

Morrone & Escalante (2002) Geodis output for nesting level 1

Differentiating population structure from history - Geodis 2.3 beta
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Contact: David Posada, University of Vigo, Spain (dposada@uvigo.es)

Input file: C:\Documents and Settings\Anthony
Deo\Desktop\endemismdatamatrices\geoin_nl_0.txt
Endemic Areas Mexico

Tue Feb 01 14:43:19 EST 2005

PERMUTATION ANALYSIS OF NL_0_AID_0
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 41.2500

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 0.7540

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_0	20.0291	99.5027
C147	21.3084	101.3235
C254	18.7815	98.2368
C337	25.1600	104.2800
C372	23.9000	102.9834

CLADE C147 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	270.7021	0.6110	0.3900
NESTED CLADE	314.0847	0.6070	0.3940

CLADE C254 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	61.9086	0.0090	0.9910
NESTED CLADE	210.4156	0.0520	0.9480

CLADE C337 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	0.0000	0.0210	1.0000
NESTED CLADE	751.4643	1.0000	0.0090

CLADE C372 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	53.4024	0.0100	0.9900
NESTED CLADE	560.6347	0.8970	0.1030

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_1
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 64.4957

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_1	15.9770	84.5369
C027	15.0618	79.1994
C059	17.5566	93.7489

CLADE C027 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	1296.5180	0.7130	0.2870
NESTED CLADE	1322.6664	0.8330	0.1670

CLADE C059 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	379.4735	0.0040	0.9960
NESTED CLADE	1003.4221	0.1670	0.8330

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_8
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 65.9278

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
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NL_0_AID_8	20.4189	101.3436
C180	20.3771	100.7123
C181	20.4591	101.9512

CLADE C180 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	310.1773	0.6990	0.3010	
NESTED CLADE	313.3813	0.7570	0.2430	

CLADE C181 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	280.2631	0.0750	0.9250	
NESTED CLADE	295.1383	0.2700	0.7300	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_13
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 76.7819

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_13	22.4914	102.0538
C310	22.3984	102.2561
C375	22.5673	101.8887

CLADE C310 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	463.6678	0.4200	0.5800	
NESTED CLADE	463.8105	0.3720	0.6280	

CLADE C375 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	475.1502	0.6710	0.3290	
NESTED CLADE	475.5026	0.6390	0.3610	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_15

BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 108.3408

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_15	18.3525	96.3409
C056	19.0855	98.1607
C091	18.0201	95.5159

CLADE C056 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	305.4607	0.3880	0.6120
NESTED CLADE	326.3038	0.6740	0.3260

CLADE C091 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	286.8457	0.0280	0.9720
NESTED CLADE	311.1104	0.3740	0.6260

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_17
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 77.9886

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_17	19.6256	98.9574
C086	19.6540	98.9688
C118	19.5973	98.9461

CLADE C086 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
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WITHIN CLADE	283.3894	0.3190	0.6810
NESTED CLADE	283.3975	0.2960	0.7040

CLADE C118 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	299.2143	0.7280	0.2720
NESTED CLADE	299.3634	0.7000	0.3000

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_19
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 100.8458

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_19	19.0628	98.2502
C088	19.0495	97.4286
C119	19.0724	98.8413

CLADE C088 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	335.7383	0.7350	0.2650
NESTED CLADE	348.8501	0.9050	0.0950

CLADE C119 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	295.4901	0.0600	0.9400
NESTED CLADE	306.5539	0.1170	0.8830

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_20
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 162.8905

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_20	19.6247	98.2509
C122	18.9120	97.4038
C249	20.0961	98.8112

CLADE C122 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	265.1660	0.0000	1.0000
NESTED CLADE	311.7910	0.0050	0.9950

CLADE C249 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	400.6396	0.9700	0.0300
NESTED CLADE	399.7490	0.9710	0.0290

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_22
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 121.3329

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_22	19.1300	96.2977
C154	19.8684	97.5922
C155	18.7641	95.6562

CLADE C154 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	332.3554	0.3070	0.6930
NESTED CLADE	367.3445	0.5670	0.4330

CLADE C155 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	359.2464	0.4840	0.5160

NESTED CLADE 355.6029 0.4500 0.5500

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_23
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 108.3504

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_23	20.2212	98.4405
C187	20.0219	98.1776
C220	20.6464	99.0013

CLADE C187 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	228.6286	0.0770	0.9230
NESTED CLADE	243.2340	0.1590	0.8410

CLADE C220 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	315.4568	0.8910	0.1090
NESTED CLADE	309.5116	0.8950	0.1050

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_25
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 130.1817

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_25	18.9061	96.1793
C093	18.9170	95.6891
C121	18.8923	96.8010

CLADE C093 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	408.2304	0.9390	0.0610
NESTED CLADE	413.0544	0.9580	0.0420

CLADE C121 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	332.0542	0.0080	0.9920
NESTED CLADE	340.3347	0.0180	0.9820

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_26
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 78.3085

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_26	20.9514	101.7253
C148	20.5063	101.4814
C214	21.8861	102.2376

