

1 taxon deleted
Total number of taxa now deleted = 1

Heuristic search settings:

Addition sequence: simple (reference taxon = Outgroup)
1 tree held at each step during stepwise addition
Tree-bisection-reconnection (TBR) branch-swapping performed
MULPARS option in effect
Steepest descent option not in effect
Initial MAXTREES setting = 200
Branches having maximum length zero collapsed to yield polytomies
Topological constraints not enforced
Trees are unrooted
Multi-state taxa interpreted as polymorphism

Heuristic search completed

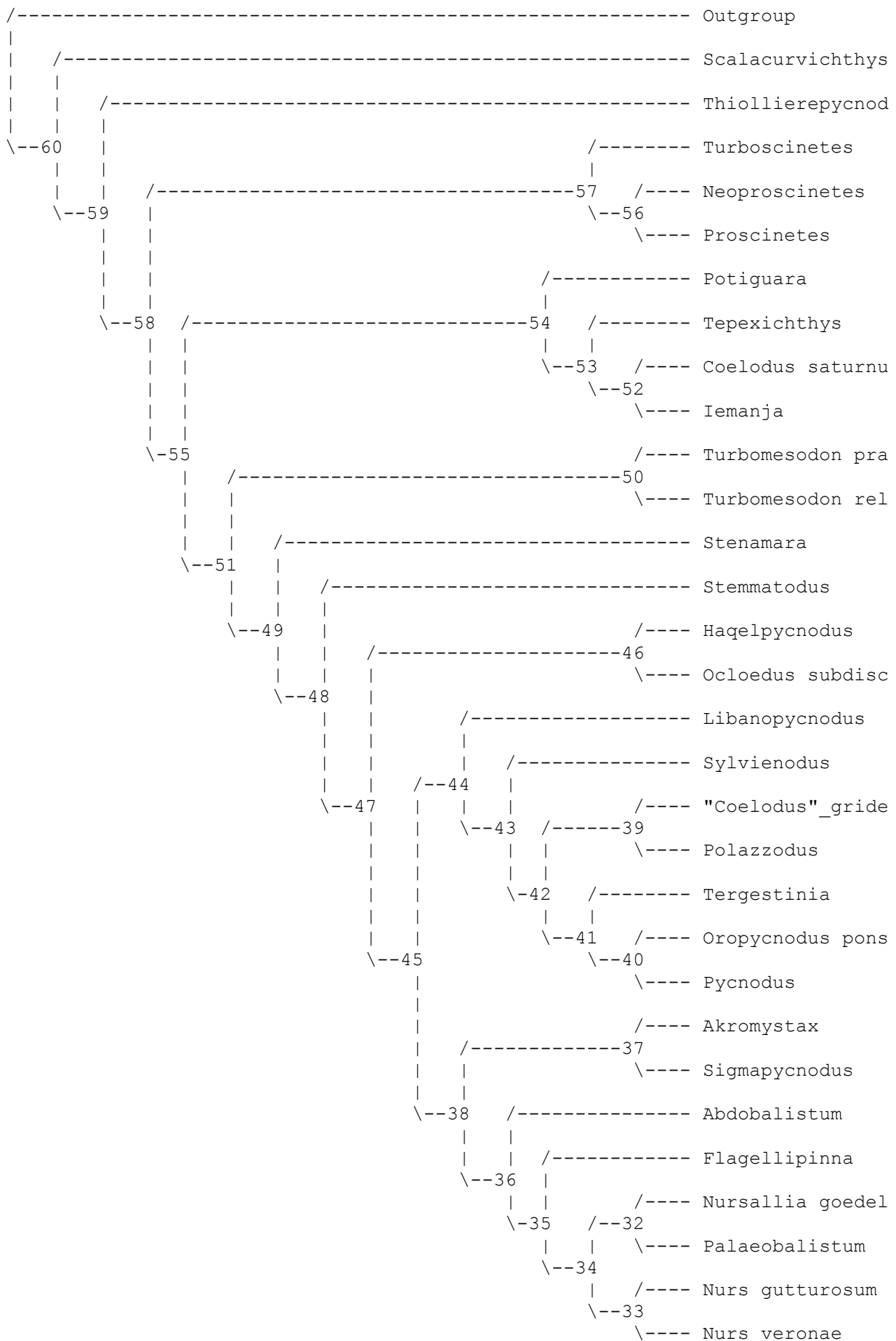
Total number of rearrangements tried = 67692
Length of shortest tree(s) found = 501
Number of trees retained = 1
Time used = 0.90 sec

