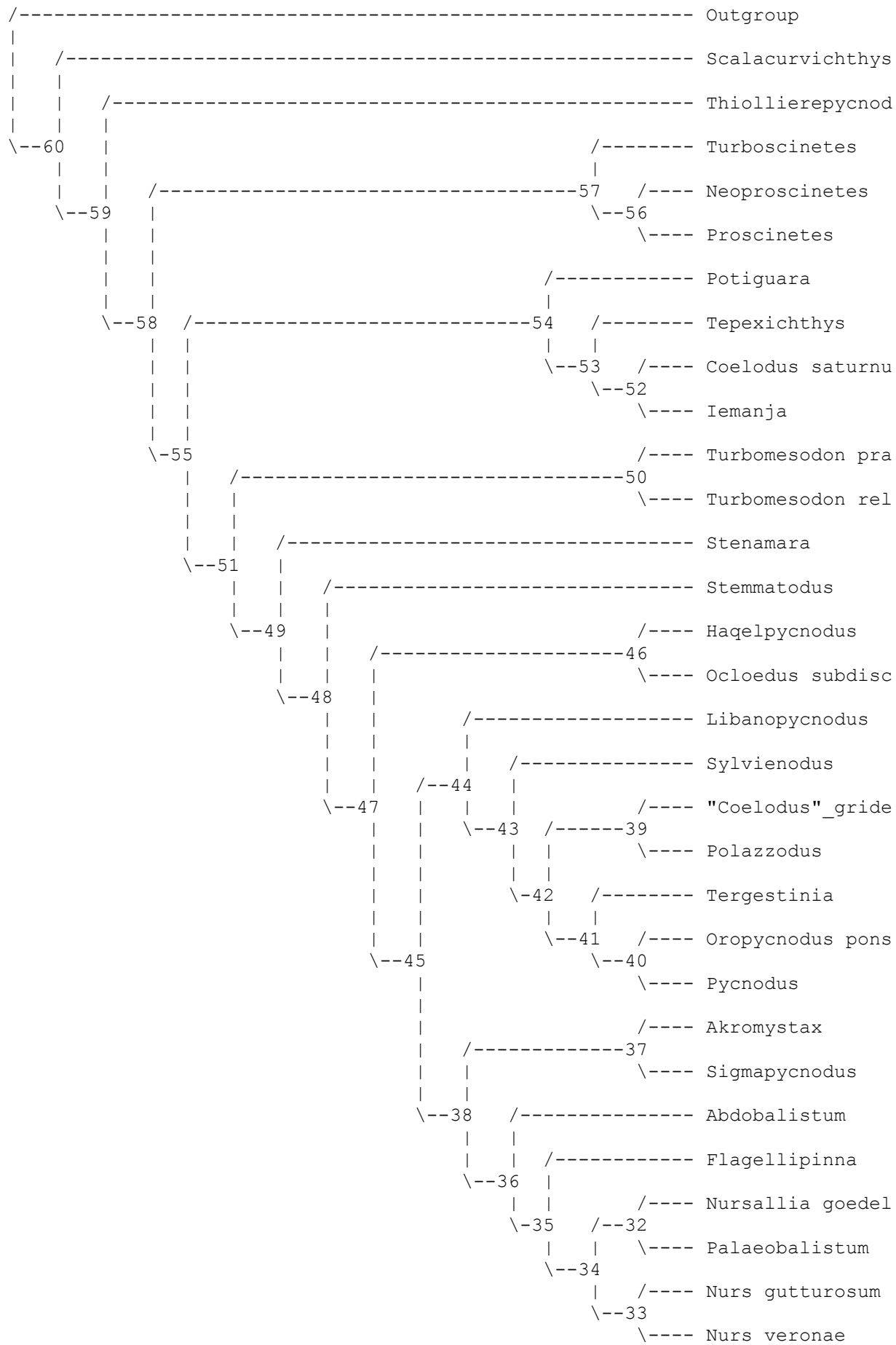
```
Heuristic search settings:
   Addition sequence: simple (reference taxon = Outgroup)
   1 tree held at each step during stepwise addition
   Tree-bisection-reconnection (TBR) branch-swapping performed
   MULPARS option in effect
   Steepest descent option not in effect
   Initial MAXTREES setting = 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: Delayed transformation (DELTRAN)

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
```


Outgroup
Scalacurvichthys
Thiollierepycnod
Turboscinetes
Neoproscinetes
Proscinetes
Potiguara
Tepexichthys
Coelodus saturnu
Iemanja
Turbomesodon pra
Turbomesodon rel
Stenamara
Stemmatodus
Haqelpycnodus
Ocloedus subdisc
Libanopycnodus
Sylvienodus
"Coelodus"_gride
Polazzodus
Tergestinia
Oropycnodus pons
Pycnodus
Akromystax
Sigmapycnodus
Abdobalistum
Flagellipinna
Nursallia goedel
Palaeobalistum
Nurs gutturosum
Nurs veronae

Apomorphy lists:

Branch	Character	Steps	CI	Change
Outgroup <-> node_60	4.Ventr apex	1	0.167	0 <=> 1
	11.Par proces	1	1.000	0 <=> 1
	18.Suborbital	1	1.000	0 <=> 1
	23.Teeth	1	0.500	0 <=> 1
	44.Sagg flang	1	0.667	0 <=> 1
	45.Autog neur	1	0.500	0 <=> 1
	62.Scal ossif	2	0.286	0 <=> 2
	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
	79.Distri ven	1	0.250	0 <=> 2
node_60 --> node_59	16.Ios canal	1	0.500	0 --> 1
	17.Io ornamen	1	0.667	0 --> 1
	19.Pop hyom	1	0.375	0 ==> 1
	54.N dor axon	1	0.438	0 --> 1
	55.Axon not l	1	0.250	0 ==> 1
	57.Pos anal f	1	0.444	0 ==> 2
	59.Urodermals	1	0.250	0 --> 1
	61.Caud shape	1	0.556	0 ==> 2
	65.Ornamentat	1	0.667	0 --> 1
node_59 --> node_58	12.ExSc fused	1	0.200	0 --> 1
	26.Maxilla	1	0.714	0 ==> 1
	28.Vo teeth s	1	0.444	0 --> 1
	33.N dent tee	1	0.250	0 --> 1
	69.N dor rid	1	0.500	0 ==> 1
	76.N ven rid	1	0.375	0 ==> 1
	83.Cloac to a	1	0.500	0 ==> 1
	84.Ant cloac	1	0.600	0 --> 1
	85.Post cloac	2	0.556	0 --> 2
node_58 --> node_55	5.Mouth gap	1	0.143	0 --> 1
	79.Distri ven	1	0.250	2 ==> 0
	80.Conta ven	1	0.375	0 ==> 2
	85.Post cloac	1	0.556	2 ==> 3
node_55 --> node_51	33.N dent tee	1	0.250	1 ==> 2
	54.N dor axon	1	0.438	1 ==> 0
	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
	74.Size dor s	1	0.286	1 ==> 2
