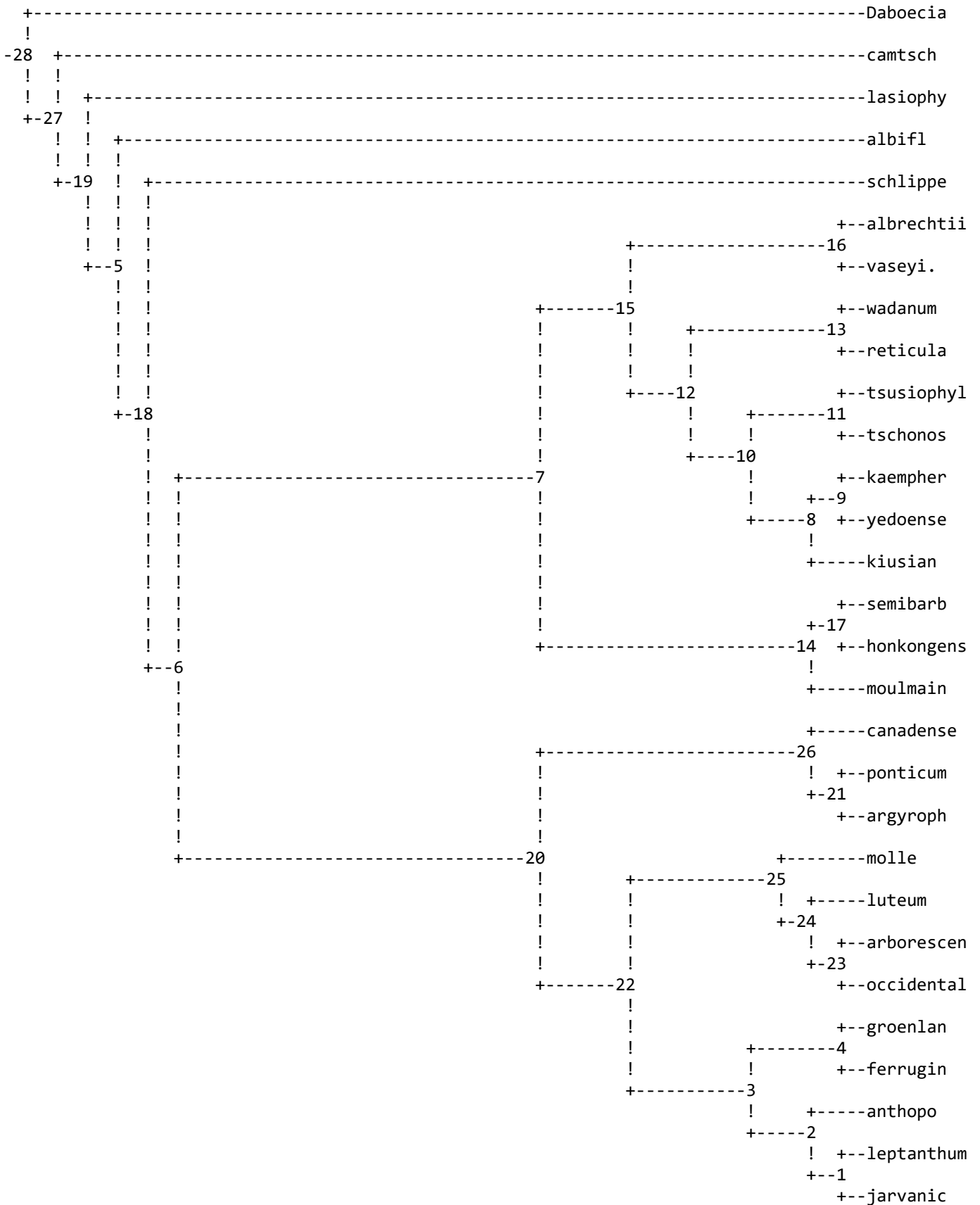
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

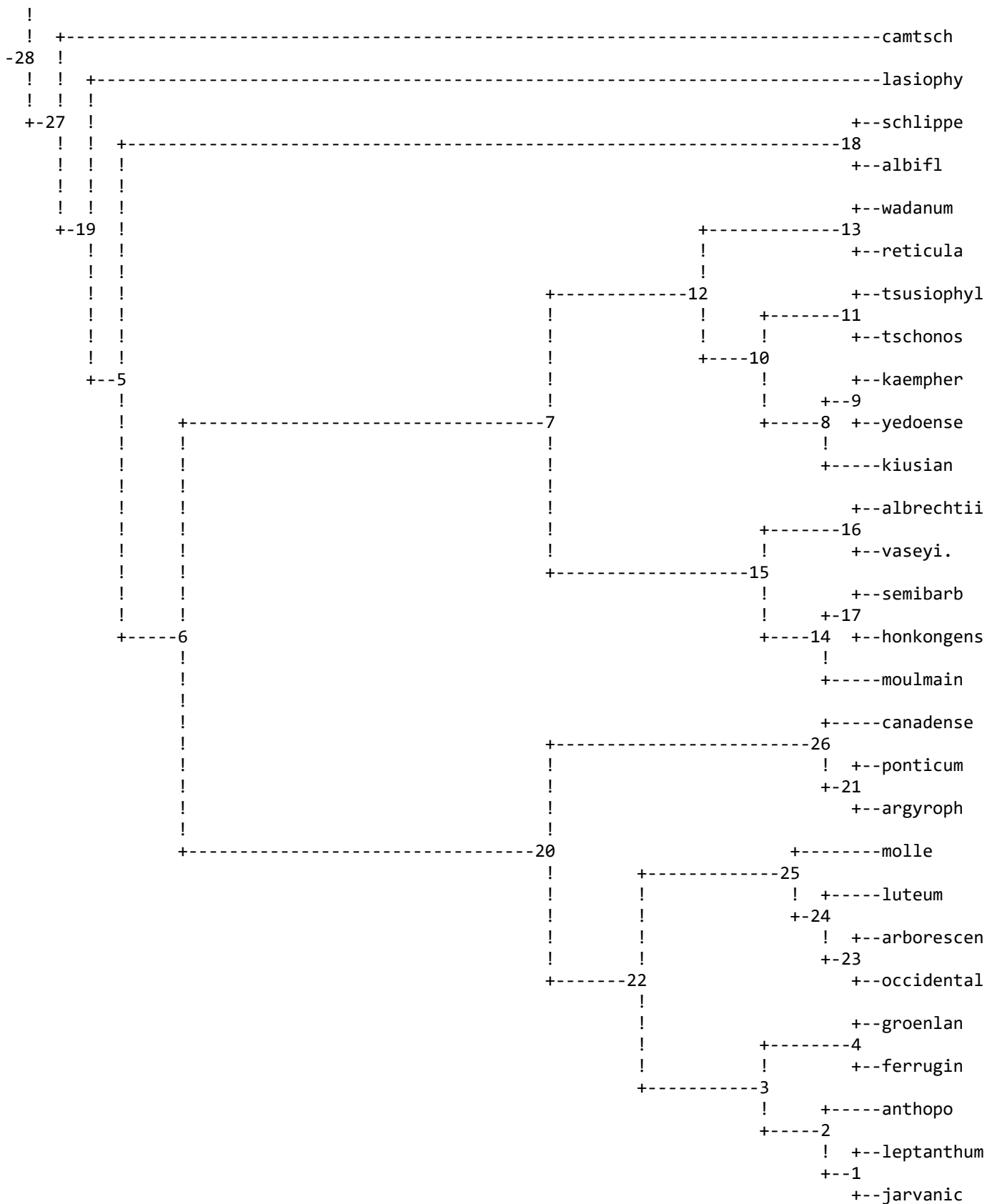
total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

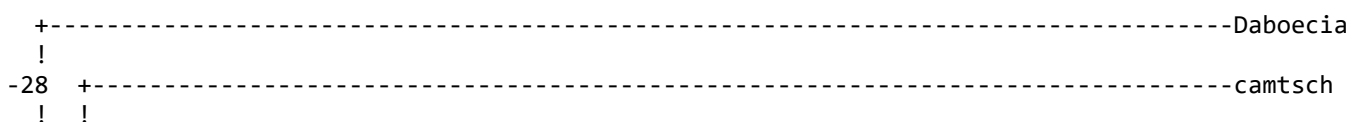
total number of compatible sites is 638.0

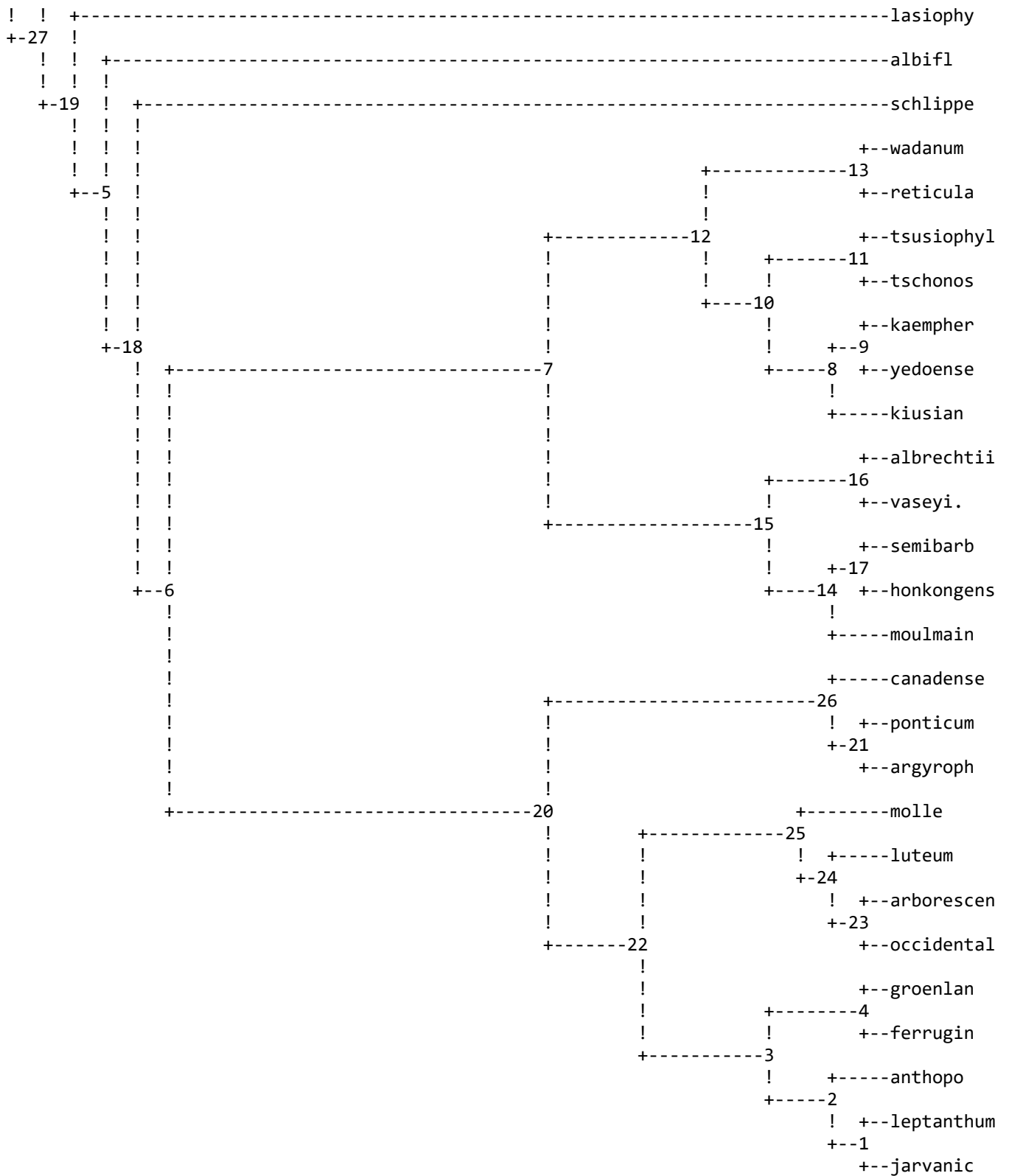
+-----Daboecia



remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0





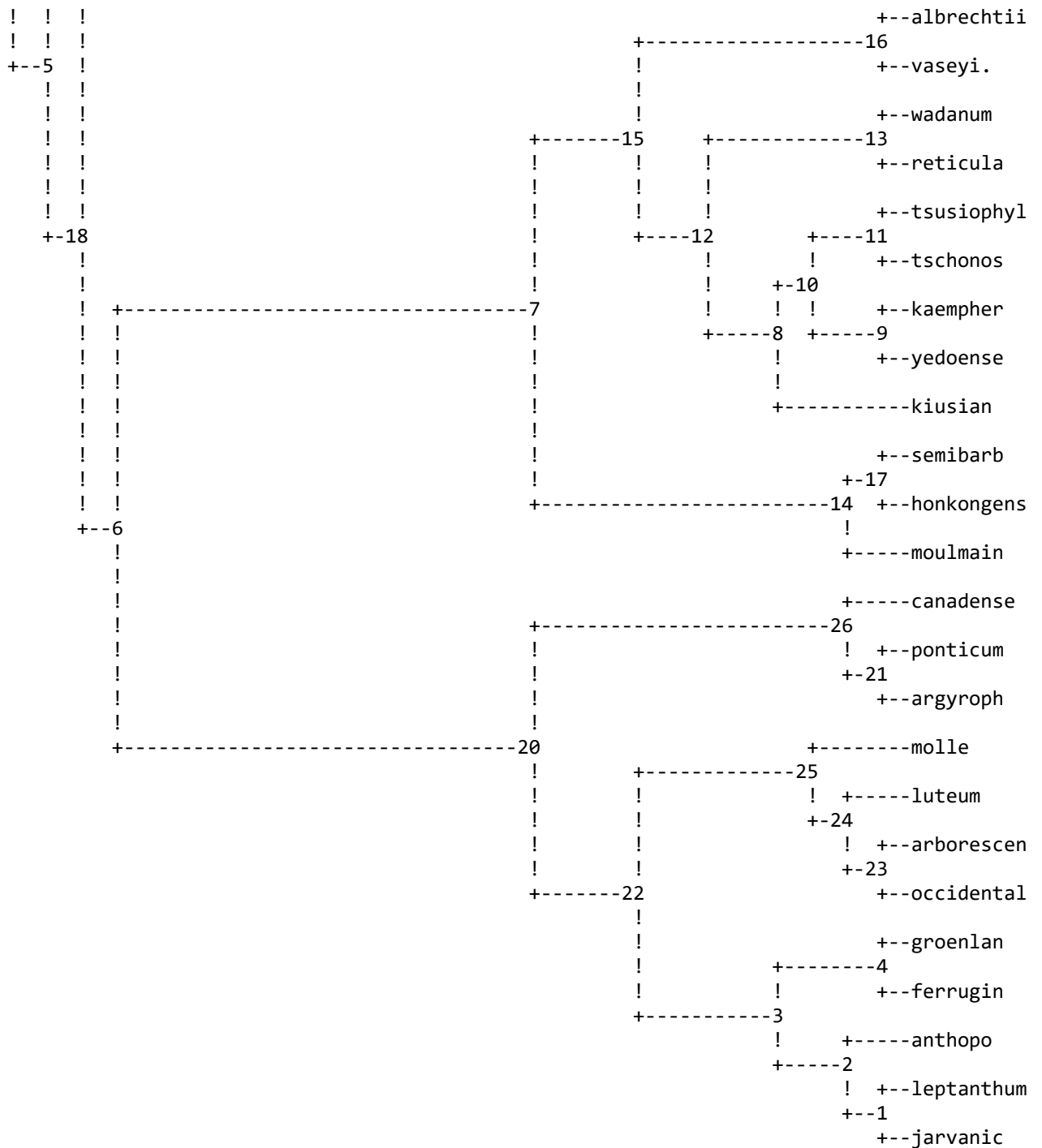
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



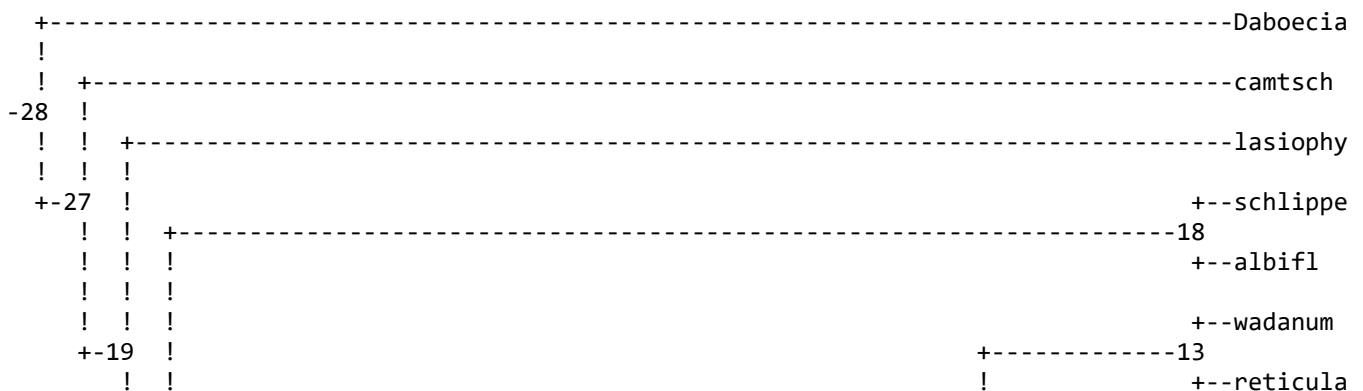






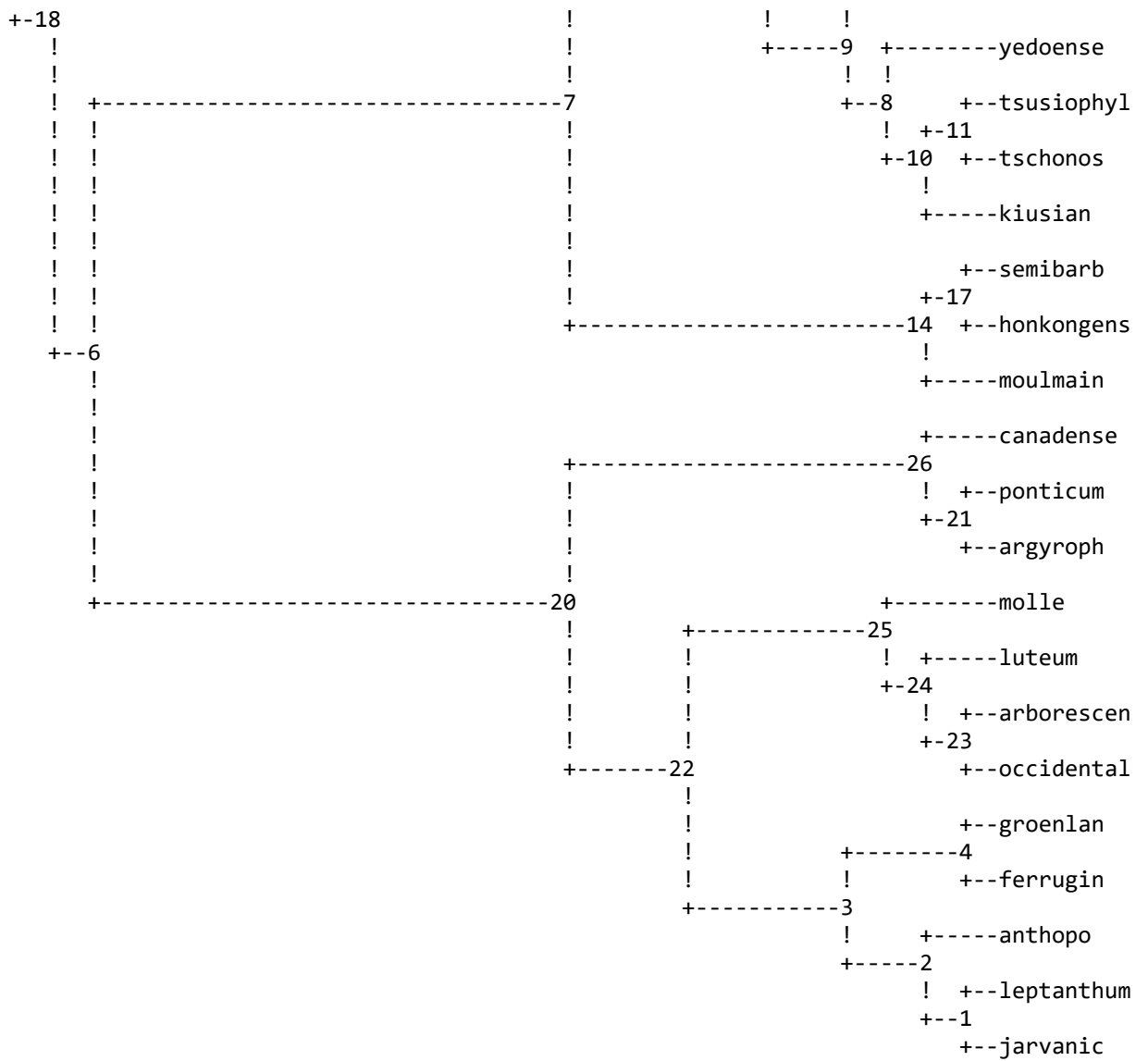
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