Tree description:

Unrooted tree(s) rooted using outgroup method
Character-state optimization: Accelerated transformation (ACCTRAN)

Tree number 1 (rooted using user-specified outgroup):

Tree length = 501
Consistency index (CI) = 0.415
Homoplasy index (HI) = 0.629
CI excluding uninformative characters = 0.379
HI excluding uninformative characters = 0.649
Retention index (RI) = 0.509
Rescaled consistency index (RC) = 0.211



Apomorphy lists:

Branch	Character	Steps	CI	Change	
Outgroup <-> node_60	4.Ventr apex	1	0.167	0 <=> 1	
	5.Mouth gap	1	0.143	0 <-> 1	
	11.Par proces	1	1.000	0 <=> 1	
	16.Ios canal	1	0.500	0 <-> 1	
	17.Io ornamen	1	0.667	0 <-> 1	
	18.Suborbital	1	1.000	0 <=> 1	
	23.Teeth	1	0.500	0 <=> 1	
	28.Vo teeth s	1	0.444	0 <-> 1	
	33.N dent tee	1	0.250	0 <-> 1	
	44.Sagg flang	1	0.667	0 <=> 1	
	45.Autog neur	1	0.500	0 <=> 1	
	54.N dor axon	1	0.438	0 <-> 1	
	58.N anal axo	1	0.429	0 <-> 2	
	59.Urodermals	1	0.250	0 <-> 1	
	62.Scal ossif	3	0.286	0 <=> 3	
	65.Ornamentat	1	0.667	0 <-> 1	
	71.N dor spin	1	0.375	0 <=> 3	
	72.Distr dor	1	0.375	0 <=> 1	
	73.Conta dor	1	0.222	0 <=> 1	
	74.Size dor s	1	0.286	0 <=> 1	
	78.N ven rid	1	0.250	0 <-> 1	
	79.Distri ven	1	0.250	0 <=> 2	
	84.Ant cloac	1	0.600	0 <-> 1	
	85.Post cloac	2	0.556	0 <-> 2	
	node_60 --> node_59	12.ExSc fused	1	0.200	0 --> 1
		19.Pop hyom	1	0.375	0 ==> 1
		55.Axon not l	1	0.250	0 ==> 1
		57.Pos anal f	1	0.444	0 ==> 2
		61.Caud shape	1	0.556	0 ==> 2
	node_59 --> node_58	26.Maxilla	1	0.714	0 ==> 1
		48.Devel hypo	1	0.375	0 --> 1
		62.Scal ossif	1	0.286	3 --> 2
		69.N dor rid	1	0.500	0 ==> 1
		76.N ven rid	1	0.375	0 ==> 1
		78.N ven rid	1	0.250	1 --> 0
node_58 --> node_55	83.Cloac to a	1	0.500	0 ==> 1	
	79.Distri ven	1	0.250	2 ==> 0	
	80.Conta ven	1	0.375	0 ==> 2	
node_55 --> node_51	85.Post cloac	1	0.556	2 ==> 3	
	33.N dent tee	1	0.250	1 ==> 2	
	47.N epich el	1	0.400	2 --> 3	
	48.Devel hypo	1	0.375	1 --> 0	
	54.N dor axon	1	0.438	1 ==> 0	
	56.Dor fin sh	1	0.500	2 --> 1	
	60.N caud ray	1	0.444	3 ==> 2	
	65.Ornamentat	1	0.667	1 ==> 2	
	71.N dor spin	1	0.375	3 ==> 0	
	72.Distr dor	1	0.375	1 --> 0	
	73.Conta dor	1	0.222	1 --> 0	
node_51 --> node_49	74.Size dor s	1	0.286	1 ==> 2	
	84.Ant cloac	1	0.600	1 ==> 2	
	19.Pop hyom	1	0.375	1 --> 2	
	31.N vo teet	1	0.333	0 --> 1	
	41.N vertebra	1	0.400	0 ==> 2	
	69.N dor rid	1	0.500	1 ==> 2	
	73.Conta dor	1	0.222	0 --> 2	