CLADE C148 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	321.4267	0.3820	0.6180
NESTED CLADE	325.5018	0.4710	0.5290

CLADE C214 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	318.0634	0.3590	0.6410
NESTED CLADE	331.2160	0.5570	0.4430

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_31
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 68.6763

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_31	22.8331	102.2109
C186	22.1563	101.5361
C345	23.3732	102.7494

CLADE C186 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	336.6976	0.2890	0.7110
NESTED CLADE	351.1131	0.5730	0.4270

CLADE C345 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	338.3771	0.2610	0.7390
NESTED CLADE	345.8551	0.4340	0.5660

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_32
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 86.0327

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_32	21.3493	100.0994
C218	22.1845	101.6965
C219	20.8760	99.1943

CLADE C218 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	308.7297	0.1660	0.8340	
NESTED CLADE	337.5238	0.3480	0.6520	

CLADE C219 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	315.7654	0.1380	0.8620	
NESTED CLADE	353.1643	0.6130	0.3870	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_33
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 98.8837

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_33	20.1765	100.7859
C151	20.2461	100.1201
C182	20.1288	101.2419

CLADE C151 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	282.7454	0.7930	0.2070	
NESTED CLADE	281.3060	0.8010	0.1990	

CLADE C182 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	236.2191	0.1080	0.8920	
NESTED CLADE	251.0611	0.2440	0.7560	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_34
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 205.0096

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_34	20.6061	100.9947
C183	20.5517	101.4640
C184	20.4598	100.7982
C216	21.0989	100.1436

CLADE C183 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	244.9420	0.2470	0.7530
NESTED CLADE	252.4769	0.2730	0.7270

CLADE C184 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	238.2104	0.2150	0.7850
NESTED CLADE	244.4115	0.2020	0.7980

CLADE C216 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	336.6180	0.9880	0.0120
NESTED CLADE	351.6506	0.9940	0.0060

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_37
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 36.9392

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_37	19.7730	100.7413
C117	19.6915	100.1438
C150	19.8300	101.1591

CLADE C117 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	264.8462	0.7250	0.2750	
NESTED CLADE	270.4923	0.7900	0.2100	

CLADE C150 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	235.2653	0.1960	0.8040	
NESTED CLADE	242.6237	0.2490	0.7510	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_40
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 124.4437

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_40	17.5443	91.4478
C060	17.2138	90.7050
C126	17.8602	92.1577

CLADE C060 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	685.2293	0.8860	0.1140	
NESTED CLADE	660.5654	0.9280	0.0720	

CLADE C126 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	411.2376	0.0570	0.9430	
NESTED CLADE	459.1770	0.0640	0.9360	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_44
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 82.8750

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_44	18.8432	94.7124
C157	18.5695	93.7642
C253	19.1979	95.9414

CLADE C157 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	395.5124	0.5530	0.4470
NESTED CLADE	364.1962	0.5030	0.4970

CLADE C253 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	334.5282	0.4450	0.5550
NESTED CLADE	361.0458	0.4970	0.5030

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_48
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 96.8737

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_48	21.8342	99.5373
C251	21.3169	99.2347
C317	22.3191	99.8209

CLADE C251 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	282.5584	0.0080	0.9920
NESTED CLADE	291.2301	0.0220	0.9780

CLADE C317 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	398.3319	0.9500	0.0500	
NESTED CLADE	399.6183	0.9470	0.0530	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_52
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 55.9864

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE	
NL_0_AID_52	23.5146	100.8856	
C318	23.5374	100.7327	
C351	23.4481	101.3313	

CLADE C318 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	282.9603	0.2600	0.7400	
NESTED CLADE	287.3618	0.3050	0.6950	

CLADE C351 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	334.6983	0.7850	0.2150	
NESTED CLADE	340.7191	0.8240	0.1760	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_59
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 96.8947

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN

OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_59	17.8716	92.3219
C094	17.3366	92.1184
C127	18.2992	92.4845

CLADE C094 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	424.9551	0.4200	0.5800
NESTED CLADE	433.5273	0.4350	0.5650

CLADE C127 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	435.7833	0.4940	0.5060
NESTED CLADE	446.6644	0.5720	0.4280

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_61
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 43.1889

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_61	19.0419	93.1200
C161	18.8516	92.8830
C227	19.2246	93.3476

CLADE C161 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	308.2040	0.7080	0.2920
NESTED CLADE	313.3622	0.7680	0.2320

CLADE C227 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	290.4287	0.2790	0.7210
NESTED CLADE	287.8107	0.1940	0.8060

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_63
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 56.5369

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_63	20.1028	93.5175
C228	20.2985	94.1432
C229	19.8845	92.8196

CLADE C228 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	429.5144	0.8200	0.1800
NESTED CLADE	423.0151	0.6190	0.3810

CLADE C229 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	397.5991	0.2350	0.7650
NESTED CLADE	411.0737	0.3850	0.6150

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_68
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 76.4474