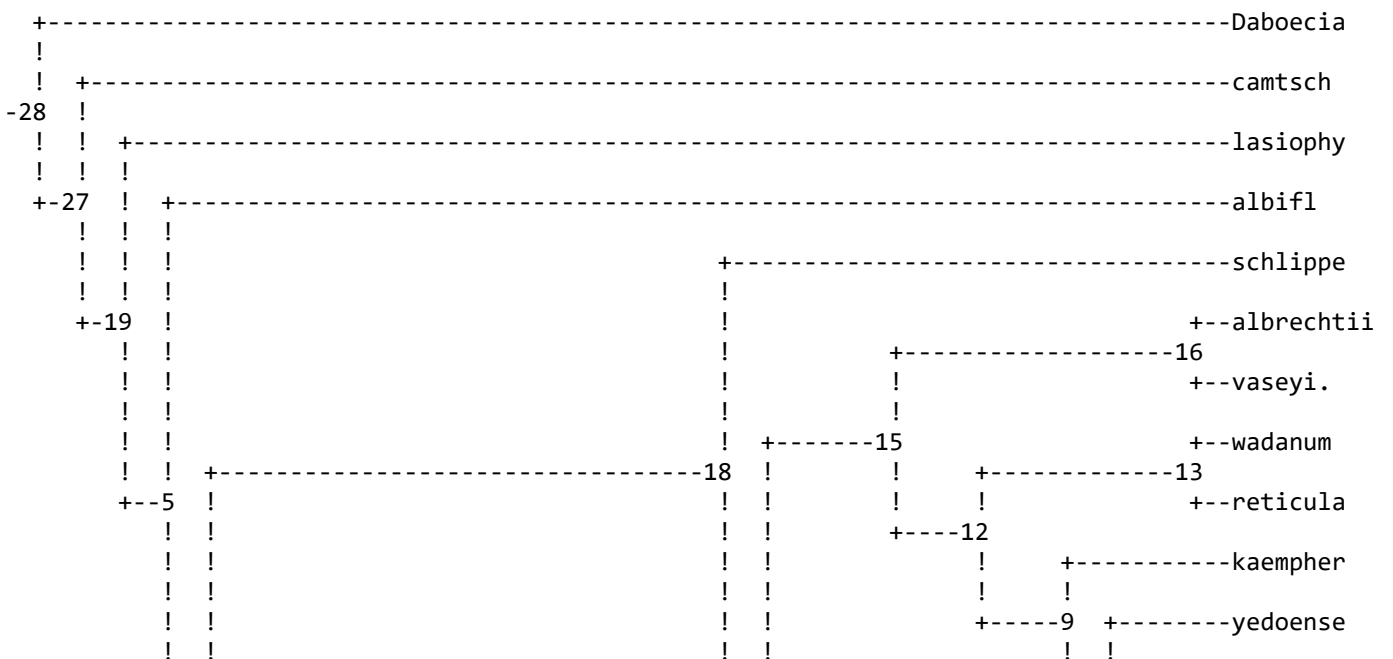


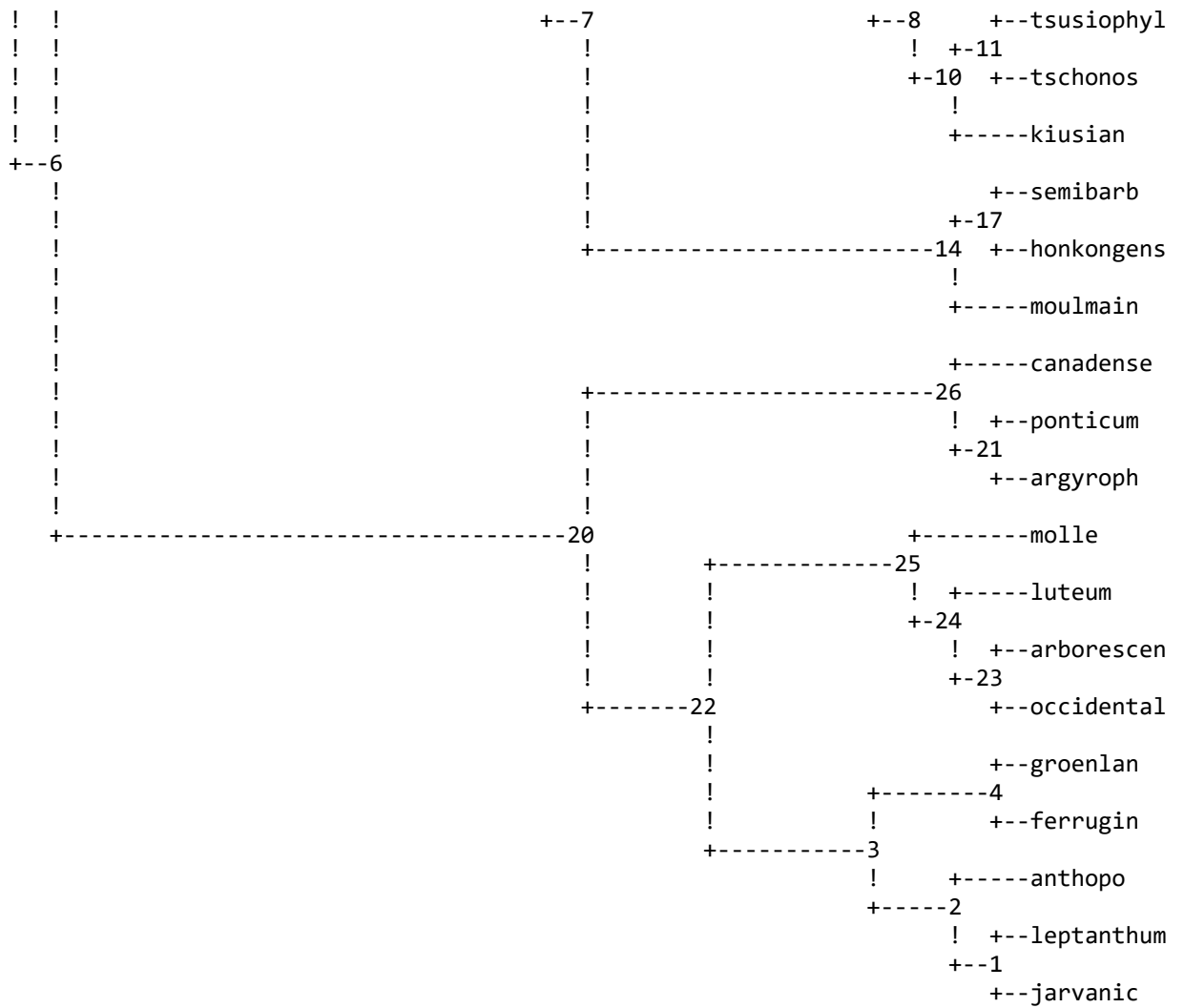




remember: (although rooted by outgroup) this is an unrooted tree!

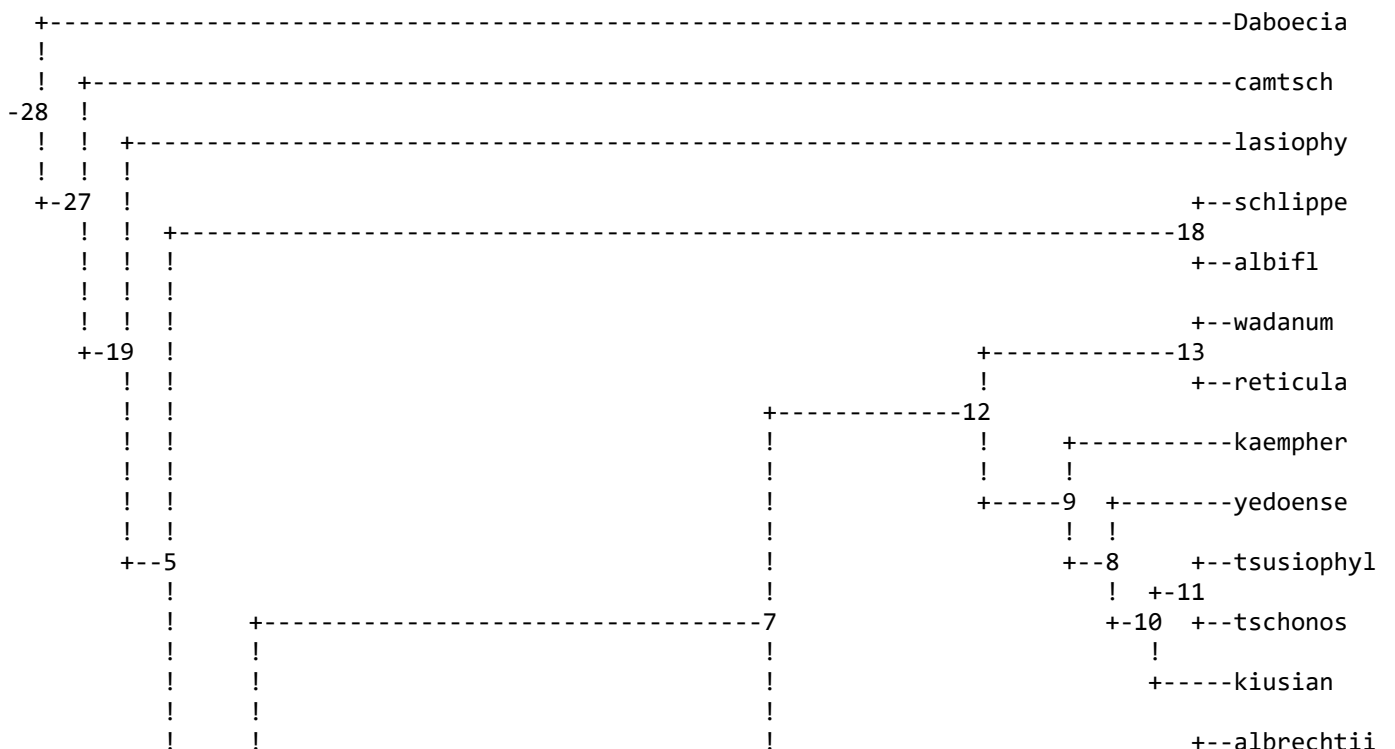
total number of compatible sites is 638.0

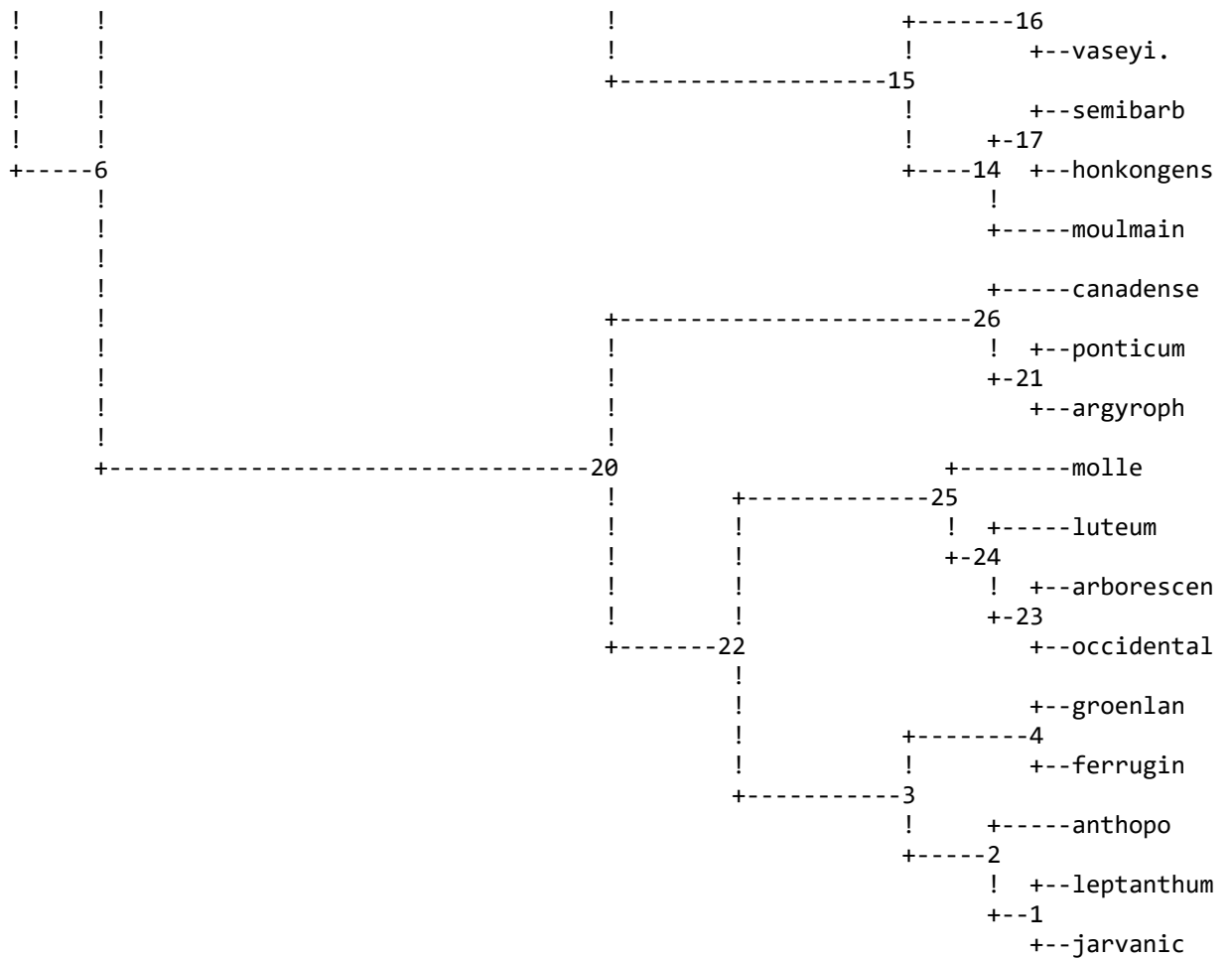




remember: (although rooted by outgroup) this is an unrooted tree!

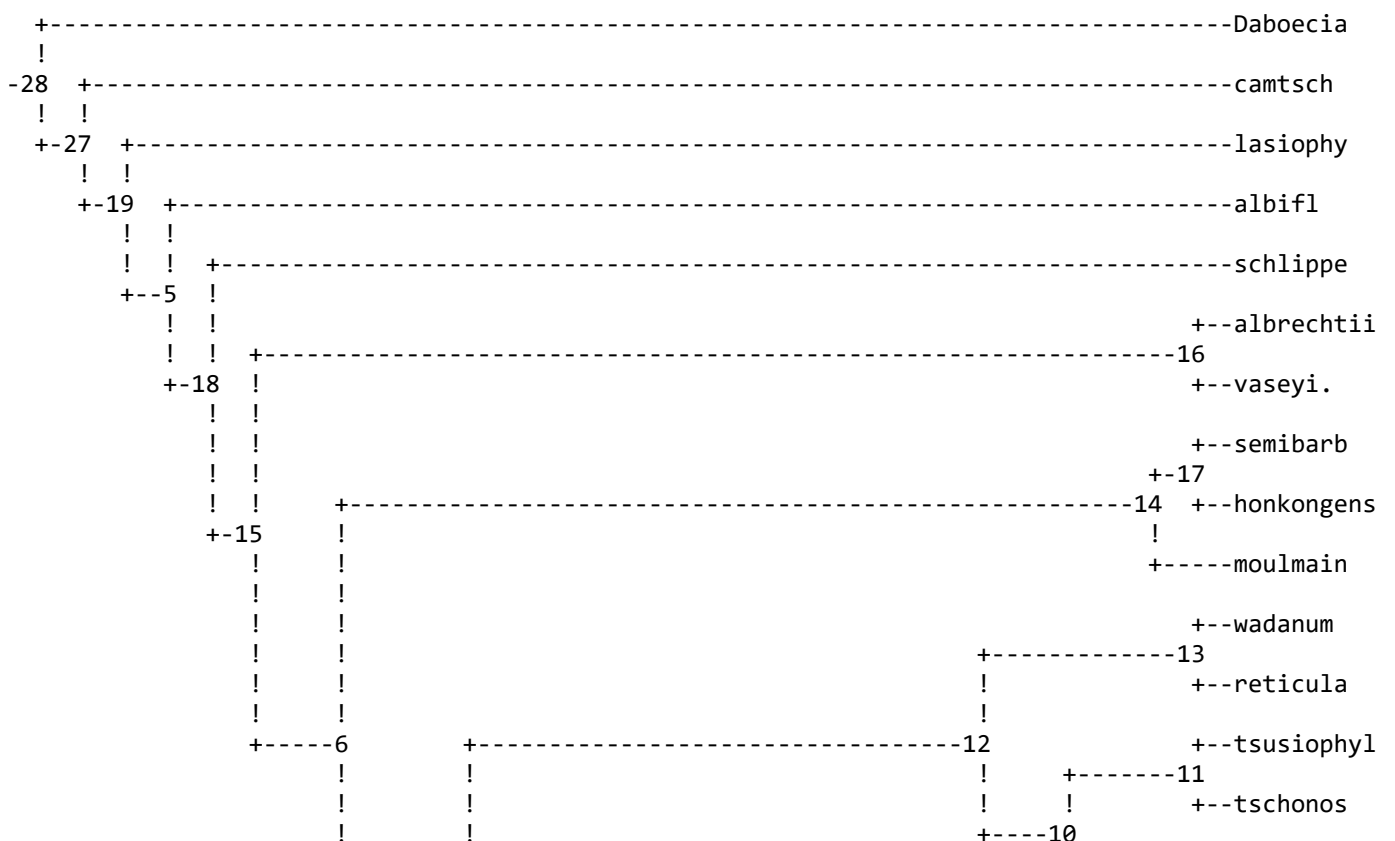
total number of compatible sites is 638.0

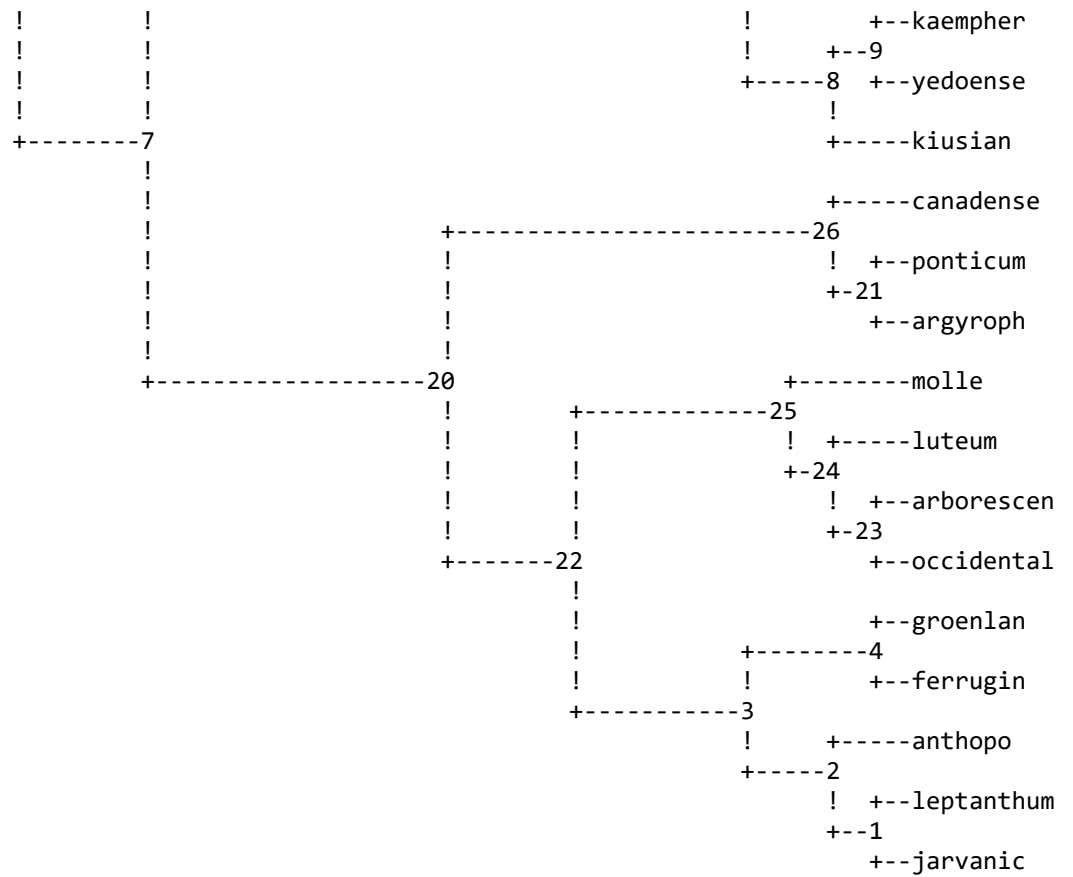




remember: (although rooted by outgroup) this is an unrooted tree!

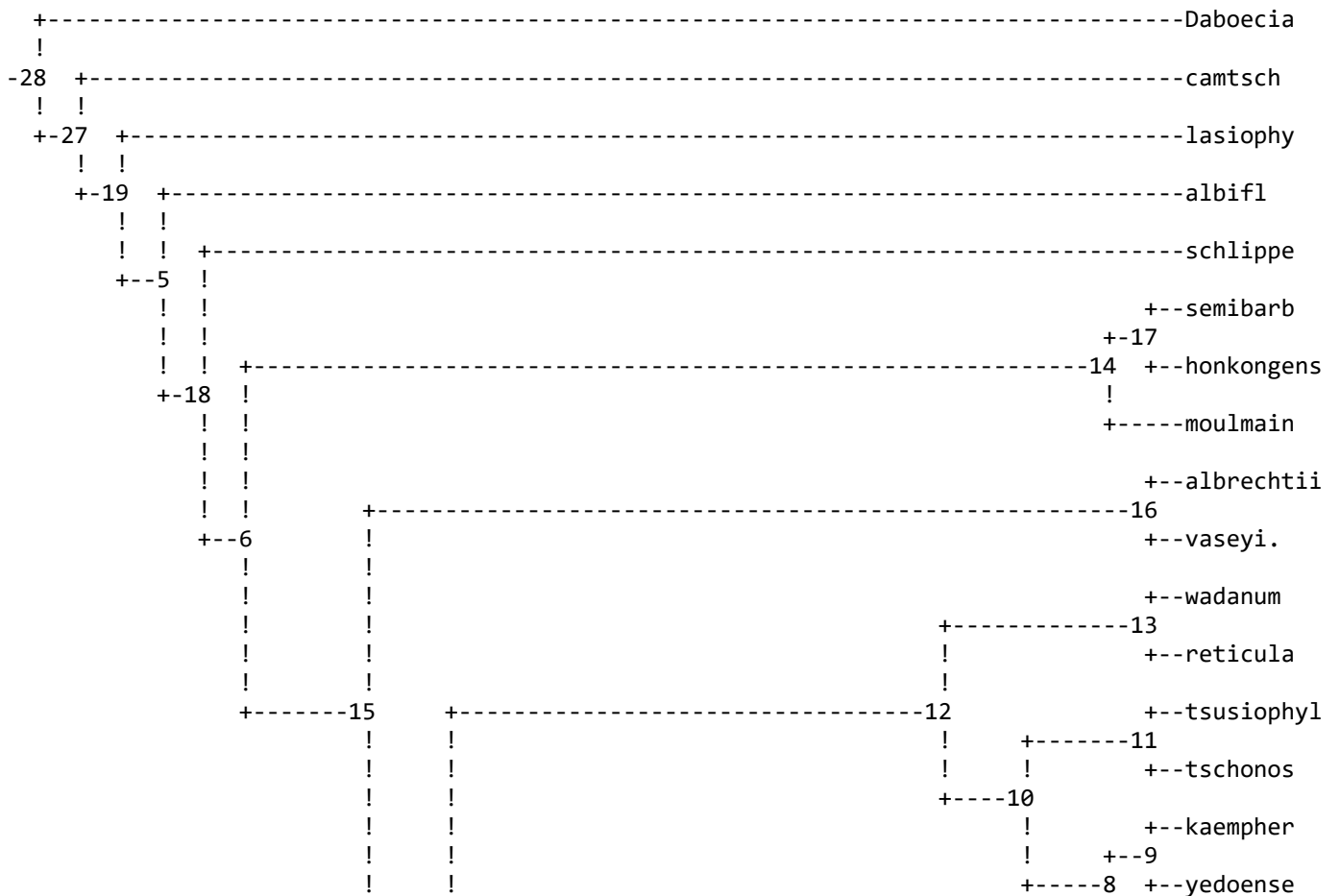
total number of compatible sites is 638.0