node_49 --> node_48	83.Cloac to a	1	0.500	1	==>	2
	4.Ventr apex	1	0.167	1	-->	0
	47.N epich el	1	0.400	3	-->	2
	62.Scal ossif	1	0.286	2	==>	3
	76.N ven rid	1	0.375	1	==>	2
node_48 --> node_47	83.Cloac to a	1	0.500	2	==>	3
	15.Infraorbit	1	0.429	0	-->	1
	48.Devel hypo	1	0.375	0	==>	1
	52.PoPv	1	0.333	0	-->	1
	55.Axon not l	1	0.250	1	==>	0
	65.Ornamentat	1	0.667	2	==>	0
	80.Conta ven	1	0.375	2	-->	0
	85.Post cloac	1	0.556	3	==>	2
node_47 --> node_45	7.Caud pedic	1	0.167	0	==>	1
	12.ExSc fused	1	0.200	1	-->	0
	17.Io ornamen	1	0.667	1	==>	0
	42.Centra not	1	0.250	0	-->	1
	54.N dor axon	1	0.438	0	==>	1
node_45 --> node_38	66.1 dor rid	1	0.143	0	-->	1
	5.Mouth gap	1	0.143	1	==>	0
	9.Prefrontal	1	0.500	0	-->	1
	23.Teeth	1	0.500	1	-->	0
	28.Vo teeth s	1	0.444	1	-->	0
	30.N vo rows	1	0.400	0	-->	1
	43.Centra_dor	1	0.444	0	-->	1
	48.Devel hypo	1	0.375	1	==>	2
	52.PoPv	1	0.333	1	-->	0
	54.N dor axon	1	0.438	1	==>	2
	57.Pos anal f	1	0.444	2	==>	1
node_38 --> node_36	84.Ant cloac	1	0.600	2	-->	4
	19.Pop hyom	1	0.375	2	-->	1
	45.Autog neur	1	0.500	1	==>	2
	46.Last neur	1	0.222	0	==>	1
	54.N dor axon	1	0.438	2	==>	3
	58.N anal axo	1	0.429	2	==>	4
	59.Urodermals	1	0.250	1	-->	2
	60.N caud ray	1	0.444	2	-->	4
	61.Caud shape	1	0.556	2	-->	0
	63.Scal distr	1	0.750	0	==>	2
	69.N dor rid	1	0.500	2	==>	1
	71.N dor spin	1	0.375	0	-->	2
	73.Conta dor	1	0.222	2	==>	0
	74.Size dor s	1	0.286	2	==>	1
node_36 --> Abdobalium	7.Caud pedic	1	0.167	1	==>	0
	40.Grooves	1	0.125	0	==>	1
	41.N vertebra	1	0.400	2	==>	1
	60.N caud ray	1	0.444	4	-->	5
	64.Scal arran	1	0.500	0	==>	1
	68.Scutel rid	1	1.000	0	==>	2
	78.N ven rid	2	0.250	0	==>	2
	79.Distri ven	1	0.250	0	==>	1
	80.Conta ven	1	0.375	0	==>	1
	81.Size ven s	1	0.500	0	==>	1
node_36 --> node_35	82.Ridg scal	1	1.000	0	==>	1
	2.Dors apex	1	0.300	0	==>	2
	15.Infraorbit	1	0.429	1	-->	2
	16.Ios canal	1	0.500	1	==>	0
	39.Crenulatio	1	0.333	0	==>	1
	43.Centra_dor	1	0.444	1	==>	2
	49.N hypoch e	1	0.250	0	-->	2
	56.Dor fin sh	1	0.500	1	-->	2