	84.Ant cloac	1	0.600	1 ==> 2
node_51 --> node_49	41.N vertebra	1	0.400	0 ==> 2
	69.N dor rid	1	0.500	1 ==> 2
	72.Distr dor	1	0.375	1 --> 0
	73.Conta dor	1	0.222	1 --> 2
	83.Cloac to a	1	0.500	1 ==> 2
node_49 --> node_48	58.N anal axo	1	0.429	0 --> 2
	62.Scal ossif	1	0.286	2 ==> 3
	76.N ven rid	1	0.375	1 ==> 2
	83.Cloac to a	1	0.500	2 ==> 3
node_48 --> node_47	48.Devel hypo	1	0.375	0 ==> 1
	55.Axon not l	1	0.250	1 ==> 0
	65.Ornamentat	1	0.667	2 ==> 0
	85.Post cloac	1	0.556	3 ==> 2
node_47 --> node_45	7.Caud pedic	1	0.167	0 ==> 1
	15.Infraorbit	1	0.429	0 --> 1

	17.Io ornamen	1	0.667	1 ==> 0
	31.N vo teet	1	0.333	0 --> 1
	54.N dor axon	1	0.438	0 ==> 1
	80.Conta ven	1	0.375	2 --> 0
node_45 --> node_38	5.Mouth gap	1	0.143	1 ==> 0
	42.Centra not	1	0.250	0 --> 1
	48.Devel hypo	1	0.375	1 ==> 2
	54.N dor axon	1	0.438	1 ==> 2
	57.Pos anal f	1	0.444	2 ==> 1
node_38 --> node_36	23.Teeth	1	0.500	1 --> 0
	43.Centra_dor	1	0.444	0 --> 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
	63.Scal distr	1	0.750	0 ==> 2
	69.N dor rid	1	0.500	2 ==> 1
	73.Conta dor	1	0.222	2 ==> 0
	74.Size dor s	1	0.286	2 ==> 1
node_36 --> Abdobalistum	7.Caud pedic	1	0.167	1 ==> 0
	40.Grooves	1	0.125	0 ==> 1
	41.N vertebra	1	0.400	2 ==> 1
	56.Dor fin sh	1	0.500	2 --> 1
	59.Urodermals	1	0.250	1 --> 2
	60.N caud ray	1	0.444	2 --> 5
	61.Caud shape	1	0.556	2 --> 0
	64.Scal arran	1	0.500	0 ==> 1
	66.1 dor rid	1	0.143	0 --> 1
	68.Scutel rid	1	1.000	0 ==> 2
	71.N dor spin	1	0.375	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
	82.Ridg scal	1	1.000	0 ==> 1
node_36 --> node_35	2.Dors apex	1	0.300	0 ==> 2
	16.Ios canal	1	0.500	1 ==> 0
	39.Crenulatio	1	0.333	0 ==> 1
	43.Centra_dor	1	0.444	1 ==> 2
	62.Scal ossif	2	0.286	3 ==> 1
node_35 --> Flagellipinna	4.Ventr apex	1	0.167	1 --> 2
	15.Infraorbit	1	0.429	1 --> 2
	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
	74.Size dor s	1	0.286	1 ==> 0
node_35 --> node_34	4.Ventr apex	1	0.167	1 --> 0
	28.Vo teeth s	1	0.444	1 --> 0
	42.Centra not	1	0.250	1 ==> 2
	61.Caud shape	1	0.556	2 --> 3
	70.Arran dor	1	0.417	0 ==> 1
node_34 --> node_32	60.N caud ray	1	0.444	2 --> 4
	62.Scal ossif	1	0.286	1 ==> 0
	64.Scal arran	1	0.500	0 ==> 1