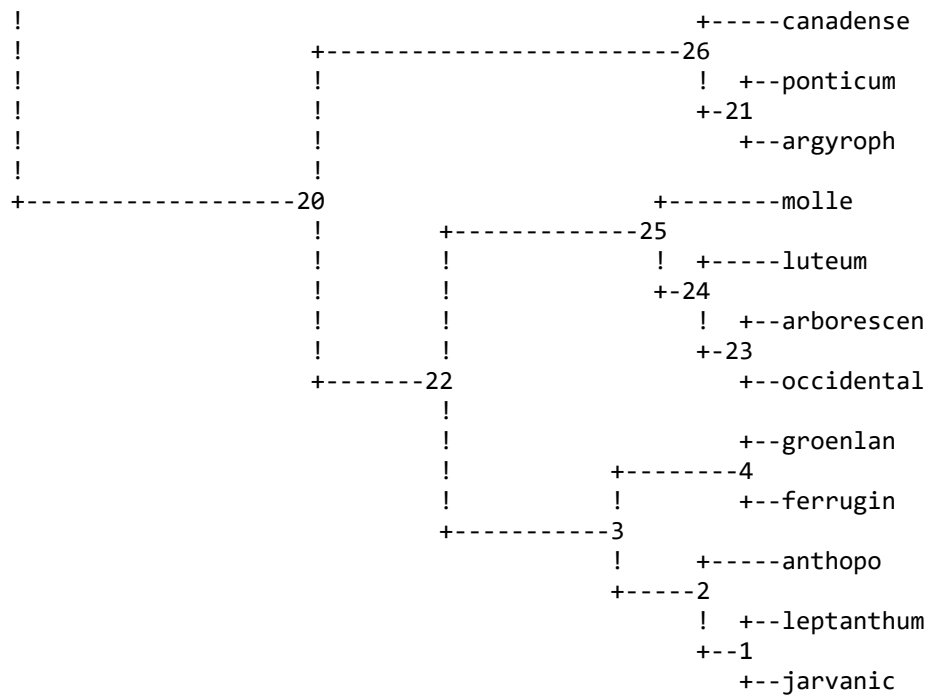
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



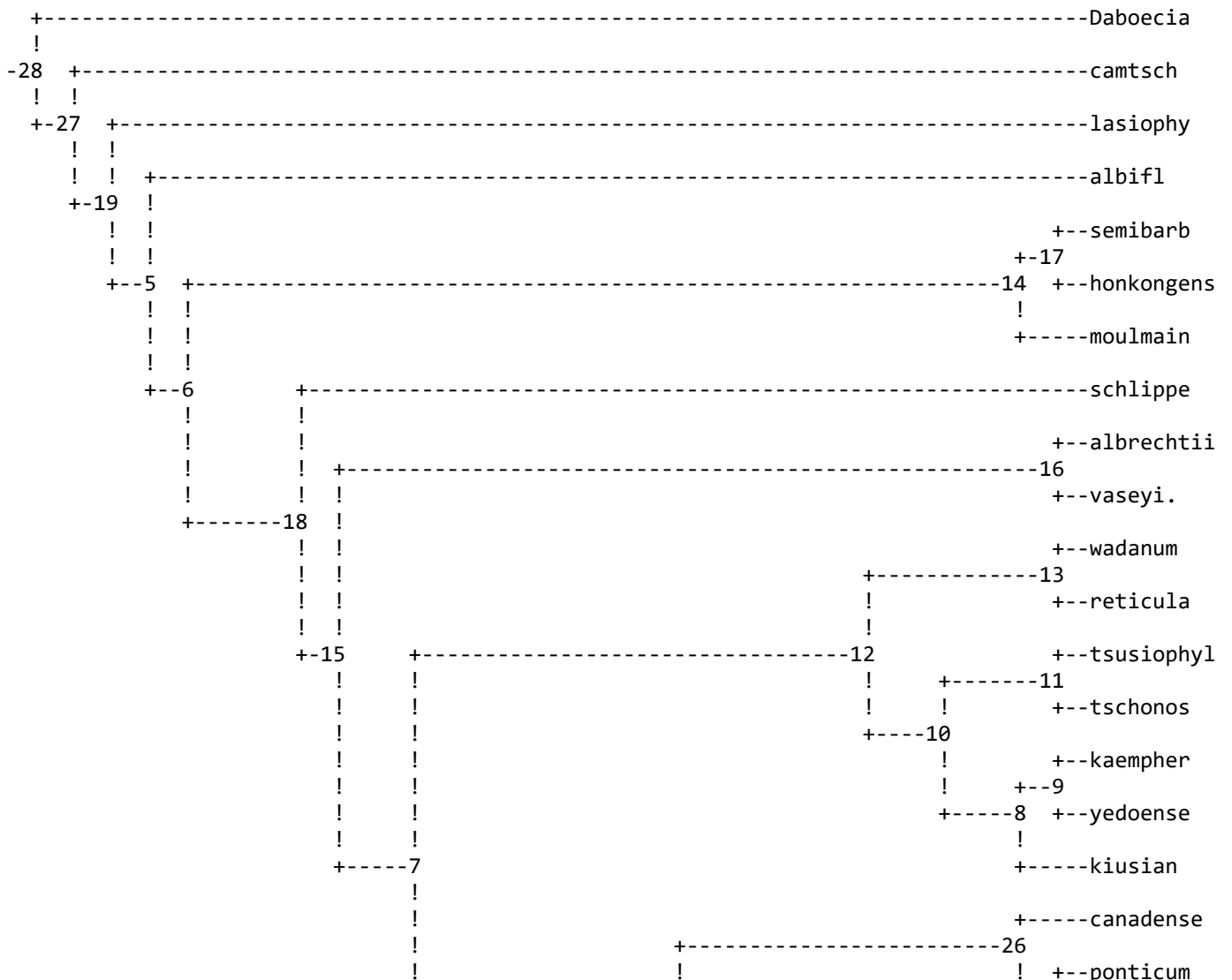




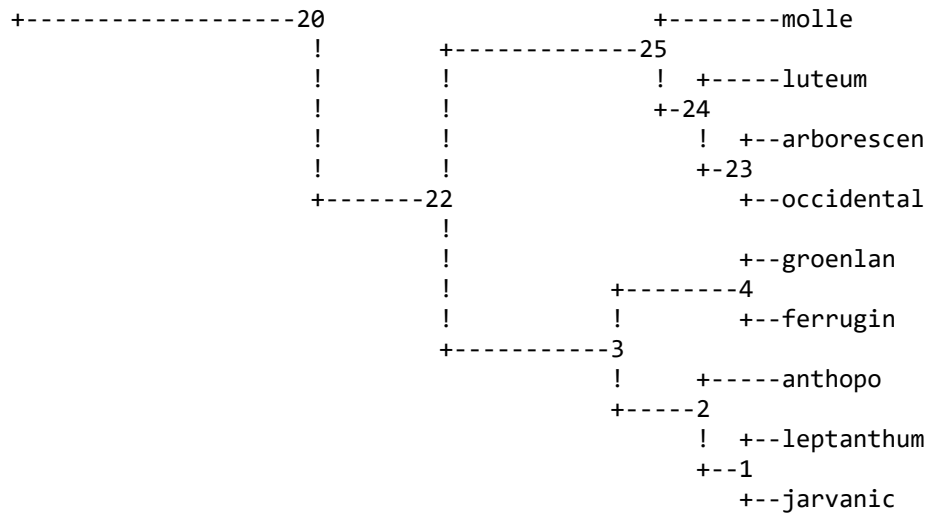


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

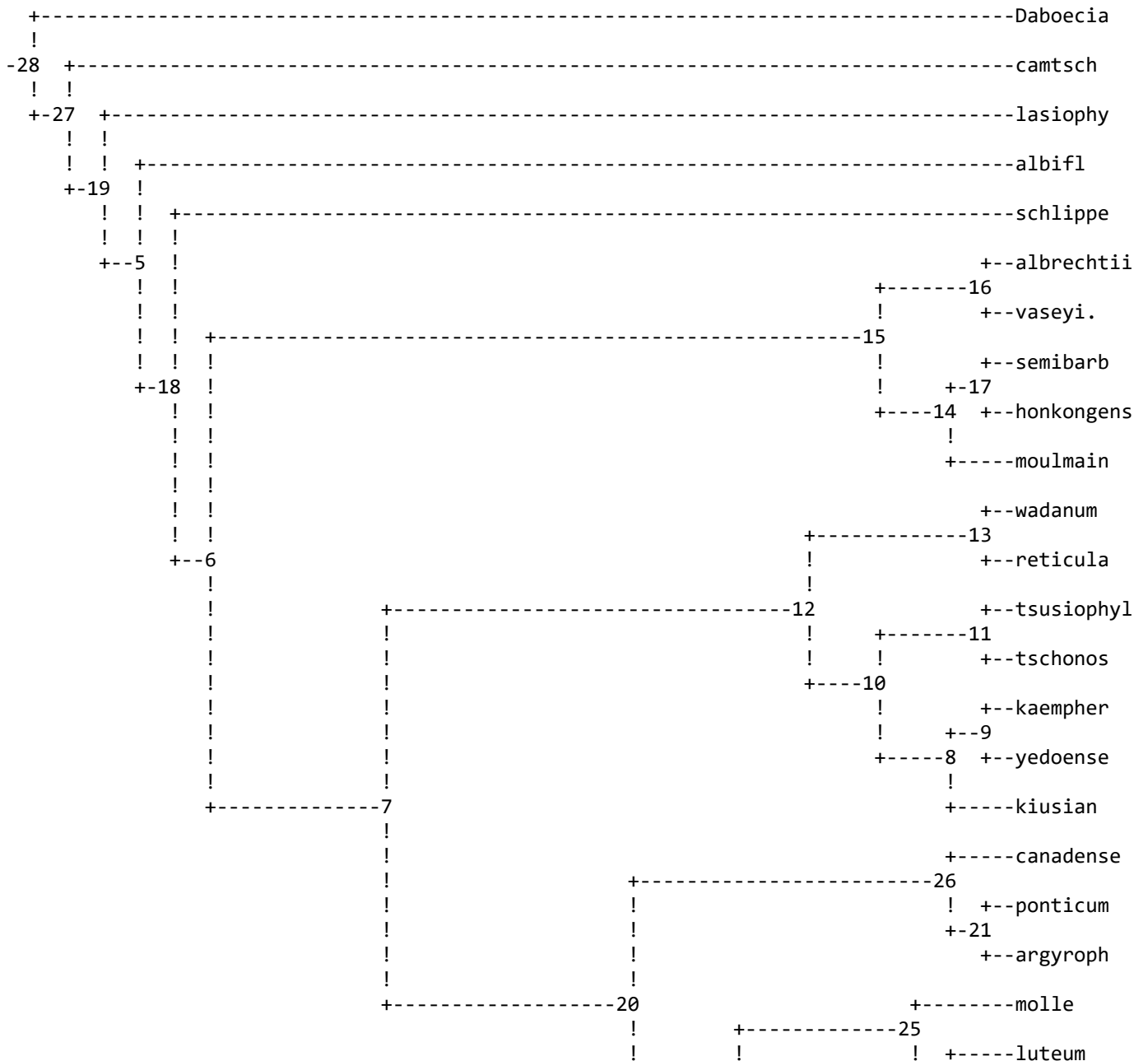


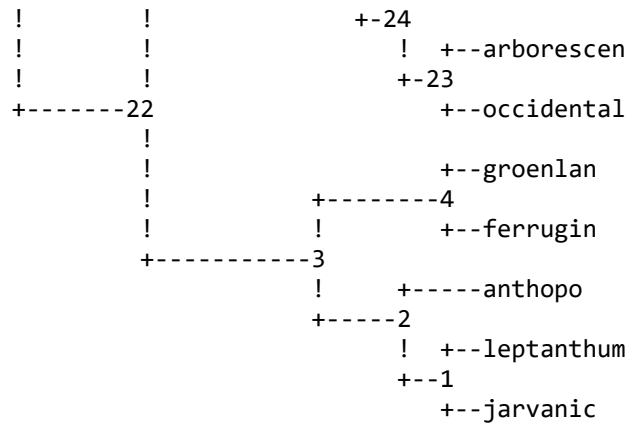




remember: (although rooted by outgroup) this is an unrooted tree!

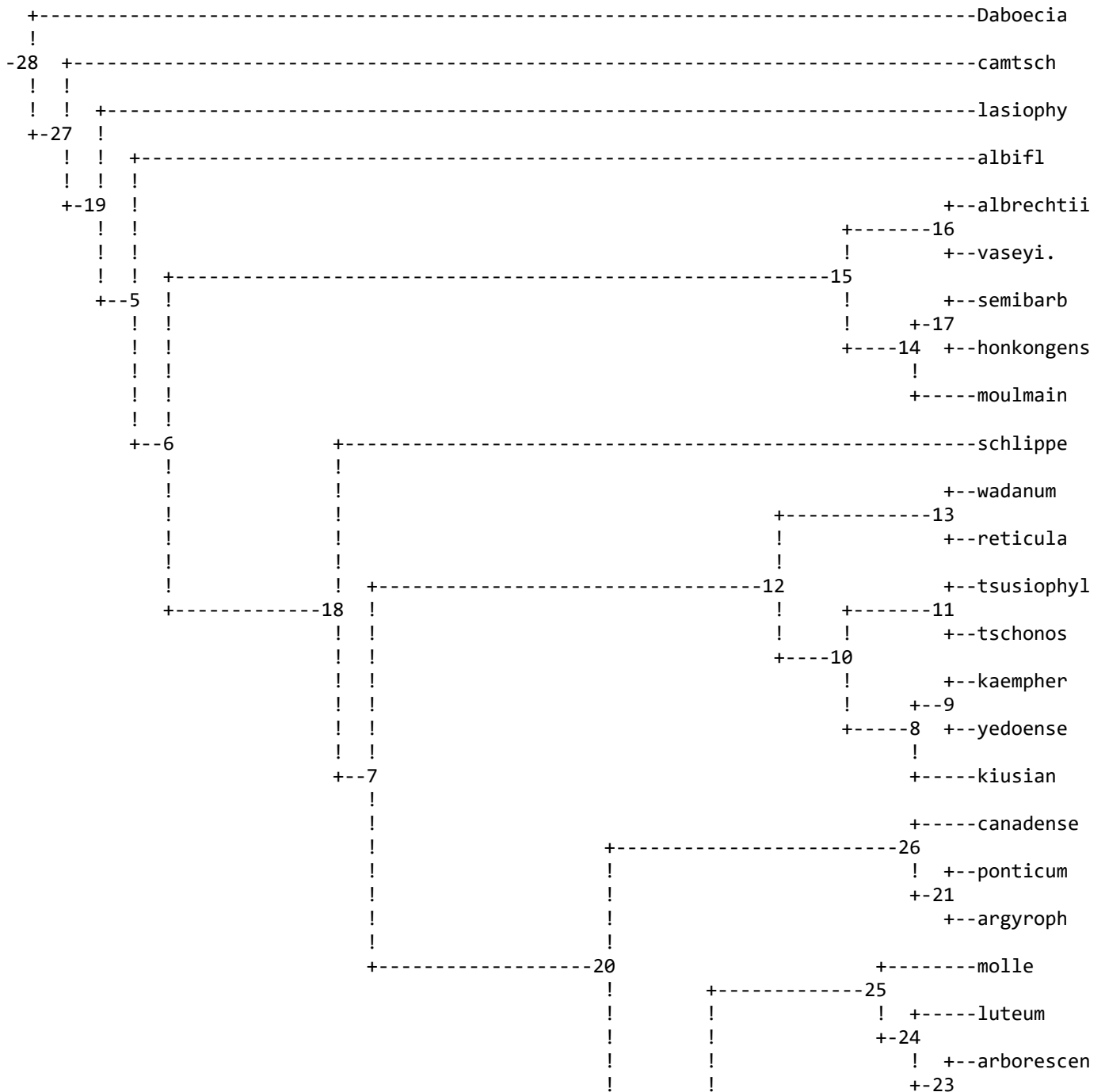
total number of compatible sites is 638.0





remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0





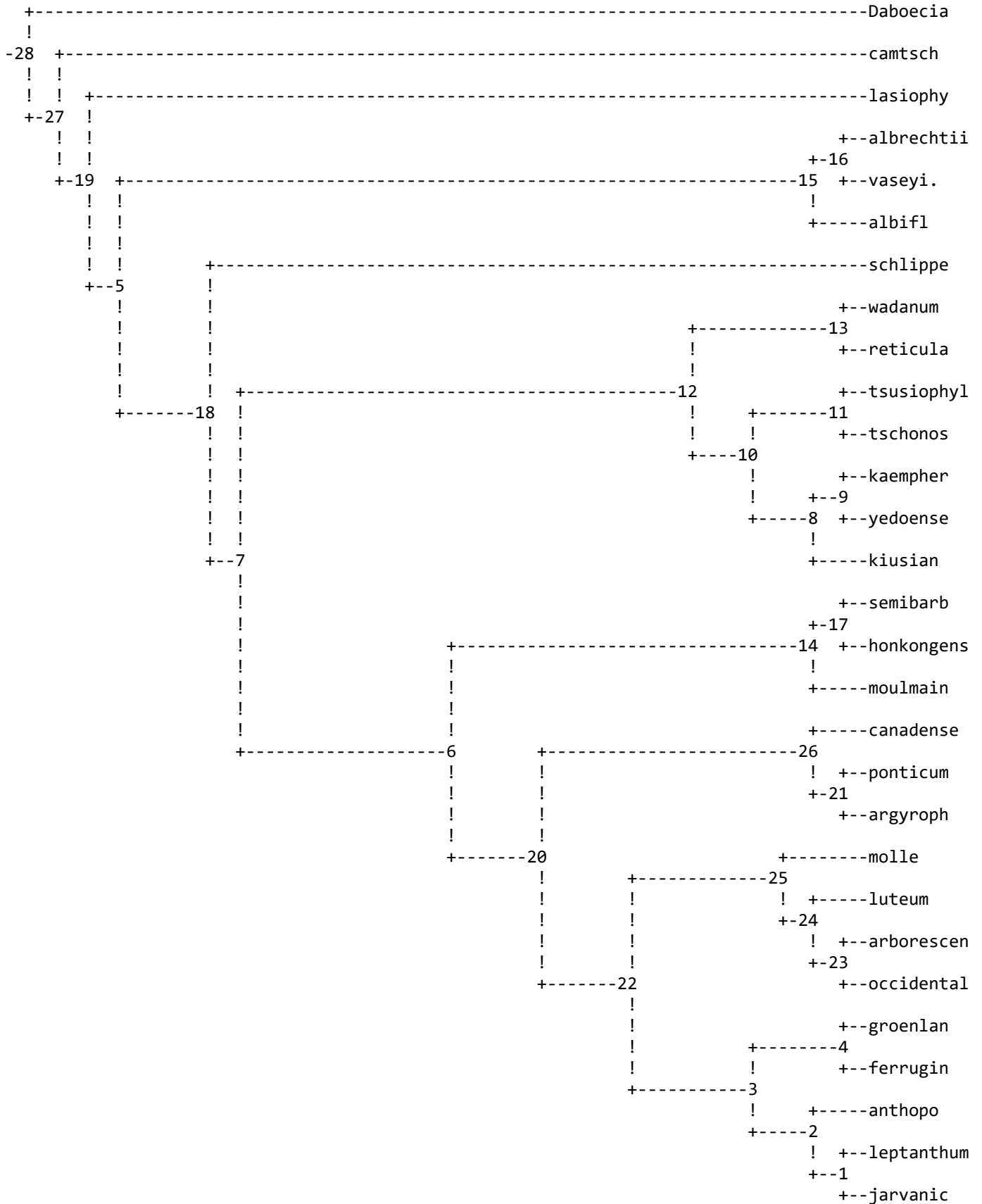




+-1  
+-jarvanic

remember: (although rooted by outgroup) this is an unrooted tree!