	61.Caud shape	1	0.556	0	-->	3
	62.Scal ossif	2	0.286	3	==>	1
node_35 --> Flagellipinna	4.Ventr apex	1	0.167	0	-->	2
	9.Prefrontal	1	0.500	1	-->	0
	23.Teeth	1	0.500	0	==>	3
	44.Sagg flang	1	0.667	1	==>	2
	53.Posit dors	1	0.300	0	==>	3
	65.Ornamentat	1	0.667	0	==>	2
	66.1 dor rid	1	0.143	1	-->	0
	71.N dor spin	1	0.375	2	-->	0
	74.Size dor s	1	0.286	1	==>	0
node_35 --> node_34	8.Frontals	1	1.000	0	-->	1
	26.Maxilla	1	0.714	1	-->	0
	42.Centra not	1	0.250	1	==>	2
	70.Arran dor	1	0.417	0	==>	1
	86.Bif cloac	1	0.667	0	-->	1
node_34 --> node_32	1.Bod shape	1	0.222	0	-->	1
	2.Dors apex	1	0.300	2	-->	1
	12.ExSc fused	1	0.200	0	-->	1
	59.Urodermals	1	0.250	2	-->	1
	62.Scal ossif	1	0.286	1	==>	0
	63.Scal distr	1	0.750	2	-->	1
	64.Scal arran	1	0.500	0	==>	1
	76.N ven rid	1	0.375	2	-->	1
node_32 --> Palaeobalistum	48.Devel hypo	1	0.375	2	==>	1
	49.N hypoch e	1	0.250	2	-->	0
	63.Scal distr	1	0.750	1	-->	3
node_34 --> node_33	15.Infraorbit	1	0.429	2	-->	1
	46.Last neur	1	0.222	1	==>	2
	53.Posit dors	1	0.300	0	==>	2
	57.Pos anal f	1	0.444	1	==>	2
	65.Ornamentat	1	0.667	0	-->	1
	71.N dor spin	1	0.375	2	-->	3
	72.Distr dor	1	0.375	0	-->	1
	73.Conta dor	1	0.222	0	-->	1
node_33 --> Nurs gutturosum	30.N vo rows	1	0.400	1	-->	0
	31.N vo teet	1	0.333	1	==>	2
	60.N caud ray	1	0.444	4	-->	2
	62.Scal ossif	1	0.286	1	==>	2
node_33 --> Nurs veronae	68.Scutel rid	1	1.000	0	==>	3
	69.N dor rid	1	0.500	1	==>	2
	76.N ven rid	1	0.375	2	==>	3
	77.Arran ven	1	0.250	0	==>	1
	83.Cloac to a	1	0.500	3	==>	2
node_38 --> node_37	4.Ventr apex	1	0.167	0	-->	1
	6.Prognathis	1	1.000	0	-->	2
	10.Fenestra	1	0.200	0	-->	1
	23.Teeth	1	0.500	0	-->	2
	24.Pmx	1	1.000	0	-->	1
	25.N pmx teet	1	0.600	0	-->	2
	28.Vo teeth s	1	0.444	0	-->	4
	33.N dent tee	2	0.250	2	==>	0
	49.N hypoch e	1	0.250	0	-->	1
	53.Posit dors	1	0.300	0	==>	1
	56.Dor fin sh	1	0.500	1	-->	5
	66.1 dor rid	1	0.143	1	-->	0
	75.vks1	1	1.000	0	-->	1
	76.N ven rid	1	0.375	2	-->	3
	80.Conta ven	1	0.375	0	-->	3
node_37 --> Akromystax	42.Centra not	1	0.250	1	==>	2
	43.Centra_dor	1	0.444	1	-->	0