node_32 --> Nursallia goedel	49.N hypoch e	1	0.250	0 --> 2
	63.Scal distr	1	0.750	2 --> 1
node_32 --> Palaeobalistum	1.Bod shape	1	0.222	0 --> 1
	2.Dors apex	1	0.300	2 --> 1
	15.Infraorbit	1	0.429	1 --> 2
	48.Devel hypo	1	0.375	2 ==> 1

	63.Scal distr	1	0.750	2 --> 3
	71.N dor spin	1	0.375	0 --> 2
	76.N ven rid	1	0.375	2 --> 1
node_34 --> node_33	8.Frontals	1	1.000	0 --> 1
	46.Last neur	1	0.222	1 ==> 2
	49.N hypoch e	1	0.250	0 --> 2
	53.Posit dors	1	0.300	0 ==> 2
	57.Pos anal f	1	0.444	1 ==> 2
	66.1 dor rid	1	0.143	0 --> 1
node_33 --> Nurs gutturosum	9.Prefrontal	1	0.500	0 --> 1
	12.ExSc fused	1	0.200	1 --> 0
	26.Maxilla	1	0.714	1 --> 0
	31.N vo teet	1	0.333	1 ==> 2
	62.Scal ossif	1	0.286	1 ==> 2
	65.Ornamentat	1	0.667	0 --> 1
node_33 --> Nurs veronae	30.N vo rows	1	0.400	0 --> 1
	59.Urodermals	1	0.250	1 --> 2
	60.N caud ray	1	0.444	2 --> 4
	68.Scutel rid	1	1.000	0 ==> 3
	69.N dor rid	1	0.500	1 ==> 2
	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
	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
	86.Bif cloac	1	0.667	0 --> 1
node_38 --> node_37	33.N dent tee	2	0.250	2 ==> 0
	53.Posit dors	1	0.300	0 ==> 1
node_37 --> Akromystax	6.Prognathis	1	1.000	0 --> 2
	9.Prefrontal	1	0.500	0 --> 1
	10.Fenestra	1	0.200	0 --> 1
	12.ExSc fused	1	0.200	1 --> 0
	19.Pop hyom	1	0.375	1 --> 2
	23.Teeth	1	0.500	1 --> 2
	24.Pmx	1	1.000	0 --> 1
	25.N pmx teet	1	0.600	0 --> 2
	28.Vo teeth s	1	0.444	1 --> 4
	30.N vo rows	1	0.400	0 --> 1
	42.Centra not	1	0.250	1 ==> 2
	49.N hypoch e	1	0.250	0 --> 1
	56.Dor fin sh	1	0.500	2 --> 5
	62.Scal ossif	1	0.286	3 ==> 2
	75.vks1	1	1.000	0 --> 1
	76.N ven rid	1	0.375	2 --> 3
	80.Conta ven	1	0.375	0 --> 3
	84.Ant cloac	1	0.600	2 --> 4
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
	43.Centra_dor	1	0.444	0 --> 1
node_45 --> node_44	1.Bod shape	1	0.222	0 ==> 1
	52.PoPv	1	0.333	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
node_44 --> node_43	13.Endoc expo	1	1.000	0 ==> 1
	14.lacun	1	1.000	0 ==> 1
	15.Infraorbit	1	0.429	1 ==> 3
	19.Pop hyom	1	0.375	1 --> 2
	21.Opercular	1	0.500	0 ==> 1

	22. Branchios	1	0.429	0 --> 2
	25.N pmx teet	1	0.600	0 ==> 3
	42.Centra not	1	0.250	0 --> 1
	51.Cleith sha	1	1.000	0 ==> 1