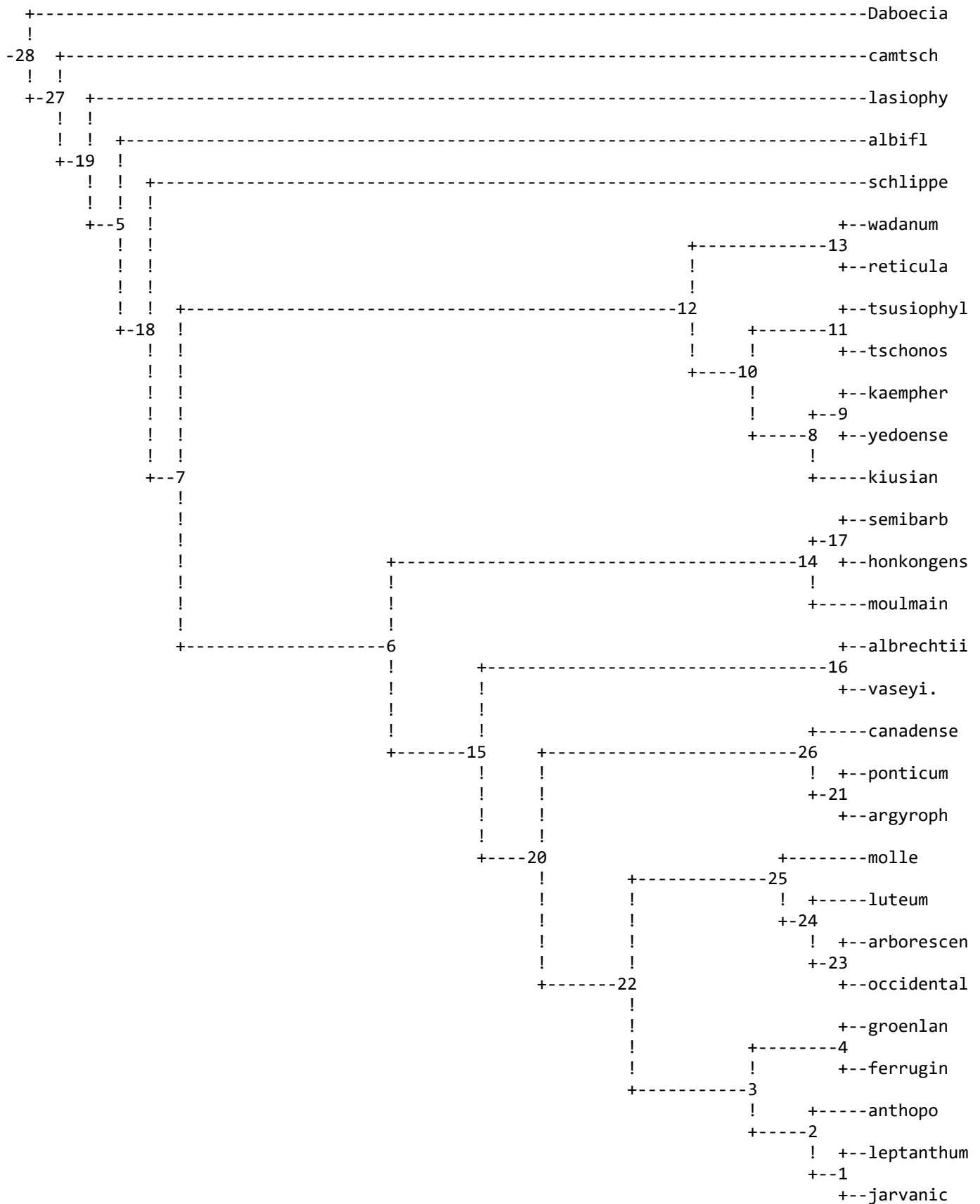
total number of compatible sites is 638.0





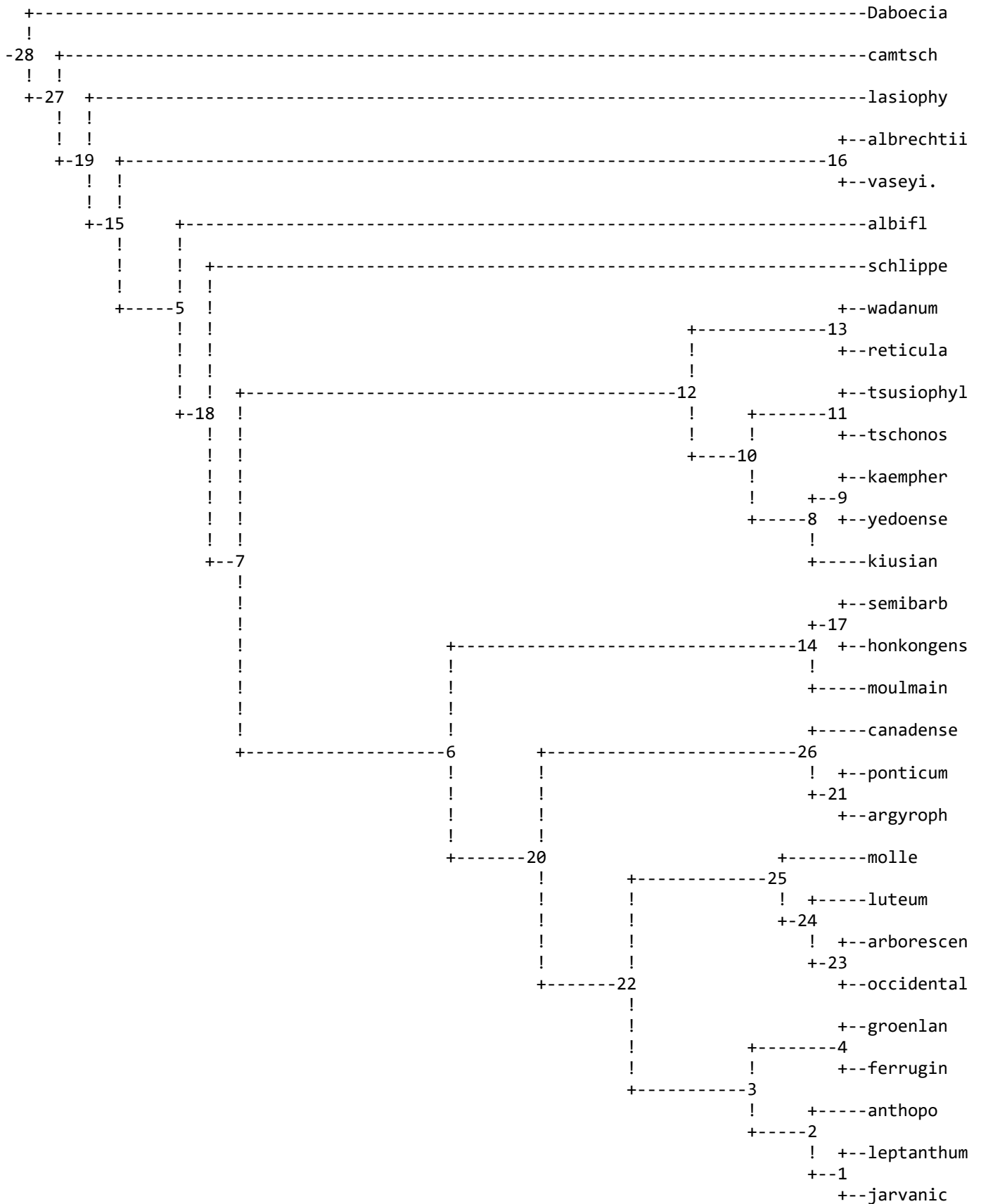
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



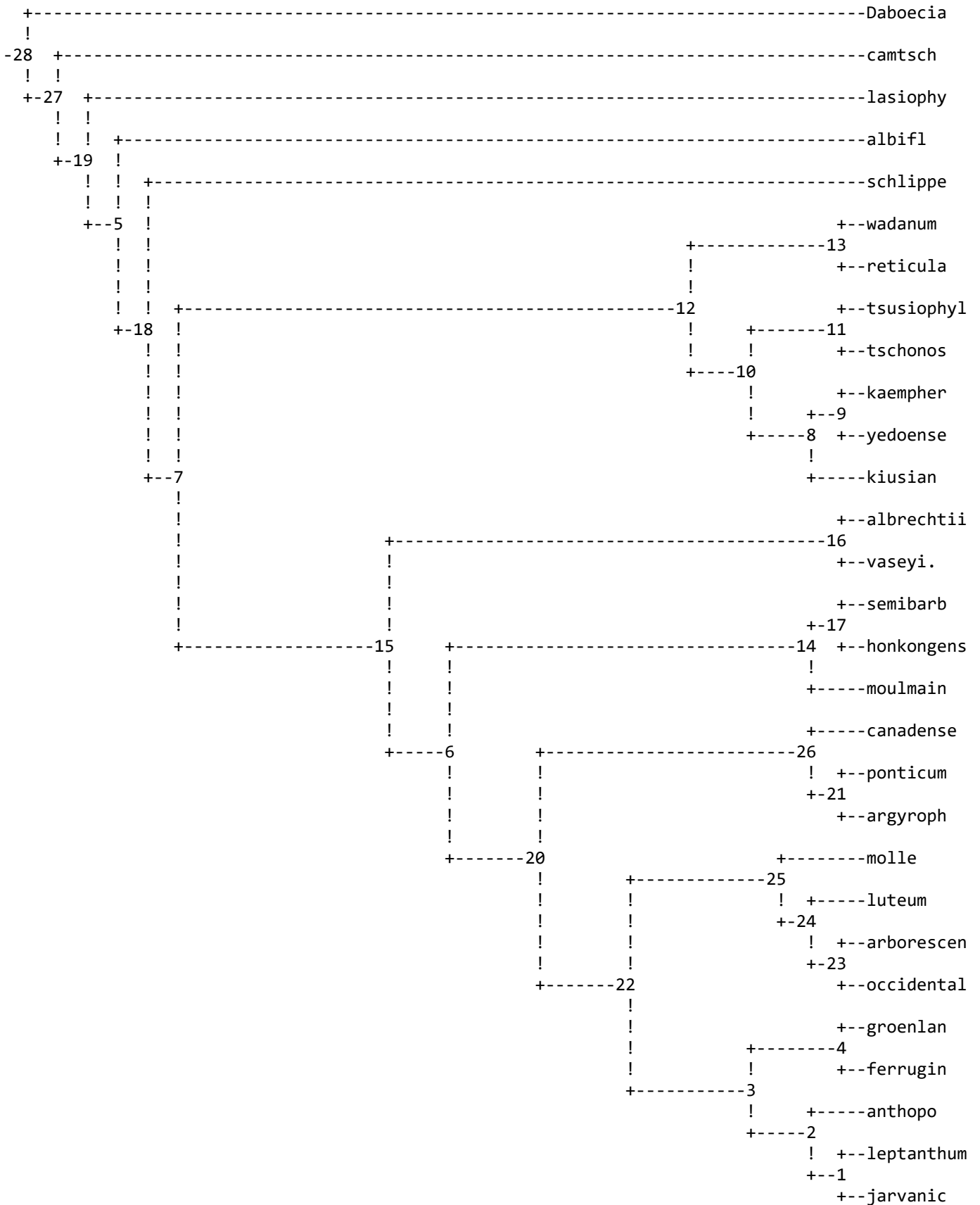
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

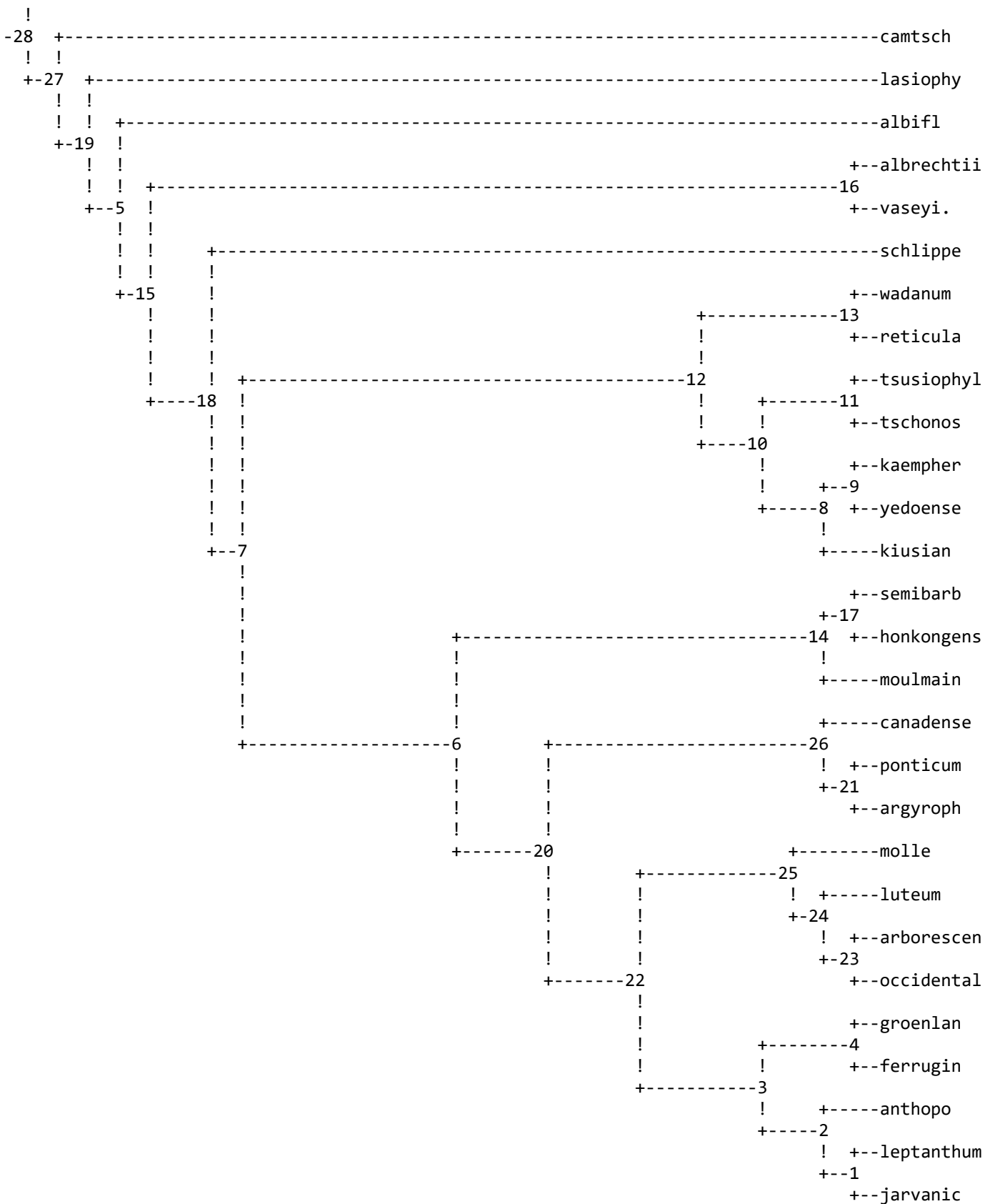
total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

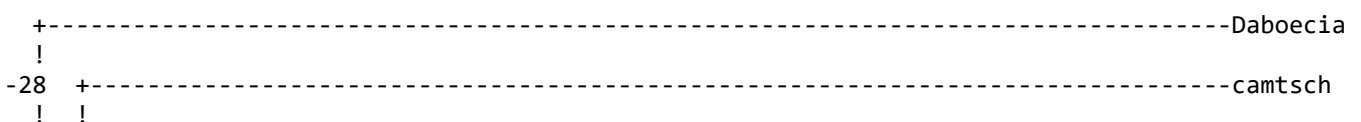
total number of compatible sites is 638.0