	62.Scal ossif	1	0.286	3	==>	2
node_37 --> Sigmapycnodus	1.Bod shape	1	0.222	0	==>	1
	38.Cor proces	1	0.250	0	==>	1
	41.N vertebra	1	0.400	2	==>	1
node_45 --> node_44	1.Bod shape	1	0.222	0	==>	1
	22. Branchios	1	0.429	0	-->	1
	26.Maxilla	1	0.714	1	-->	5
	40.Grooves	1	0.125	0	-->	1
	59.Urodermals	1	0.250	1	==>	0
	71.N dor spin	1	0.375	0	==>	1
	74.Size dor s	1	0.286	2	==>	0
	86.Bif cloac	1	0.667	0	-->	1
node_44 --> node_43	4.Ventr apex	1	0.167	0	-->	1
	13.Endoc expo	1	1.000	0	==>	1
	14.lacun	1	1.000	0	==>	1
	15.Infraorbit	1	0.429	1	==>	3
	21.Opercular	1	0.500	0	==>	1
	22. Branchios	1	0.429	1	-->	2
	25.N pmx teet	1	0.600	0	==>	3
	51.Cleith sha	1	1.000	0	==>	1
	62.Scal ossif	1	0.286	3	==>	4
	70.Arran dor	1	0.417	0	==>	1
	79.Distri ven	1	0.250	0	-->	2
node_43 --> node_42	5.Mouth gap	1	0.143	1	-->	0
	19.Pop hyom	1	0.375	2	-->	3
	45.Autog neur	1	0.500	1	==>	2
	47.N epich el	1	0.400	2	==>	1
	48.Devel hypo	1	0.375	1	==>	2
	53.Posit dors	1	0.300	0	==>	2
	54.N dor axon	1	0.438	1	==>	2
	59.Urodermals	1	0.250	0	==>	2
	71.N dor spin	1	0.375	1	==>	3
	72.Distr dor	1	0.375	0	==>	1
	73.Conta dor	1	0.222	2	==>	1
	74.Size dor s	1	0.286	0	==>	1
	76.N ven rid	1	0.375	2	-->	3
	85.Post cloac	1	0.556	2	==>	3
node_42 --> node_39	28.Vo teeth s	1	0.444	1	-->	3
	31.N vo teet	1	0.333	1	-->	2
	46.Last neur	2	0.222	0	==>	2
	51.Cleith sha	1	1.000	1	==>	2
	56.Dor fin sh	1	0.500	1	-->	2
node_39 --> "Coelodus"_gride	13.Endoc expo	1	1.000	1	==>	2
	19.Pop hyom	1	0.375	3	-->	2
	77.Arran ven	1	0.250	0	==>	1
	78.N ven rid	1	0.250	0	==>	1
node_39 --> Polazzodus	61.Caud shape	1	0.556	2	==>	4
	67.drs2	1	1.000	0	==>	1
	76.N ven rid	1	0.375	3	-->	2
	79.Distri ven	1	0.250	2	-->	0
node_42 --> node_41	26.Maxilla	1	0.714	5	-->	1
	37.N prear te	1	0.333	0	==>	1
	52.PoPv	1	0.333	1	==>	0
	60.N caud ray	1	0.444	2	-->	1
	65.Ornamentat	1	0.667	0	-->	2
	68.Scutel rid	1	1.000	0	==>	1
node_41 --> node_40	10.Fenestra	1	0.200	0	==>	1
	14.lacun	1	1.000	1	==>	2
	15.Infraorbit	1	0.429	3	-->	0
	22. Branchios	1	0.429	2	-->	0
	25.N pmx teet	1	0.600	3	==>	0