	62.Scal ossif	1	0.286	3 ==> 4
	70.Arran dor	1	0.417	0 ==> 1
	86.Bif cloac	1	0.667	0 --> 1
node_43 --> node_42	12.ExSc fused	1	0.200	1 --> 0
	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
	85.Post cloac	1	0.556	2 ==> 3
node_42 --> node_39	46.Last neur	2	0.222	0 ==> 2
	51.Cleith sha	1	1.000	1 ==> 2
	66.1 dor rid	1	0.143	0 --> 1
node_39 --> "Coelodus"_gride	13.Endoc expo	1	1.000	1 ==> 2
	76.N ven rid	1	0.375	2 --> 3
	77.Arran ven	1	0.250	0 ==> 1
	78.N ven rid	1	0.250	0 ==> 1
	79.Distri ven	1	0.250	0 --> 2
node_39 --> Polazzodus	5.Mouth gap	1	0.143	1 --> 0
	19.Pop hyom	1	0.375	2 --> 3
	26.Maxilla	1	0.714	1 --> 5
	28.Vo teeth s	1	0.444	1 --> 3
	31.N vo teet	1	0.333	1 --> 2
	40.Grooves	1	0.125	0 --> 1
	61.Caud shape	1	0.556	2 ==> 4
	67.drs2	1	1.000	0 ==> 1
node_42 --> node_41	37.N prear te	1	0.333	0 ==> 1
	52.PoPv	1	0.333	1 ==> 0
	56.Dor fin sh	1	0.500	2 --> 1
	68.Scutel rid	1	1.000	0 ==> 1
	76.N ven rid	1	0.375	2 --> 3
node_41 --> node_40	5.Mouth gap	1	0.143	1 --> 0
	10.Fenestra	1	0.200	0 ==> 1
	14.lacun	1	1.000	1 ==> 2
	25.N pmx teet	1	0.600	3 ==> 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
	60.N caud ray	1	0.444	2 --> 3
	66.1 dor rid	1	0.143	0 --> 1
	69.N dor rid	1	0.500	2 ==> 3
	77.Arran ven	1	0.250	0 ==> 1
	79.Distri ven	1	0.250	0 --> 2
node_40 --> Oropycnodus pons	1.Bod shape	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
	15.Infraorbit	1	0.429	3 --> 0
	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	2 --> 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	4.Ventr apex	1	0.167	1 ==> 0
	15.Infraorbit	1	0.429	3 --> 1
	19.Pop hyom	1	0.375	2 --> 3
	21.Opercular	1	0.500	1 ==> 0
	22. Branchios	1	0.429	2 --> 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
	58.N anal axo	1	0.429	2 --> 3
node_41 --> Tergestinia	2.Dors apex	1	0.300	0 ==> 3
	19.Pop hyom	1	0.375	2 --> 3
	34.Prear t sh	1	0.750	0 ==> 2
	39.Crenulatio	1	0.333	0 ==> 2
	40.Grooves	1	0.125	0 --> 1
	60.N caud ray	1	0.444	2 --> 1
	61.Caud shape	1	0.556	2 ==> 5
	65.Ornamentat	1	0.667	0 --> 2
	78.N ven rid	1	0.250	0 ==> 1
node_43 --> Sylvienodus	2.Dors apex	1	0.300	0 ==> 1
	26.Maxilla	1	0.714	1 --> 5
	27.Cren	1	1.000	0 ==> 1
	39.Crenulatio	1	0.333	0 ==> 2