+-----Daboecia

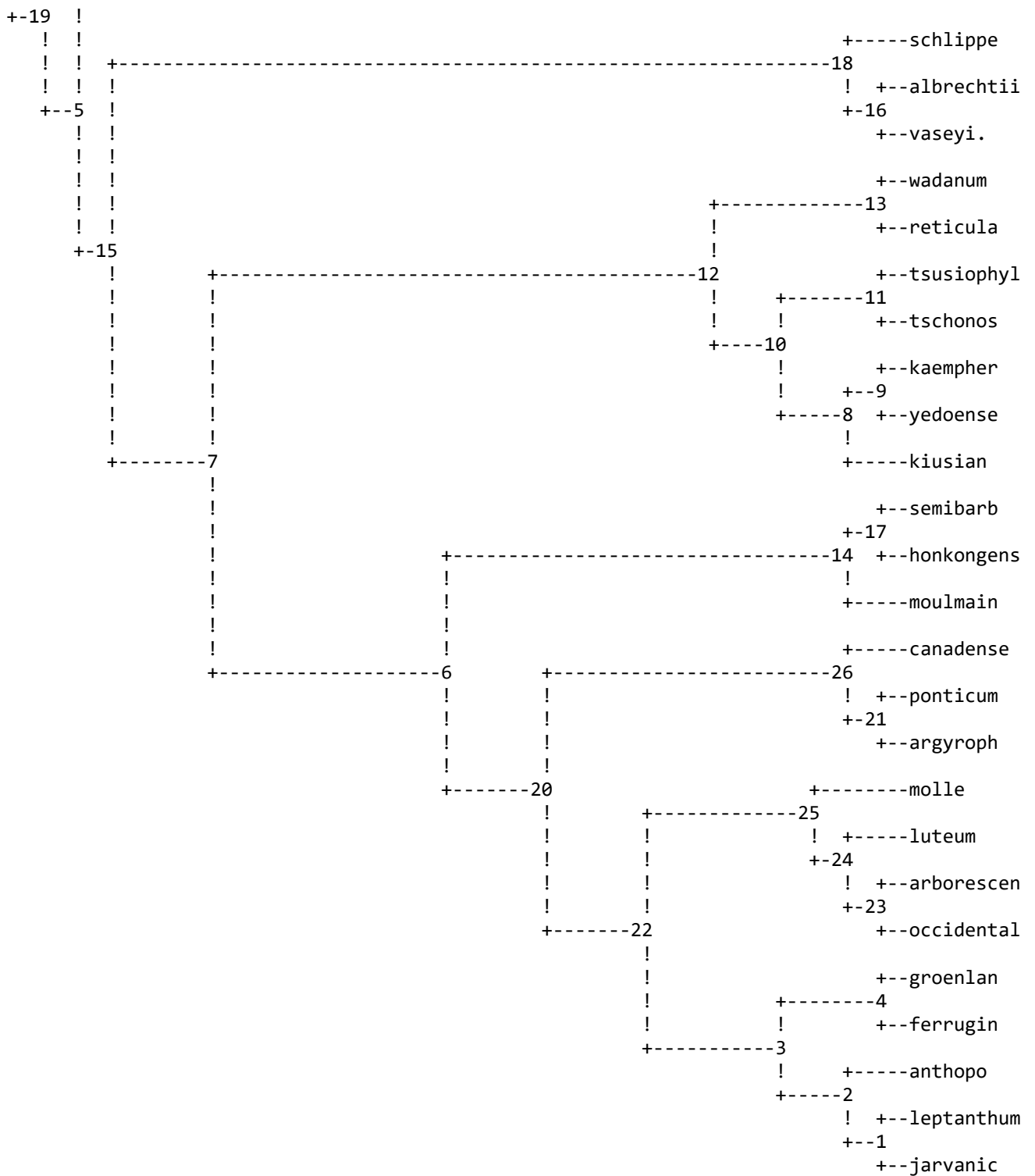


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

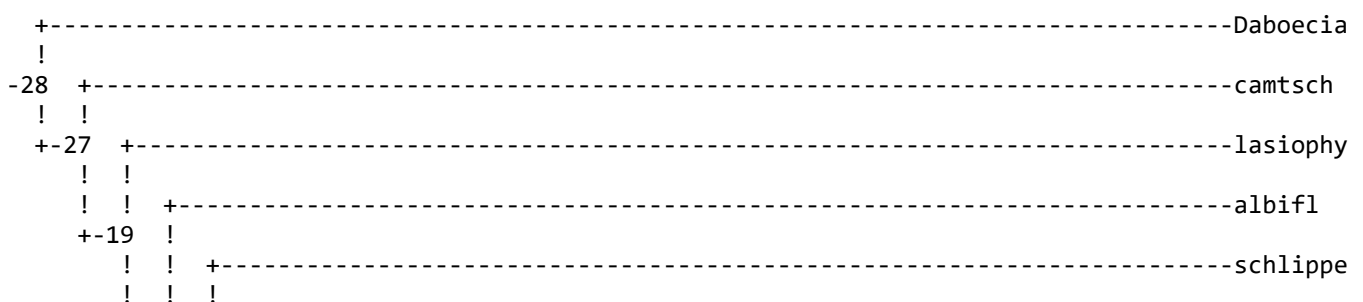




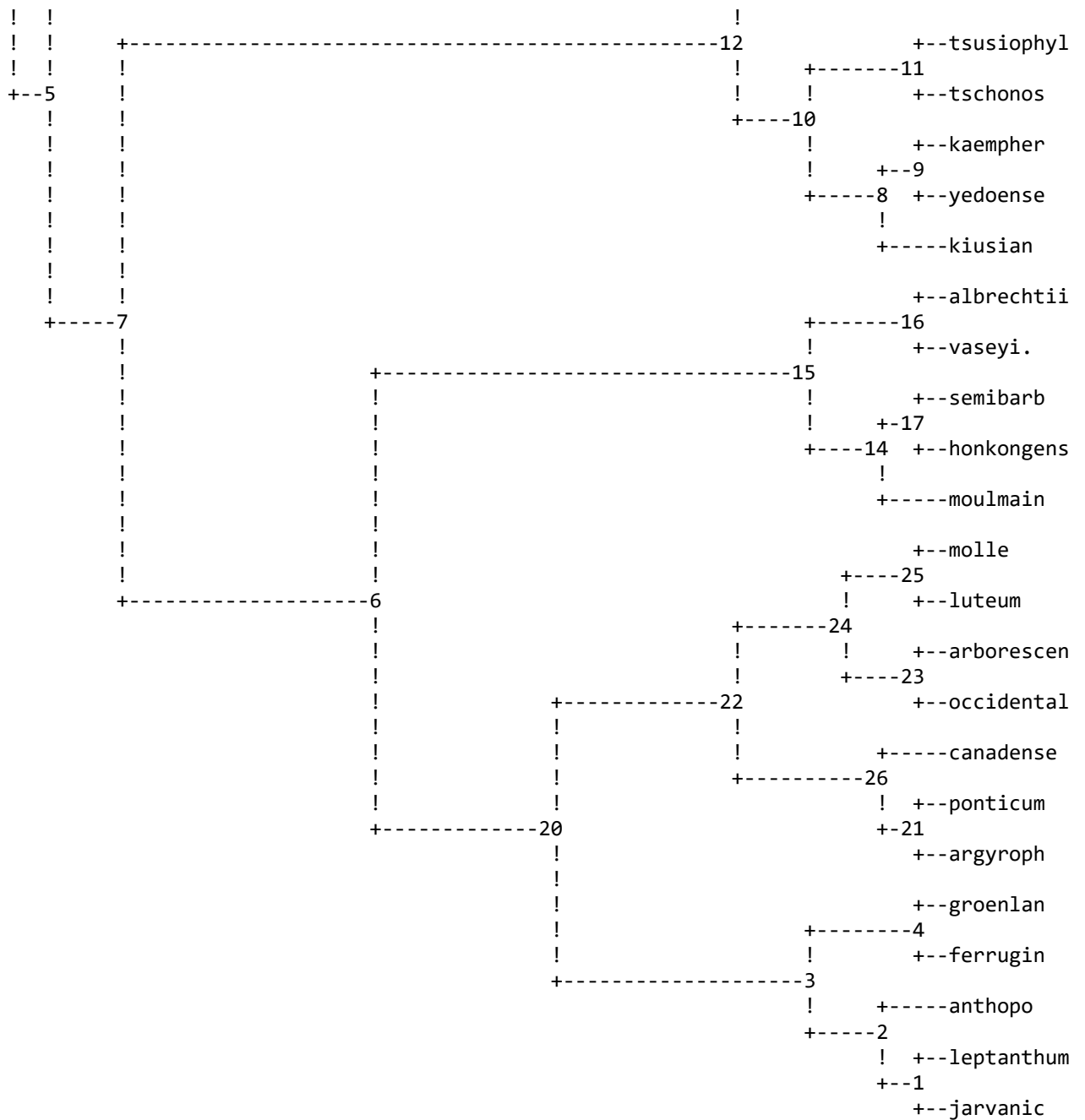


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

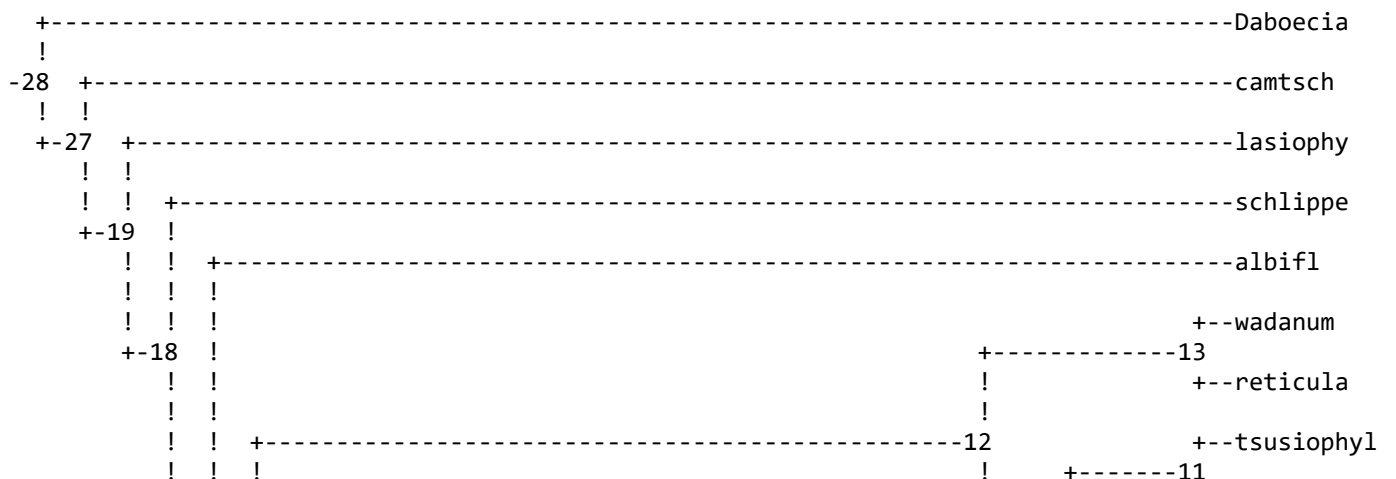




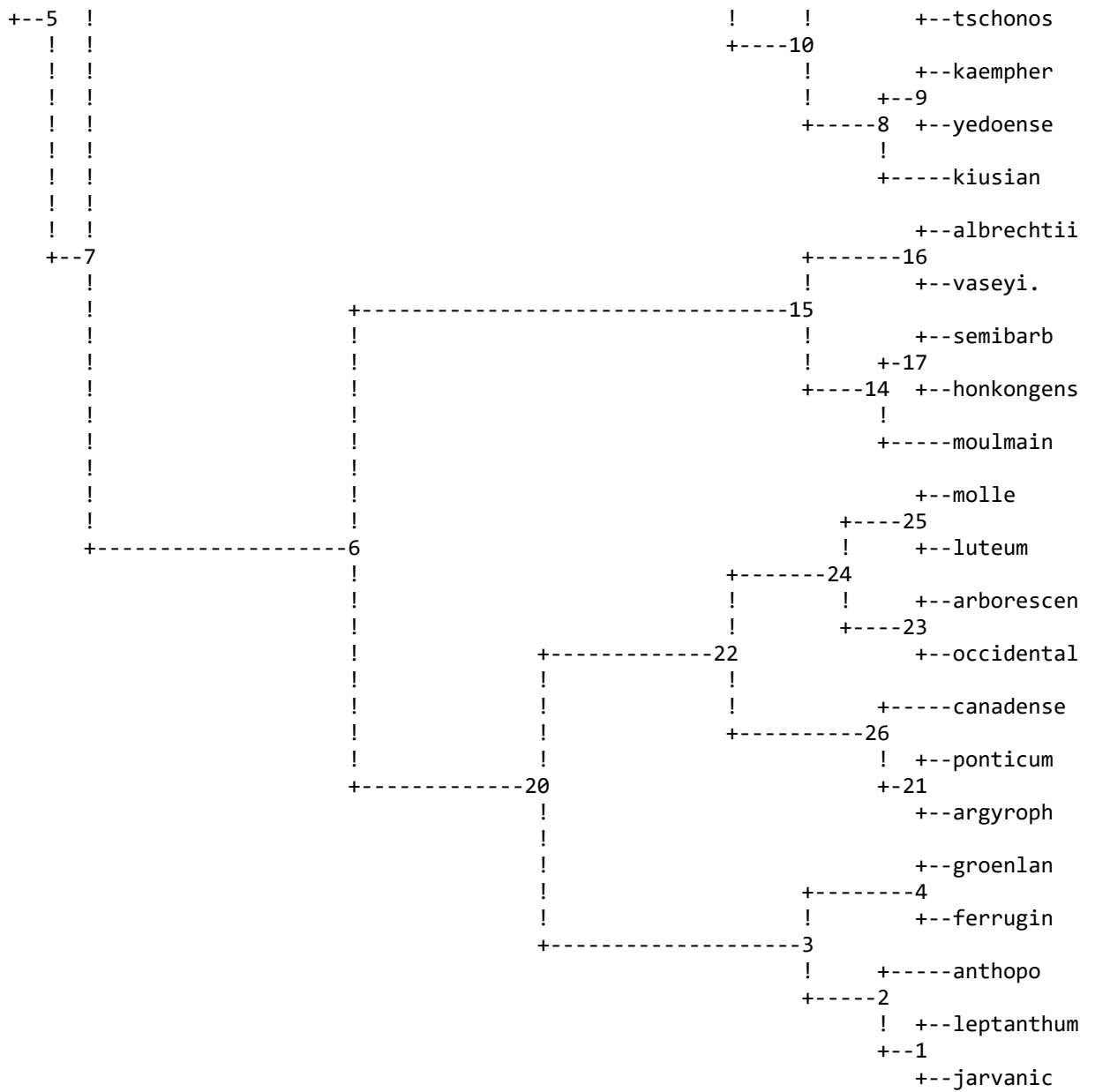


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

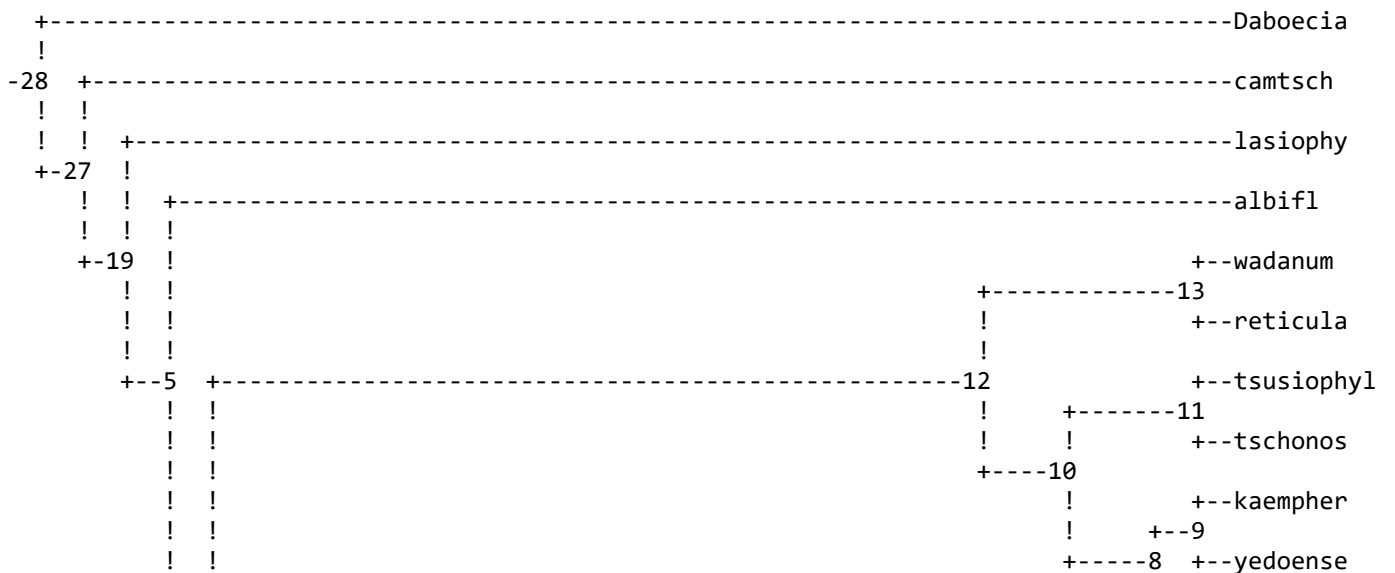




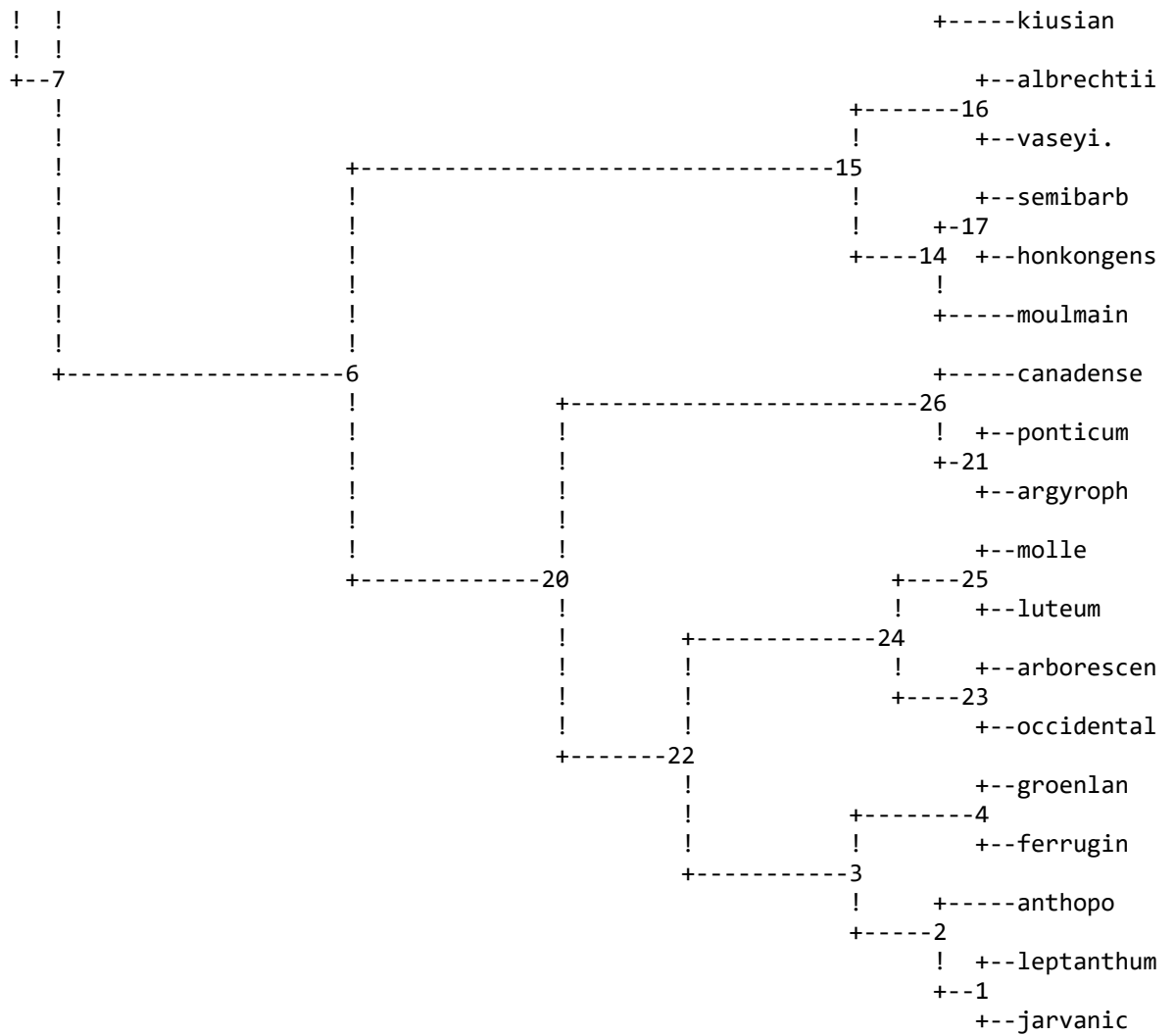


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

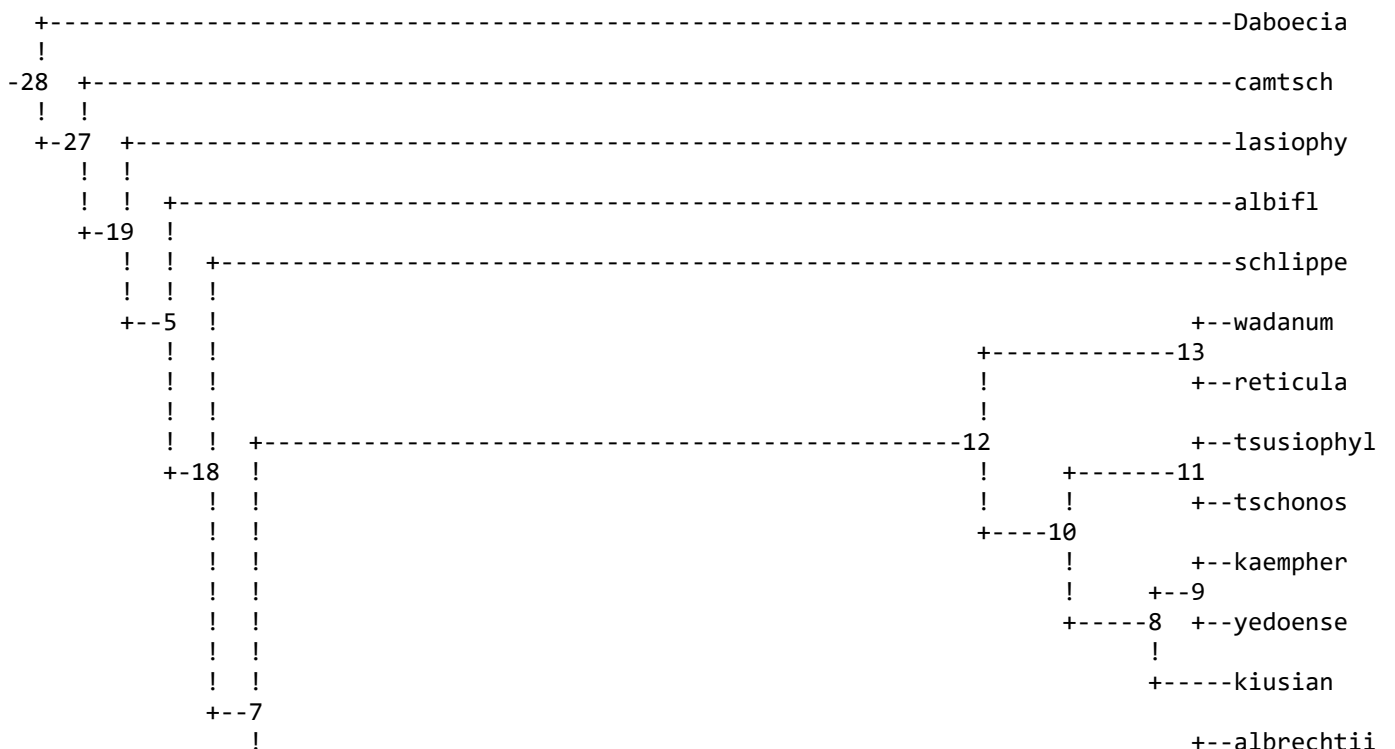




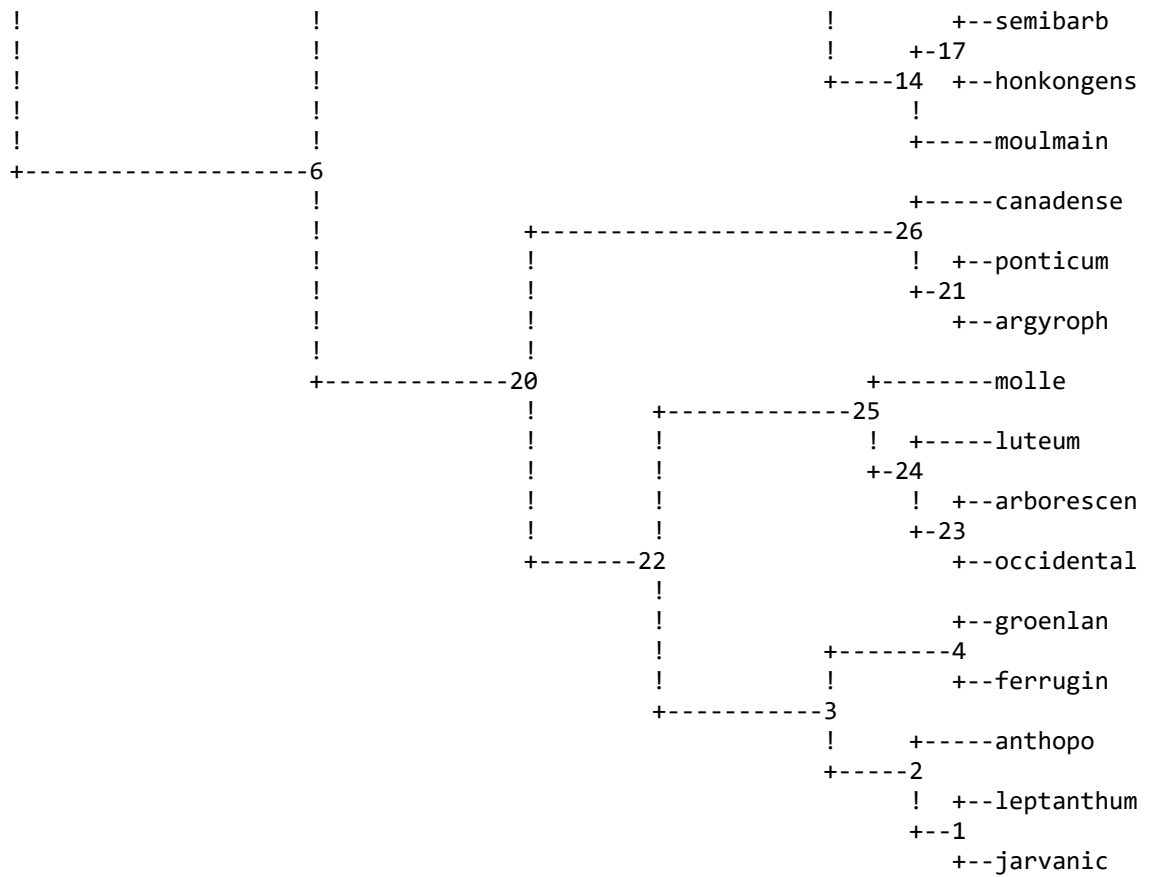


remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

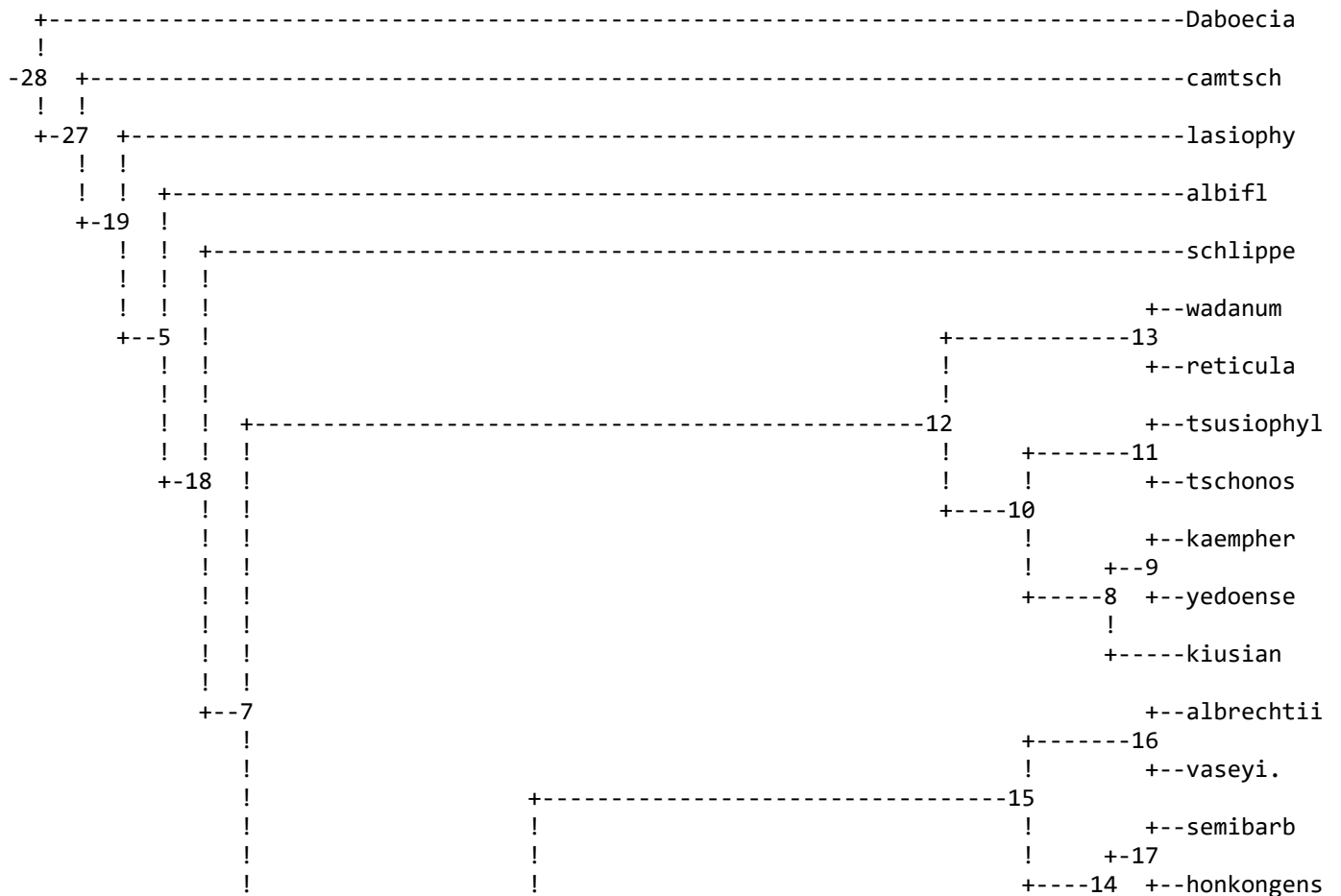


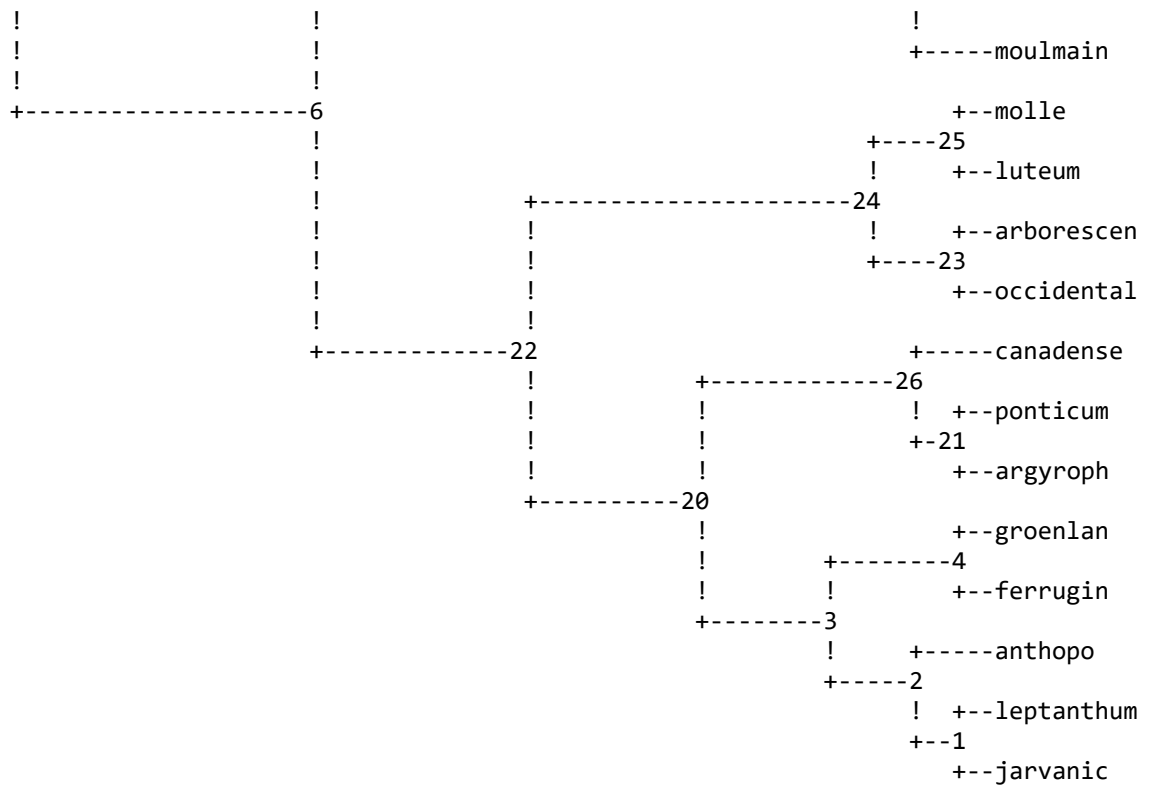




remember: (although rooted by outgroup) this is an unrooted tree!