	40.Grooves	1	0.125	1	-->	0
	42.Centra not	1	0.250	1	==>	2
	43.Centra_dor	1	0.444	0	==>	1
	48.Devel hypo	1	0.375	2	==>	3
	58.N anal axo	1	0.429	2	-->	3
	60.N caud ray	1	0.444	1	-->	3
	69.N dor rid	1	0.500	2	==>	3
	77.Arran ven	1	0.250	0	==>	1
node_40 -->	Oropycnodus pons	1	0.222	1	==>	0
	2.Dors apex	1	0.300	0	==>	2
	7.Caud pedic	1	0.167	1	==>	0
	12.ExSc fused	1	0.200	0	==>	1
	19.Pop hyom	1	0.375	3	-->	2
	31.N vo teet	1	0.333	1	==>	2
	54.N dor axon	1	0.438	2	==>	3
	56.Dor fin sh	1	0.500	1	==>	5
	58.N anal axo	1	0.429	3	-->	4
	80.Conta ven	1	0.375	0	==>	2
	84.Ant cloac	1	0.600	2	==>	1
	85.Post cloac	1	0.556	3	==>	2
	86.Bif cloac	1	0.667	1	==>	2
	87.Postclo no	1	1.000	0	==>	1
node_40 -->	Pycnodus	1	0.167	1	==>	0
	15.Infraorbit	1	0.429	0	-->	1
	21.Opercular	1	0.500	1	==>	0
	28.Vo teeth s	1	0.444	1	==>	0
	37.N prear te	1	0.333	1	==>	2
	39.Crenulatio	1	0.333	0	==>	1
	46.Last neur	2	0.222	0	==>	2
	53.Posit dors	1	0.300	2	==>	1
	57.Pos anal f	1	0.444	2	==>	1
node_41 -->	Tergestinia	1	0.300	0	==>	3
	5.Mouth gap	1	0.143	0	-->	1
	34.Prear t sh	1	0.750	0	==>	2
	39.Crenulatio	1	0.333	0	==>	2
	61.Caud shape	1	0.556	2	==>	5
	66.1 dor rid	1	0.143	1	-->	0
	78.N ven rid	1	0.250	0	==>	1
	79.Distri ven	1	0.250	2	-->	0
node_43 -->	Sylvienodus	1	0.300	0	==>	1
	12.ExSc fused	1	0.200	0	-->	1
	27.Cren	1	1.000	0	==>	1
	39.Crenulatio	1	0.333	0	==>	2
	40.Grooves	1	0.125	1	-->	0
	41.N vertebra	1	0.400	2	==>	3
	42.Centra not	1	0.250	1	==>	2
	54.N dor axon	1	0.438	1	==>	0
	56.Dor fin sh	1	0.500	1	==>	6
	66.1 dor rid	1	0.143	1	-->	0
	80.Conta ven	1	0.375	0	==>	2
node_44 -->	Libanopycnodus	1	0.375	2	-->	1
	42.Centra not	1	0.250	1	-->	0
	57.Pos anal f	1	0.444	2	==>	0
	73.Conta dor	1	0.222	2	==>	0
	78.N ven rid	1	0.250	0	==>	1
node_47 -->	node_46	1	0.300	0	==>	2
	4.Ventr apex	1	0.167	0	==>	2
	10.Fenestra	1	0.200	0	==>	1
	31.N vo teet	1	0.333	1	-->	0
	49.N hypoch e	1	0.250	0	==>	1
	53.Posit dors	1	0.300	0	==>	2