	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	2 ==> 6
	79.Distri ven	1	0.250	0 --> 2
	80.Conta ven	1	0.375	0 ==> 2
node_44 --> Libanopycnodus	4.Ventr apex	1	0.167	1 --> 0
	22. Branchios	1	0.429	0 --> 1
	40.Grooves	1	0.125	0 --> 1
	57.Pos anal f	1	0.444	2 ==> 0
	66.1 dor rid	1	0.143	0 --> 1
	73.Conta dor	1	0.222	2 ==> 0
	78.N ven rid	1	0.250	0 ==> 1
node_47 --> node_46	2.Dors apex	1	0.300	0 ==> 2
	4.Ventr apex	1	0.167	1 ==> 2
	10.Fenestra	1	0.200	0 ==> 1
	49.N hypoch e	1	0.250	0 ==> 1
	52.PoPv	1	0.333	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
	15.Infraorbit	1	0.429	0 --> 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
	56.Dor fin sh	1	0.500	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
	80.Conta ven	1	0.375	2	--> 0
	84.Ant cloac	1	0.600	2	==> 1
node_46 --> Ocloedus subdisc	19.Pop hyom	1	0.375	1	--> 2
	40.Grooves	1	0.125	0	==> 1
	62.Scal ossif	1	0.286	3	==> 2
	72.Distr dor	1	0.375	0	--> 2
	79.Distri ven	1	0.250	0	==> 2
node_48 --> Stemmatodus	1.Bod shape	1	0.222	0	==> 1
	4.Ventr apex	1	0.167	1	--> 0
	19.Pop hyom	1	0.375	1	--> 2
	26.Maxilla	1	0.714	1	==> 2
	28.Vo teeth s	1	0.444	1	==> 0
	31.N vo teet	1	0.333	0	--> 1
	37.N prear te	1	0.333	0	==> 2
	45.Autog neur	1	0.500	1	==> 2
	56.Dor fin sh	1	0.500	2	--> 1
	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
	47.N epich el	1	0.400	2	--> 3
	49.N hypoch e	1	0.250	0	==> 2
	52.PoPv	1	0.333	0	==> 2
node_51 --> node_50	37.N prear te	1	0.333	0	==> 1
	40.Grooves	1	0.125	0	==> 1
	47.N epich el	1	0.400	2	--> 3
	70.Arran dor	1	0.417	0	==> 1
	72.Distr dor	1	0.375	1	--> 2
	73.Conta dor	1	0.222	1	--> 0
	88.Sclo	1	1.000	0	==> 1
node_50 --> Turbomesodon pra	30.N vo rows	1	0.400	0	--> 1
	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	2	--> 4
	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
	56.Dor fin sh	1	0.500	2	--> 3
	58.N anal axo	1	0.429	0	--> 2
node_55 --> node_54	2.Dors apex	1	0.300	0	==> 2
	48.Devel hypo	1	0.375	0	--> 1
node_54 --> node_53	39.Crenulatio	1	0.333	0	==> 1
	55.Axon not l	1	0.250	1	--> 0
	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
	42.Centra not	1	0.250	0	==> 1
	58.N anal axo	1	0.429	0	--> 3