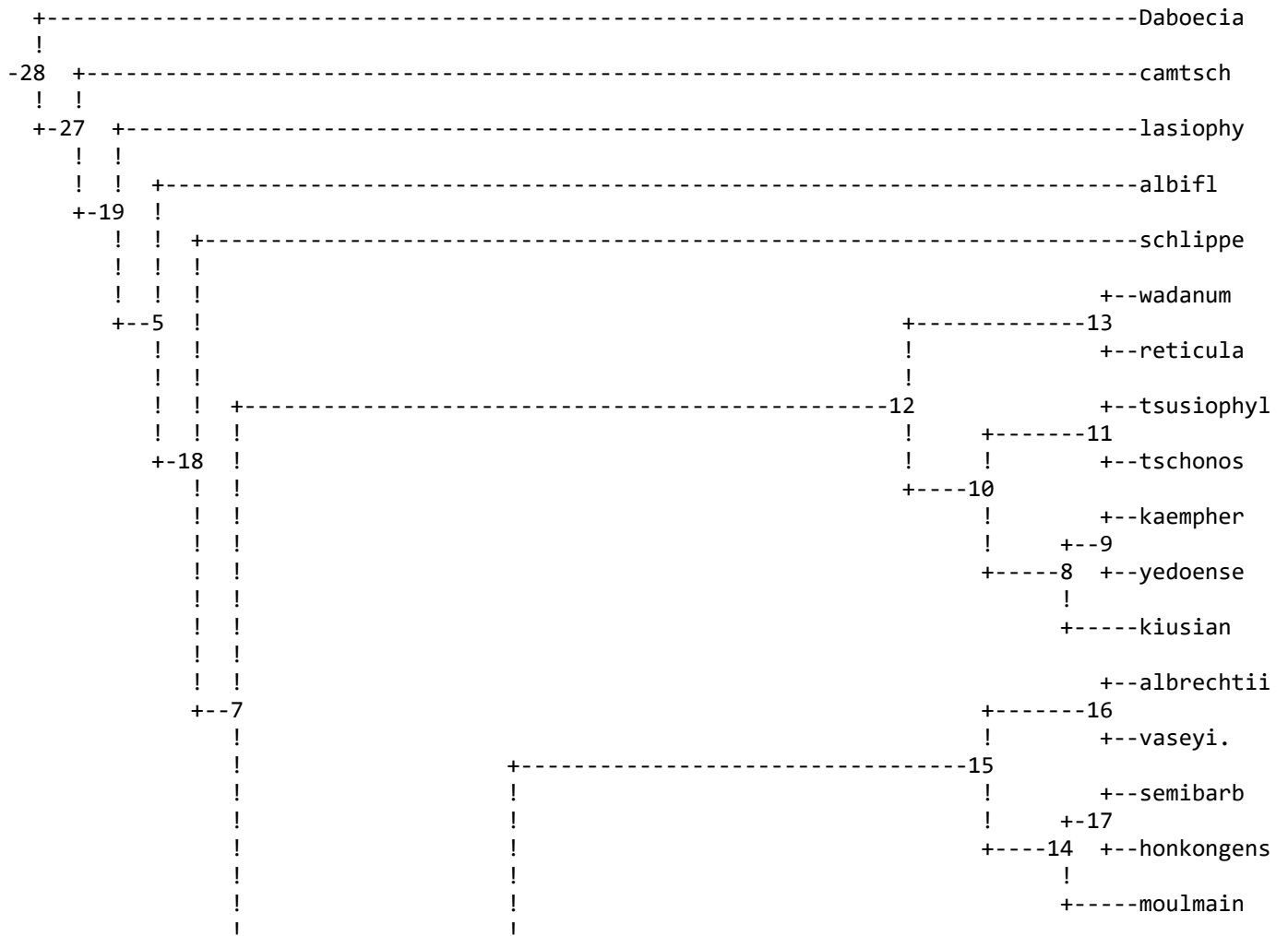
total number of compatible sites is 638.0





remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0





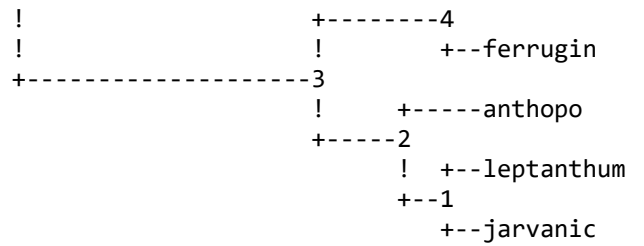






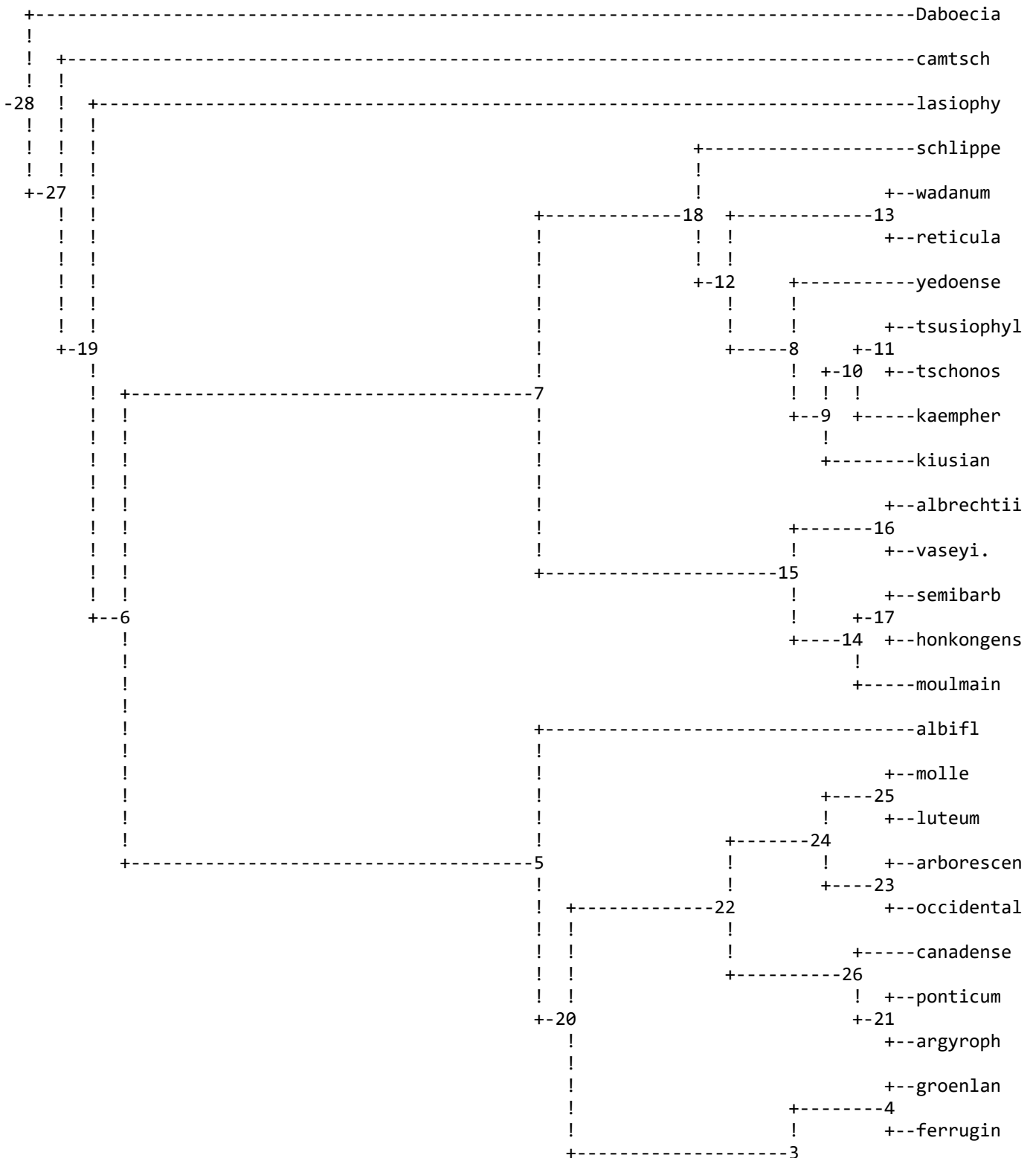






remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0



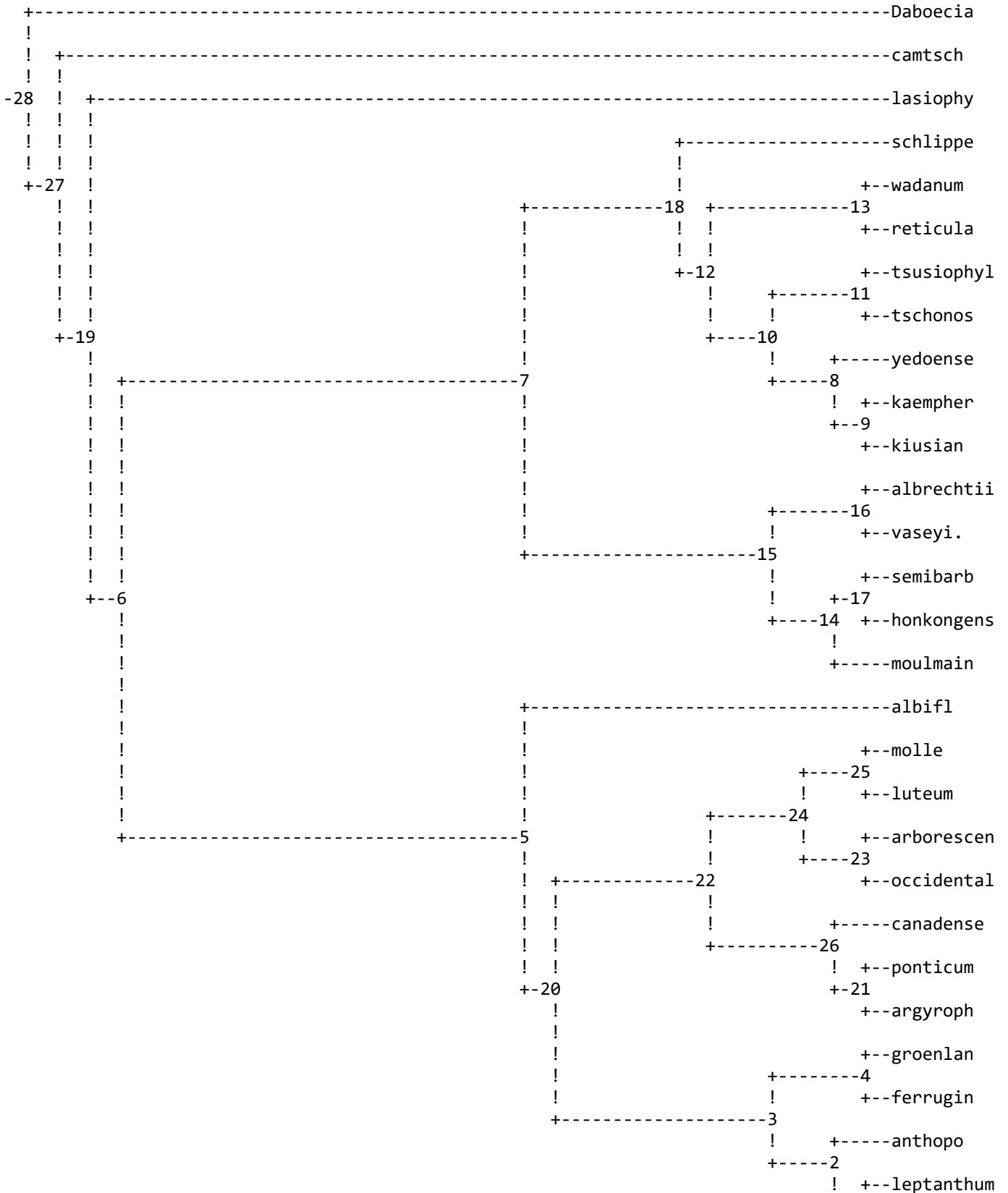
```

! +-----anthopo
+-----2
! +---leptanthum
+--1
+---jarvanic

```

remember: (although rooted by outgroup) this is an unrooted tree!

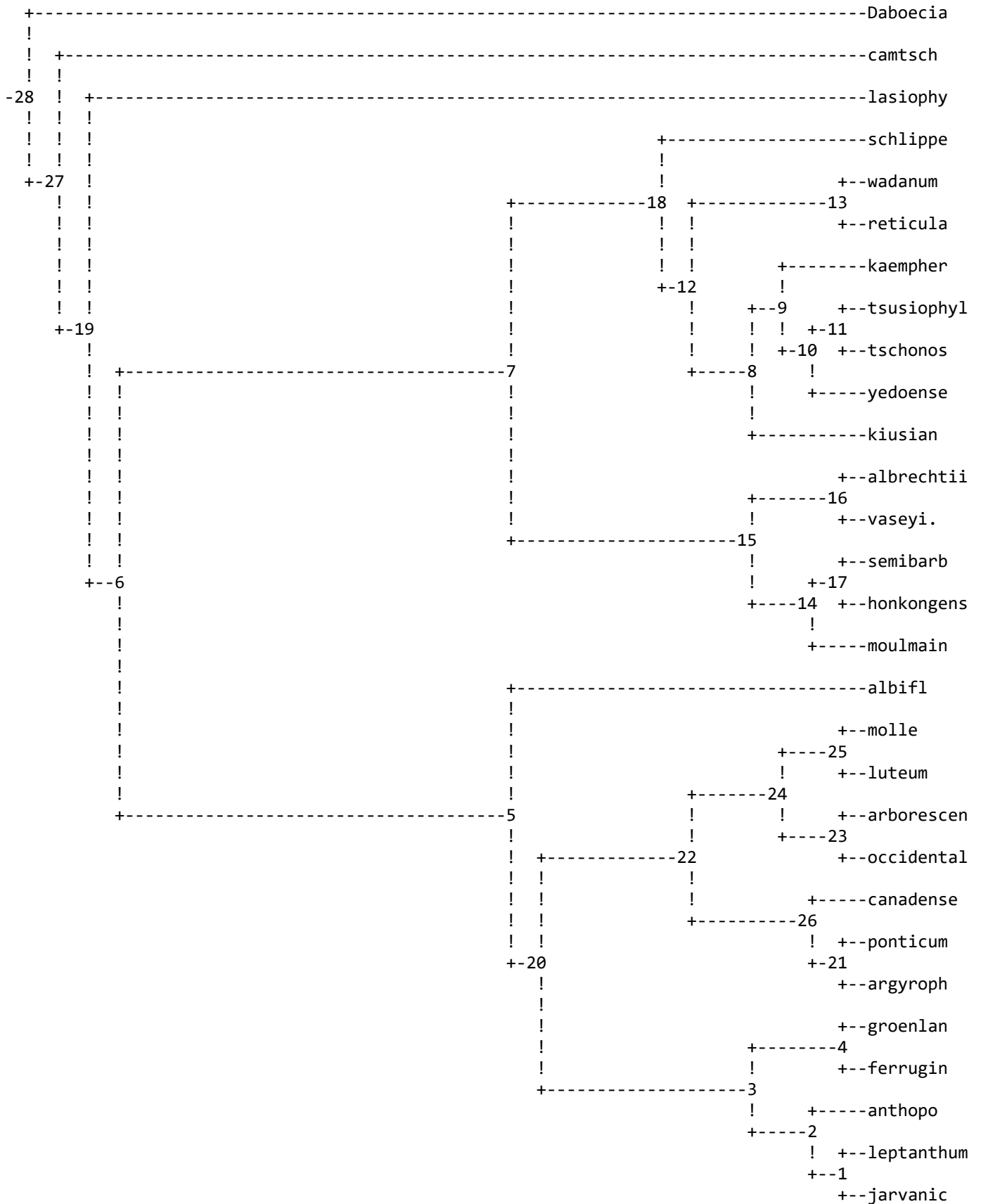
total number of compatible sites is 638.0







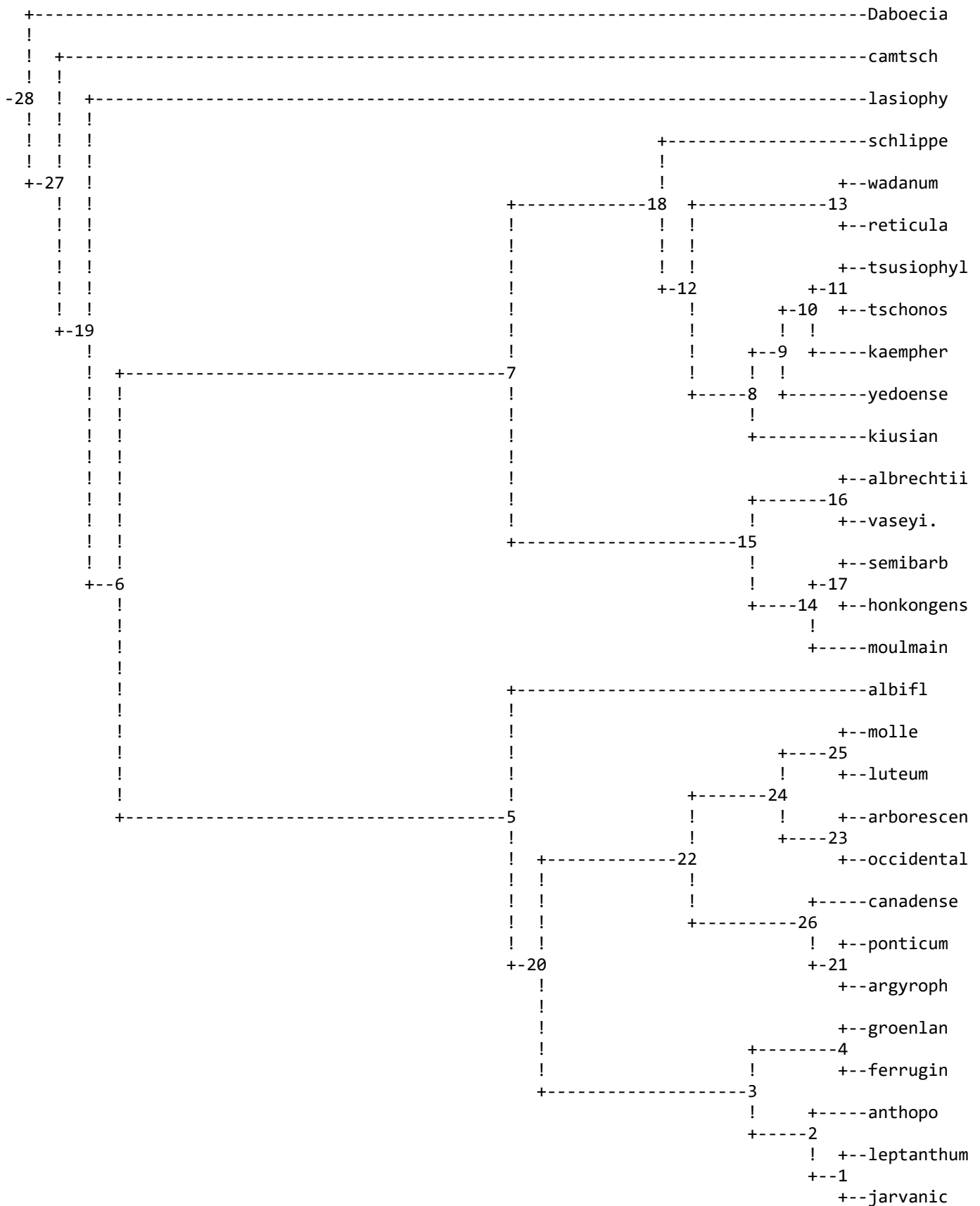
total number of compatible sites is 638.0



remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0





remember: (although rooted by outgroup) this is an unrooted tree!