	70.Arran dor	1	0.417	0	==>	1
node_46 --> Haqelpycnodus	1.Bod shape	1	0.222	0	==>	3
	19.Pop hyom	1	0.375	2	-->	1
	22.Branchios	1	0.429	0	==>	1
	23.Teeth	1	0.500	1	==>	0
	33.N dent tee	1	0.250	2	==>	1
	34.Prear t sh	1	0.750	0	==>	2
	41.N vertebra	1	0.400	2	==>	0
	47.N epich el	1	0.400	2	==>	1
	57.Pos anal f	1	0.444	2	==>	0
	58.N anal axo	1	0.429	2	==>	3
	60.N caud ray	1	0.444	2	==>	3
	70.Arran dor	1	0.417	1	==>	2
	73.Conta dor	1	0.222	2	==>	0
	84.Ant cloac	1	0.600	2	==>	1
node_46 --> Ocloedus subdisc	15.Infraorbit	1	0.429	1	-->	0
	40.Grooves	1	0.125	0	==>	1
	56.Dor fin sh	1	0.500	1	-->	2
	62.Scal ossif	1	0.286	3	==>	2
	72.Distr dor	1	0.375	0	-->	2
	79.Distri ven	1	0.250	0	==>	2
	80.Conta ven	1	0.375	0	-->	2
node_48 --> Stenmatodus	1.Bod shape	1	0.222	0	==>	1
	26.Maxilla	1	0.714	1	==>	2
	28.Vo teeth s	1	0.444	1	==>	0
	37.N prear te	1	0.333	0	==>	2
	45.Autog neur	1	0.500	1	==>	2
	61.Caud shape	1	0.556	2	==>	1
	72.Distr dor	1	0.375	0	-->	2
	76.N ven rid	1	0.375	2	==>	3
	85.Post cloac	1	0.556	3	==>	4
node_49 --> Stenamara	1.Bod shape	1	0.222	0	==>	3
	3.Prominence	1	1.000	0	==>	1
	36.N prear ro	1	1.000	0	==>	1
	49.N hypoch e	1	0.250	0	==>	2
	52.PoPv	1	0.333	0	==>	2
	58.N anal axo	1	0.429	2	-->	0
node_51 --> node_50	30.N vo rows	1	0.400	0	-->	1
	37.N prear te	1	0.333	0	==>	1
	40.Grooves	1	0.125	0	==>	1
	56.Dor fin sh	1	0.500	1	-->	3
	70.Arran dor	1	0.417	0	==>	1
	72.Distr dor	1	0.375	0	-->	2
	88.Sclo	1	1.000	0	==>	1
node_50 --> Turbomesodon pra	38.Cor proces	1	0.250	0	==>	1
	49.N hypoch e	1	0.250	0	==>	2
	55.Axon not l	1	0.250	1	==>	0
	56.Dor fin sh	1	0.500	3	-->	4
	58.N anal axo	1	0.429	2	-->	0
	61.Caud shape	1	0.556	2	==>	0
	88.Sclo	1	1.000	1	==>	2
node_50 --> Turbomesodon rel	2.Dors apex	1	0.300	0	==>	2
	4.Ventr apex	1	0.167	1	==>	0
node_55 --> node_54	2.Dors apex	1	0.300	0	==>	2
	10.Fenestra	1	0.200	0	-->	1
	17.Io ornamen	1	0.667	1	-->	2
	25.N pmx teet	1	0.600	0	-->	1
	26.Maxilla	1	0.714	1	-->	3
	54.N dor axon	1	0.438	1	-->	2
	55.Axon not l	1	0.250	1	-->	0
	58.N anal axo	1	0.429	2	-->	3

node_54 --> node_53	39.Crenulatio	1	0.333	0	==>	1
	59.Urodermals	1	0.250	1	==>	2
node_53 --> node_52	1.Bod shape	1	0.222	0	==>	1
	5.Mouth gap	1	0.143	1	==>	0
	10.Fenestra	1	0.200	1	-->	0
	20.Condyle hy	1	0.500	0	-->	1
	34.Prear t sh	1	0.750	0	-->	1
	37.N prear te	1	0.333	0	-->	2
	42.Centra not	1	0.250	0	==>	1
	69.N dor rid	1	0.500	1	-->	2
node_52 --> Coelodus saturnu	7.Caud pedic	1	0.167	0	==>	1
	34.Prear t sh	1	0.750	1	-->	3
	40.Grooves	1	0.125	0	==>	1
	48.Devel hypo	1	0.375	1	==>	2
	50.Diastema	1	1.000	0	==>	1
	54.N dor axon	1	0.438	2	==>	3
	70.Arran dor	2	0.417	0	==>	2
node_52 --> Iemanja	6.Prognathis	1	1.000	0	==>	1
	28.Vo teeth s	1	0.444	1	==>	2
	29.Vo patchy	1	1.000	0	==>	1
	35.Prear rows	2	1.000	0	==>	2
	41.N vertebra	1	0.400	0	==>	2
	43.Centra_dor	3	0.444	0	==>	3
	44.Sagg flang	1	0.667	1	==>	2
	49.N hypoch e	1	0.250	0	==>	2
	54.N dor axon	1	0.438	2	-->	1
node_53 --> Tepexichthys	26.Maxilla	1	0.714	3	-->	4
	28.Vo teeth s	1	0.444	1	==>	0
	30.N vo rows	1	0.400	0	==>	2
	38.Cor proces	1	0.250	0	==>	1
	46.Last neur	1	0.222	0	==>	1
	53.Posit dors	1	0.300	0	==>	2
	57.Pos anal f	1	0.444	2	==>	1
	58.N anal axo	1	0.429	3	-->	02
	61.Caud shape	1	0.556	2	==>	1
node_54 --> Potiguara	4.Ventr apex	1	0.167	1	==>	2
	41.N vertebra	1	0.400	0	==>	2
	53.Posit dors	1	0.300	0	==>	1
	54.N dor axon	1	0.438	2	==>	3
	66.1 dor rid	1	0.143	0	==>	1
node_58 --> node_57	31.N vo teet	1	0.333	0	==>	1
	39.Crenulatio	1	0.333	0	==>	1
	53.Posit dors	1	0.300	0	-->	2
	66.1 dor rid	1	0.143	0	==>	1
	70.Arran dor	2	0.417	0	==>	2
	77.Arran ven	1	0.250	0	==>	1
	83.Cloac to a	1	0.500	1	==>	2
node_57 --> node_56	30.N vo rows	1	0.400	0	==>	1
	32.Alter vo t	1	1.000	0	==>	1
	61.Caud shape	1	0.556	2	==>	1
	83.Cloac to a	1	0.500	2	==>	3
node_56 --> Neoprosclinetes	7.Caud pedic	1	0.167	0	==>	1
	20.Condyle hy	1	0.500	0	==>	1
	37.N prear te	1	0.333	0	==>	1
	38.Cor proces	1	0.250	0	==>	1
	42.Centra not	1	0.250	0	==>	1
	43.Centra_dor	1	0.444	0	==>	1
	46.Last neur	1	0.222	0	==>	1
	49.N hypoch e	1	0.250	0	==>	2
	56.Dor fin sh	1	0.500	2	==>	1
	59.Urodermals	1	0.250	1	==>	2