node_52 --> Coelodus saturnu	7.Caud pedic	1	0.167	0	==> 1
	34.Prear t sh	1	0.750	0	--> 3
	37.N prear te	1	0.333	0	--> 2
	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	2	0.438	1 ==> 3
	69.N dor rid	1	0.500	1 --> 2
	70.Arran dor	2	0.417	0 ==> 2
node_52 --> Iemanja	6.Prognathis	1	1.000	0 ==> 1
	20.Condyle hy	1	0.500	0 --> 1
	26.Maxilla	1	0.714	1 --> 3
	28.Vo teeth s	1	0.444	1 ==> 2
	29.Vo patchy	1	1.000	0 ==> 1
	34.Prear t sh	1	0.750	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
node_53 --> Tepexichthys	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 --> 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
	61.Caud shape	1	0.556	2 ==> 1
node_54 --> Potiguara	4.Ventr apex	1	0.167	1 ==> 2
	10.Fenestra	1	0.200	0 --> 1
	41.N vertebra	1	0.400	0 ==> 2
	53.Posit dors	1	0.300	0 ==> 1
	54.N dor axon	2	0.438	1 ==> 3
	58.N anal axo	1	0.429	0 --> 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
	48.Devel hypo	1	0.375	0 --> 1
	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	5.Mouth gap	1	0.143	0 --> 1
	30.N vo rows	1	0.400	0 ==> 1
	32.Alter vo t	1	1.000	0 ==> 1
	53.Posit dors	1	0.300	0 --> 2
	61.Caud shape	1	0.556	2 ==> 1
	83.Cloac to a	1	0.500	2 ==> 3
node_56 --> Neoproscinetes	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
	58.N anal axo	1	0.429	0 --> 2
	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	0 --> 3
	85.Post cloac	1	0.556	2 ==> 1
node_57 --> Turboscinetes	4.Ventr apex	1	0.167	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	0 --> 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 --> Thiollierepycnod	2.Dors apex	1	0.300	0 ==> 2
	4.Ventr apex	1	0.167	1 ==> 2
	7.Caud pedic	1	0.167	0 ==> 1
	22. Branchios	1	0.429	0 ==> 1
	23.Teeth	1	0.500	1 ==> 3
	41.N vertebra	1	0.400	0 ==> 1
	52.PoPv	1	0.333	0 ==> 2
	58.N anal axo	1	0.429	0 --> 3
	60.N caud ray	1	0.444	3 ==> 2
	62.Scal ossif	1	0.286	2 --> 3
	63.Scal distr	1	0.750	0 ==> 2
	78.N ven rid	1	0.250	0 --> 1
node_60 --> Scalacurvichthys	1.Bod shape	1	0.222	0 ==> 1
	5.Mouth gap	1	0.143	0 --> 1
	28.Vo teeth s	1	0.444	0 --> 1
	33.N dent tee	2	0.250	0 ==> 2
	41.N vertebra	1	0.400	0 ==> 3
	46.Last neur	1	0.222	0 ==> 1
	62.Scal ossif	2	0.286	2 ==> 4
	78.N ven rid	1	0.250	0 --> 1