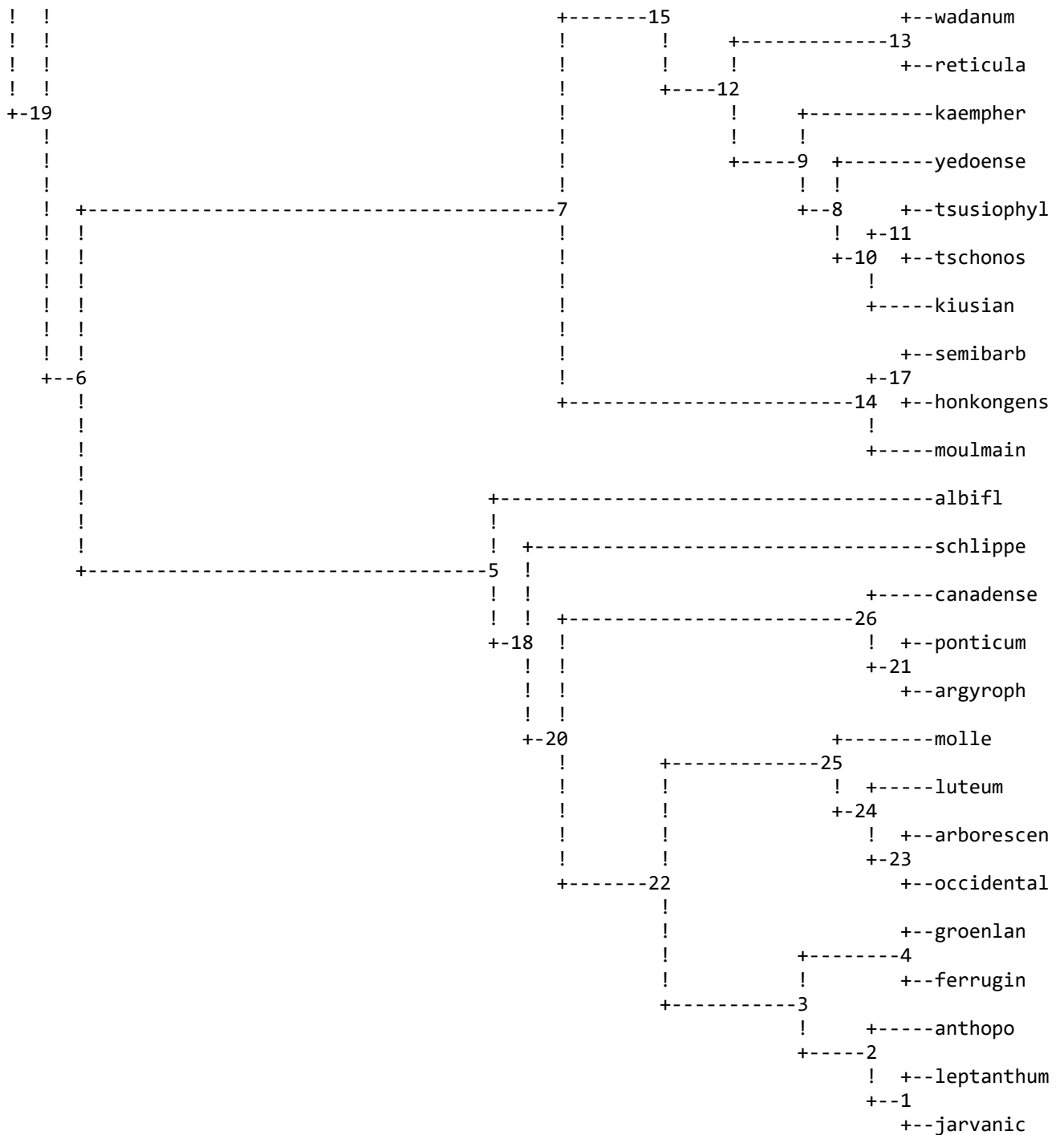
total number of compatible sites is 638.0

+-----Daboecia



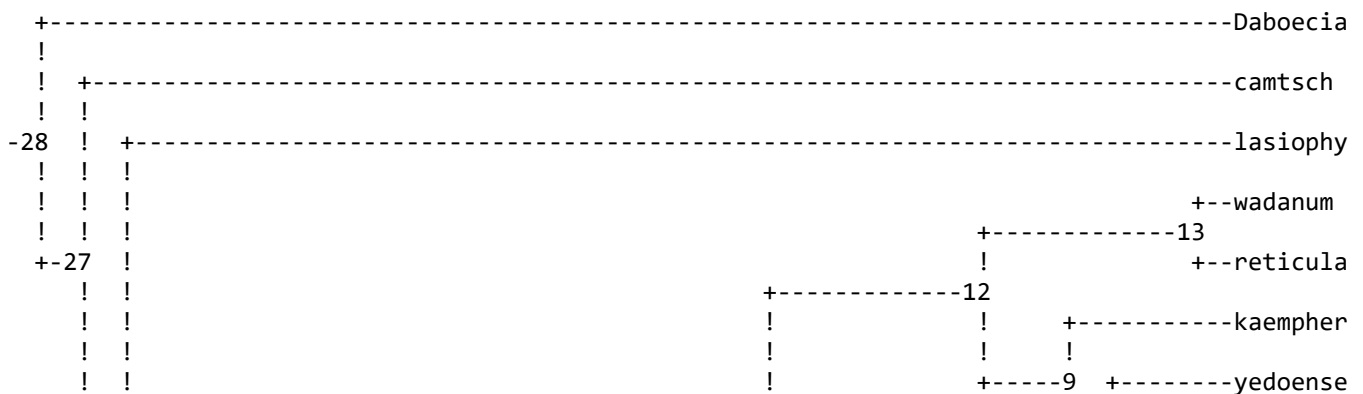


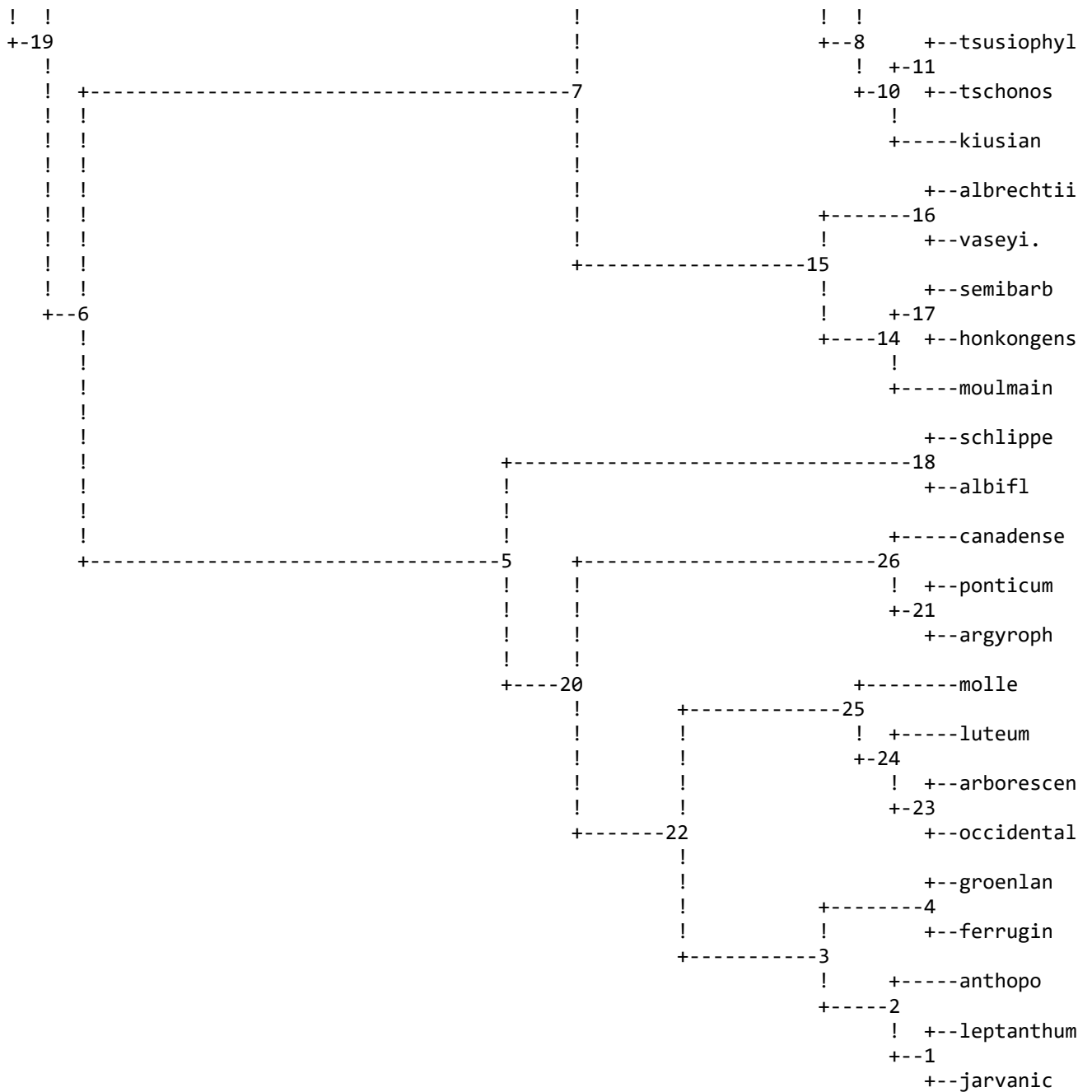




remember: (although rooted by outgroup) this is an unrooted tree!

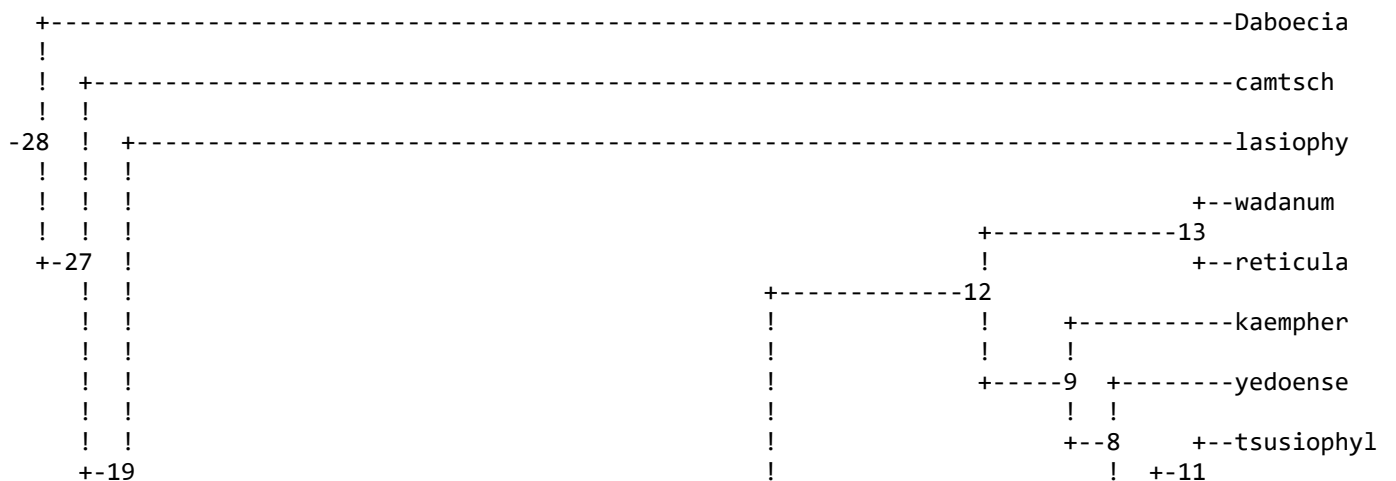
total number of compatible sites is 638.0

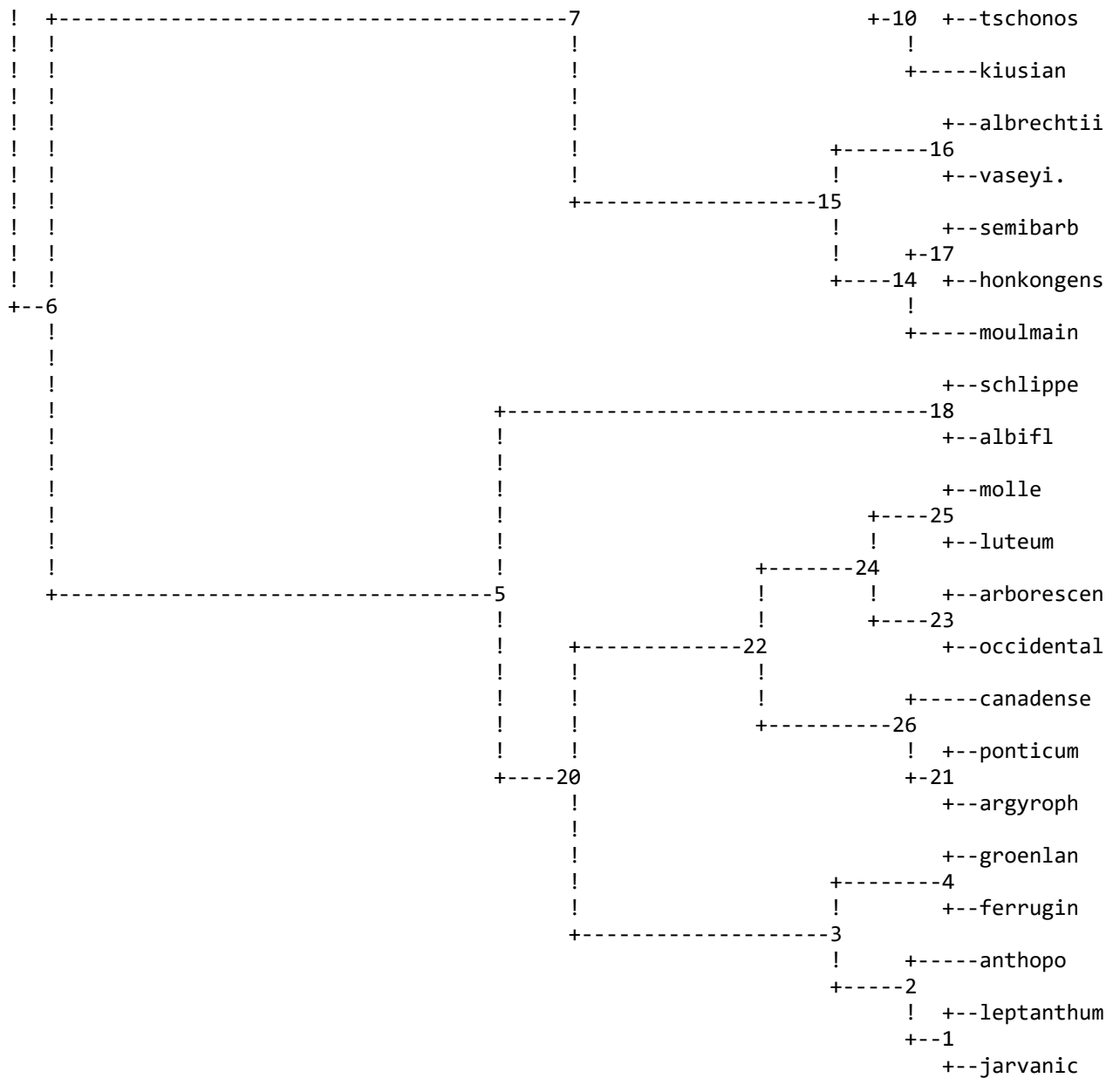




remember: (although rooted by outgroup) this is an unrooted tree!

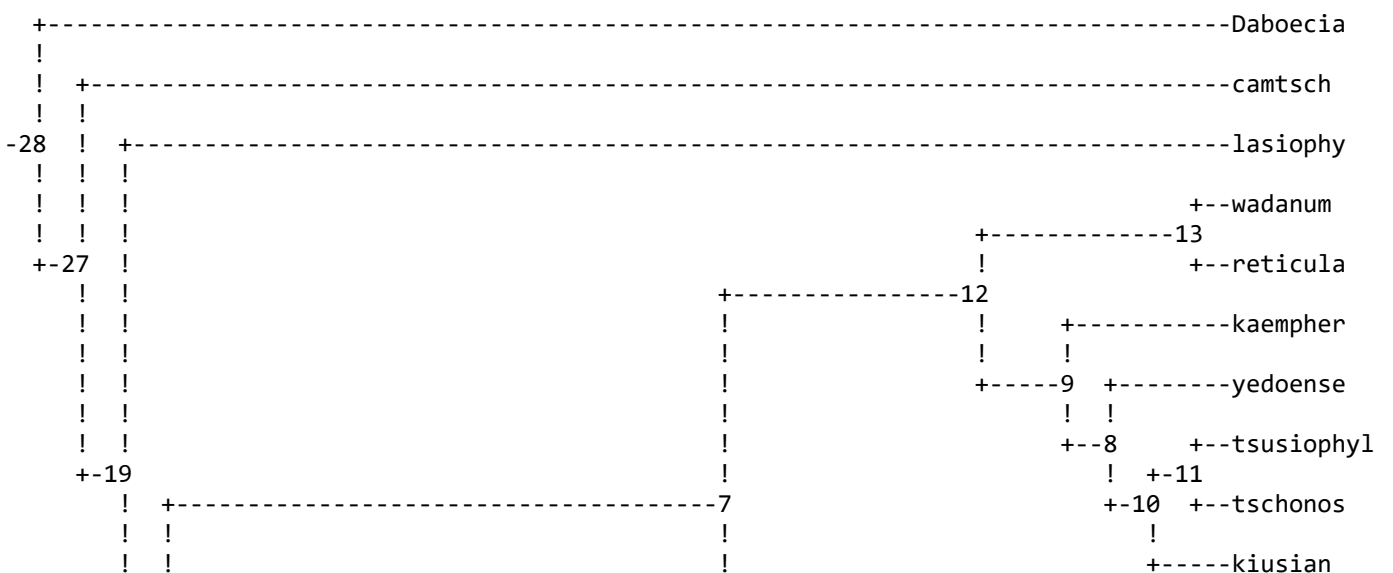
total number of compatible sites is 638.0





remember: (although rooted by outgroup) this is an unrooted tree!

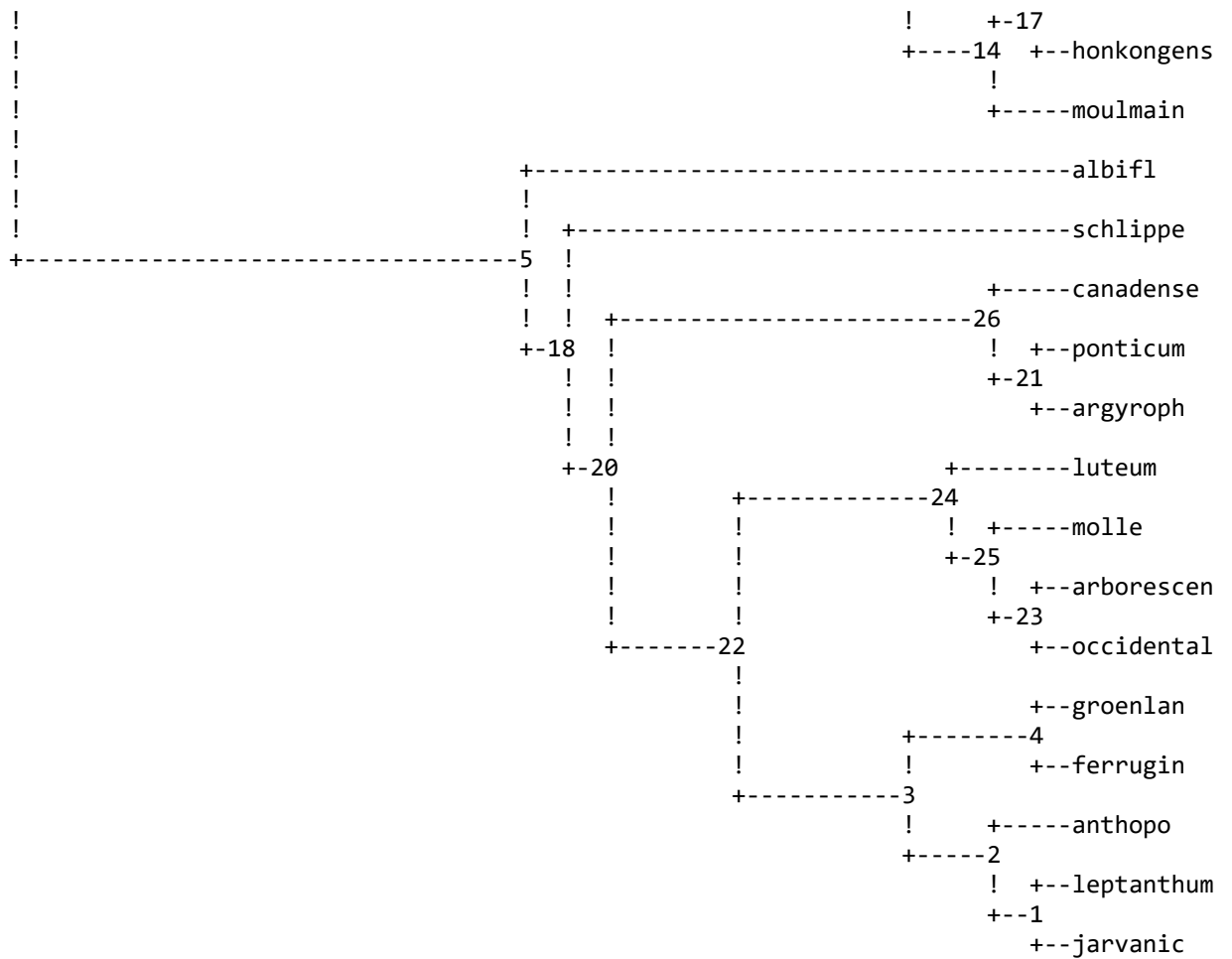
total number of compatible sites is 638.0





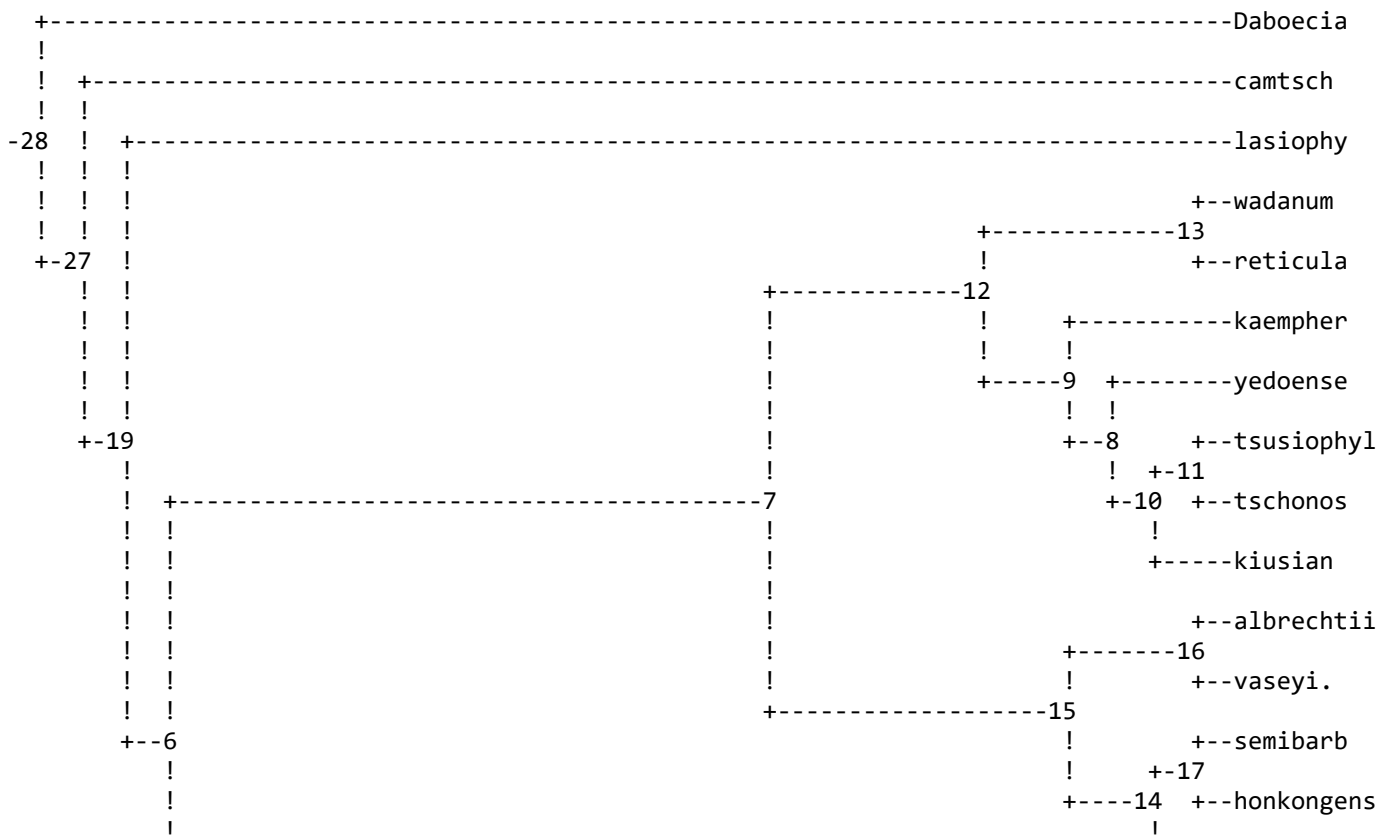






remember: (although rooted by outgroup) this is an unrooted tree!