	69.N dor rid	1	0.500	1	==>	2
	71.N dor spin	1	0.375	3	==>	2
	72.Distr dor	1	0.375	1	==>	3
	73.Conta dor	1	0.222	1	==>	0
	74.Size dor s	1	0.286	1	==>	2
node_56 --> Proscinetes	2.Dors apex	1	0.300	0	==>	2
	4.Ventr apex	1	0.167	1	==>	2
	22. Branchios	1	0.429	0	==>	1
	33.N dent tee	1	0.250	1	==>	2
	52.PoPv	1	0.333	0	==>	1
	58.N anal axo	1	0.429	2	-->	3
	85.Post cloac	1	0.556	2	==>	1
node_57 --> Turboscinetes	4.Ventr apex	1	0.167	1	==>	0
	5.Mouth gap	1	0.143	1	-->	0
	22. Branchios	1	0.429	0	==>	3
	25.N pmx teet	1	0.600	0	==>	1
	40.Grooves	1	0.125	0	==>	1
	47.N epich el	1	0.400	2	==>	1
	53.Posit dors	1	0.300	2	-->	3
	59.Urodermals	1	0.250	1	==>	0
	60.N caud ray	1	0.444	3	==>	1
	62.Scal ossif	1	0.286	2	-->	3
	78.N ven rid	1	0.250	0	-->	1
	79.Distri ven	1	0.250	2	==>	1
	80.Conta ven	1	0.375	0	==>	1
	81.Size ven s	1	0.500	0	==>	1
node_59 --> Thiollierepyncnod	2.Dors apex	1	0.300	0	==>	2
	4.Ventr apex	1	0.167	1	==>	2
	5.Mouth gap	1	0.143	1	-->	0
	7.Caud pedic	1	0.167	0	==>	1
	22. Branchios	1	0.429	0	==>	1
	23.Teeth	1	0.500	1	==>	3
	28.Vo teeth s	1	0.444	1	-->	0
	33.N dent tee	1	0.250	1	-->	0
	41.N vertebra	1	0.400	0	==>	1
	52.PoPv	1	0.333	0	==>	2
	58.N anal axo	1	0.429	2	-->	3
	60.N caud ray	1	0.444	3	==>	2
	63.Scal distr	1	0.750	0	==>	2
node_60 --> Scalacurvichthys	1.Bod shape	1	0.222	0	==>	1
	33.N dent tee	1	0.250	1	==>	2
	41.N vertebra	1	0.400	0	==>	3
	46.Last neur	1	0.222	0	==>	1
	62.Scal ossif	1	0.286	3	==>	4