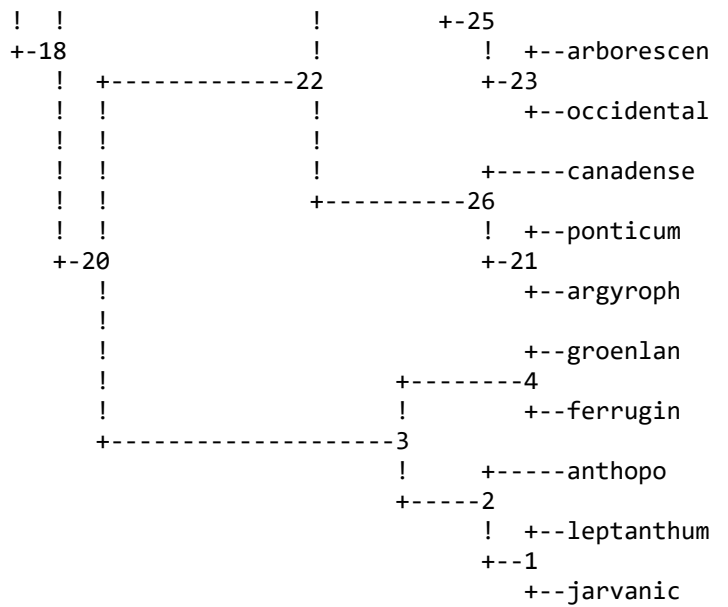
total number of compatible sites is 638.0





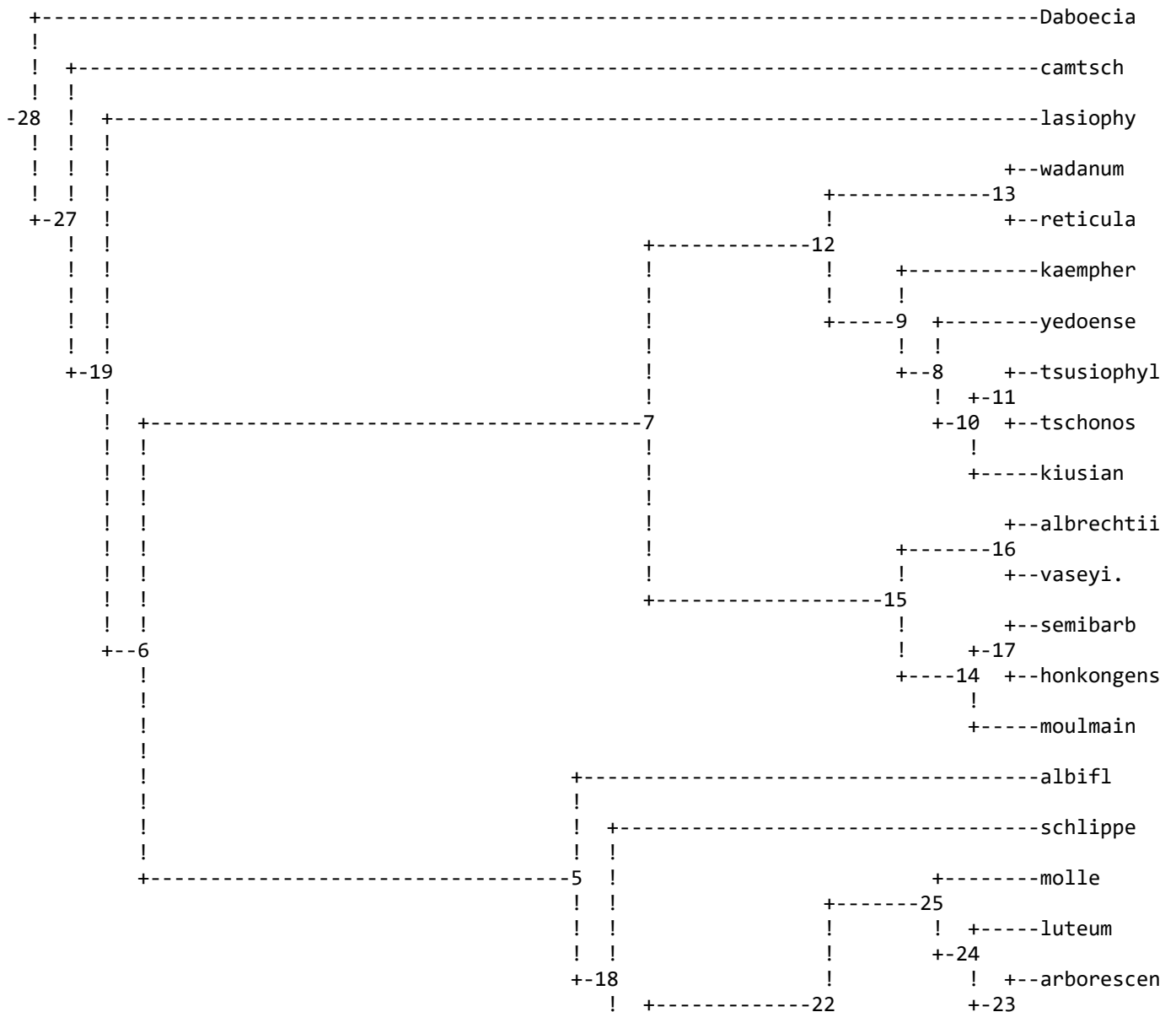


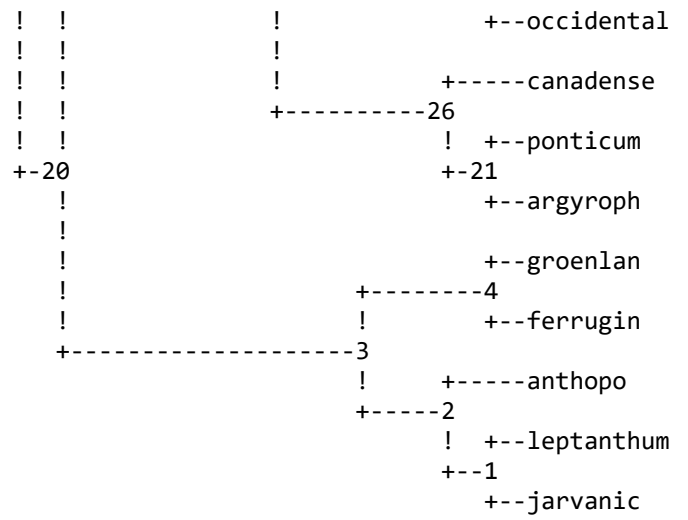




remember: (although rooted by outgroup) this is an unrooted tree!

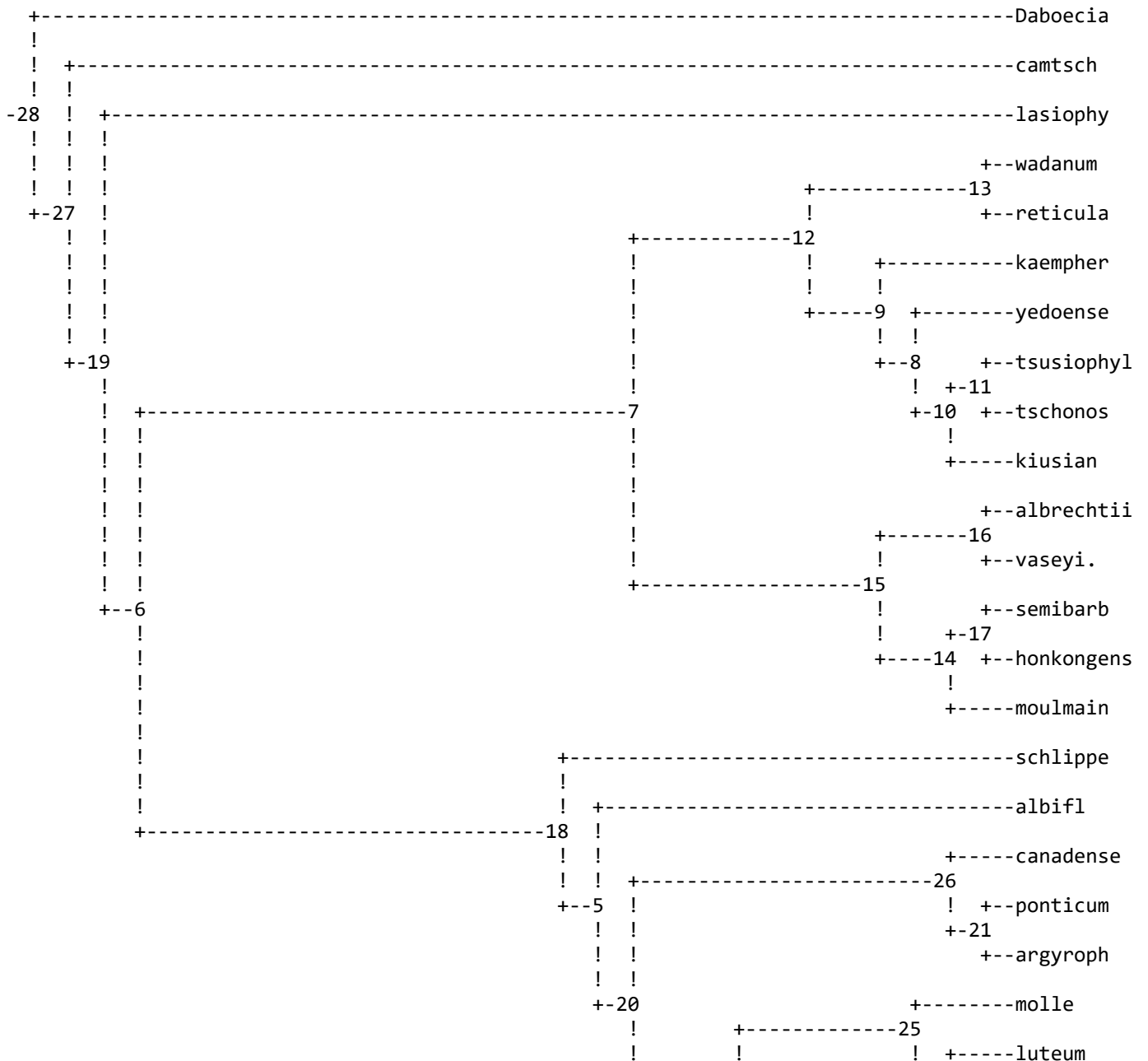
total number of compatible sites is 638.0





remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0









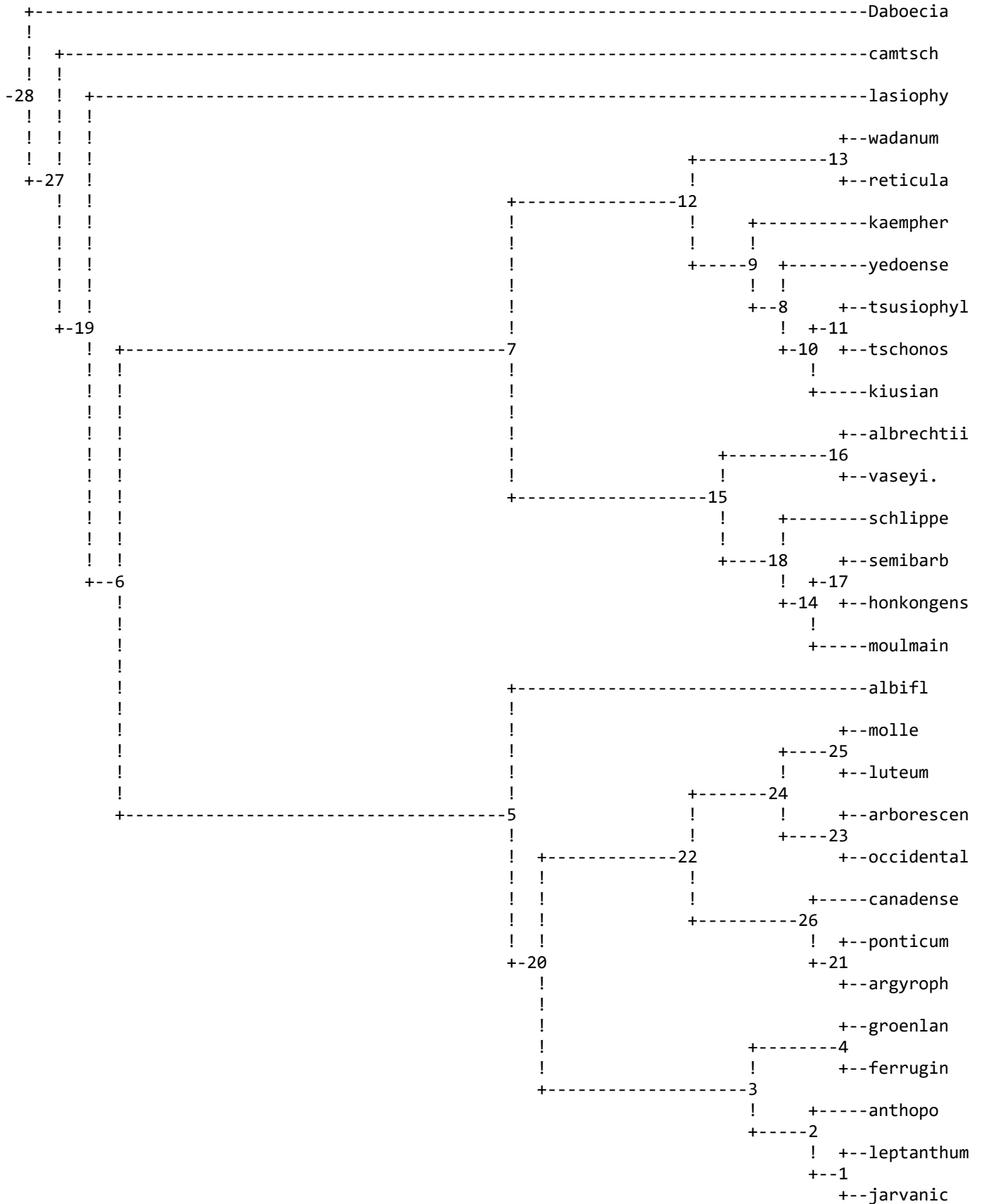




+-1  
+-jarvanic

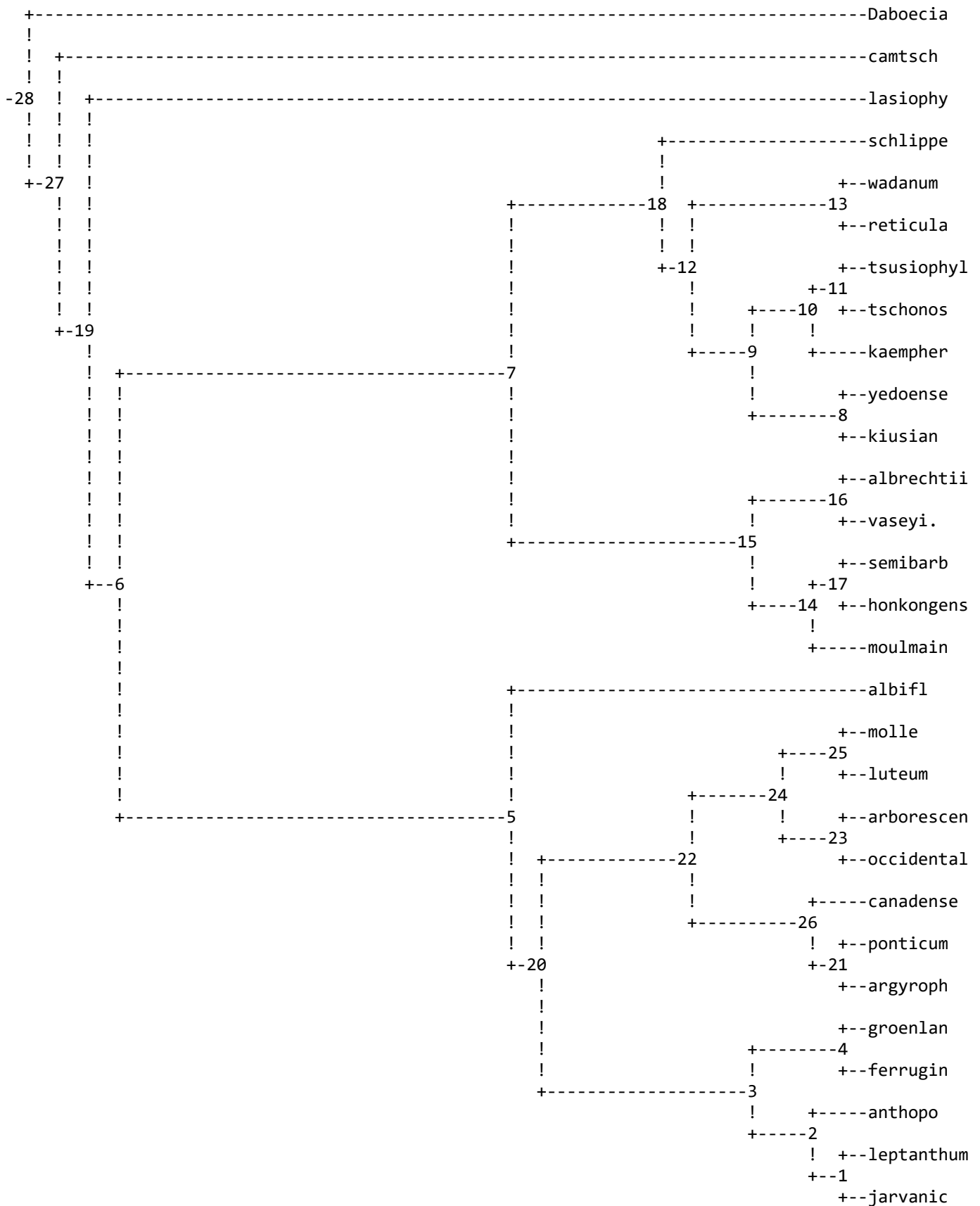
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0









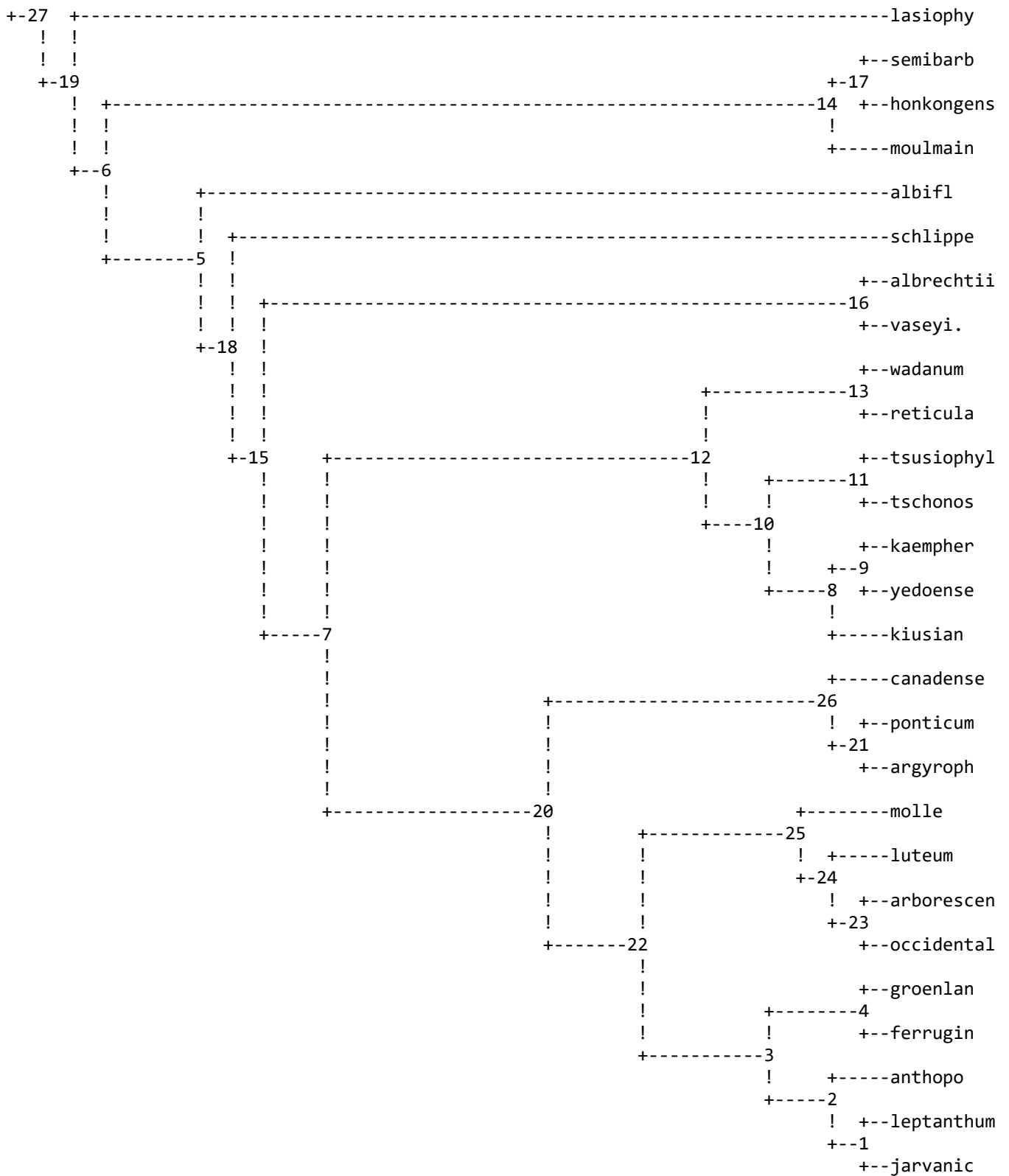
remember: (although rooted by outgroup) this is an unrooted tree!

total number of compatible sites is 638.0

+-----Daboecia







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