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
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NL_0_AID_68	20.2588	92.6563
C231	20.4327	91.7856
C261	19.8883	94.5101

CLADE C231 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	456.8762	0.5740	0.4260
NESTED CLADE	477.1819	0.6350	0.3650

CLADE C261 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	438.2776	0.4180	0.5820
NESTED CLADE	432.5332	0.3000	0.7000

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_72
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 52.8862

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_72	19.3931	94.0411
C163	19.3395	94.3553
C230	19.4382	93.7768

CLADE C163 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	321.3919	0.5870	0.4130
NESTED CLADE	322.2638	0.5970	0.4030

CLADE C230 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	306.4727	0.3750	0.6250
NESTED CLADE	308.1795	0.4080	0.5920

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_76

BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 40.8598

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_76	22.5654	101.8398
C217	22.8650	101.9414
C250	22.3398	101.7633

CLADE C217 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	268.3313	0.2910	0.7090
NESTED CLADE	273.3735	0.2930	0.7070

CLADE C250 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	285.0764	0.6640	0.3360
NESTED CLADE	289.1037	0.6370	0.3630

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_78
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 104.1625

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_78	22.4590	102.0326
C247	21.7665	102.3035
C248	22.7739	101.9094

CLADE C247 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
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WITHIN CLADE	276.2253	0.0170	0.9830
NESTED CLADE	291.5417	0.0700	0.9300

CLADE C248 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	333.9503	0.8460	0.1540
NESTED CLADE	334.4909	0.8420	0.1580

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_82
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 84.8703

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_82	24.2889	103.7277
C343	23.7266	103.5525
C410	24.7578	103.8738

CLADE C343 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	419.9915	0.8890	0.1110
NESTED CLADE	423.5909	0.8970	0.1030

CLADE C410 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	347.6831	0.0620	0.9380
NESTED CLADE	356.9656	0.1200	0.8800

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_86
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 58.9141

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_86	23.8865	103.0156
C313	24.0045	103.1952
C346	23.7655	102.8315

CLADE C313 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	270.4360	0.1960	0.8040
NESTED CLADE	271.2580	0.1820	0.8180

CLADE C346 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	298.6296	0.8530	0.1470
NESTED CLADE	296.4174	0.8040	0.1960

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_89
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 73.2327

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_89	24.6913	101.8935
C350	23.7105	101.4999
C382	25.0451	102.0355

CLADE C350 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	343.0099	0.9530	0.0470
NESTED CLADE	346.3508	0.9640	0.0360

CLADE C382 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	257.7236	0.2520	0.7480

NESTED CLADE 258.6386 0.2070 0.7930

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_92
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 63.5910

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_92	23.2586	101.9115
C282	22.5079	100.9738
C314	24.4768	103.4334

CLADE C282 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	348.4329	0.9060	0.0940
NESTED CLADE	356.5115	0.9590	0.0410

CLADE C314 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	181.5027	0.0000	1.0000
NESTED CLADE	265.6102	0.0050	0.9950

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_93
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 60.8134

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_93	24.1881	102.8193
C349	24.5588	102.7688
C414	23.7669	102.8766

CLADE C349 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	258.7597	0.0900	0.9100
NESTED CLADE	261.3442	0.0940	0.9060

CLADE C414 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	315.3145	0.9080	0.0920
NESTED CLADE	320.1512	0.9280	0.0720

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_95
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 42.4386

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_95	24.2168	102.4287
C283	23.7071	102.4539
C316	24.7053	102.4045

CLADE C283 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	283.3780	0.7400	0.2600
NESTED CLADE	289.9745	0.8200	0.1800

CLADE C316 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	250.3554	0.1840	0.8160
NESTED CLADE	259.5472	0.2380	0.7620

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_98
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 41.8404

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_98	25.9257	104.2337
C446	26.1918	104.6102
C479	25.5996	103.7720

CLADE C446 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	274.0058	0.4450	0.5550
NESTED CLADE	272.3149	0.3360	0.6640

CLADE C479 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	278.7382	0.6340	0.3660
NESTED CLADE	282.6286	0.6780	0.3220

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_100
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 114.9530

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_100	25.9467	105.2652
C383	24.2719	101.8430
C598	26.7190	106.8431

CLADE C383 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	284.4726	0.0000	1.0000	
NESTED CLADE	438.3605	0.0000	1.0000	

CLADE C598 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	875.4415	0.9880	0.0120	
NESTED CLADE	870.8958	0.9930	0.0070	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_105
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 46.5883

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_105	24.8508	104.4940
C408	24.3784	104.3156
C473	25.6779	104.8062

CLADE C408 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	257.7759	0.1210	0.8790	
NESTED CLADE	272.8175	0.1590	0.8410	

CLADE C473 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	326.4040	0.8130	0.1870	
NESTED CLADE	344.6179	0.8630	0.1370	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_107
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 84.0000

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_107	24.6692	103.5358
C441	24.8184	104.0762
C474	24.5647	103.1570

CLADE C441 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	366.9438	0.0230	0.9770
NESTED CLADE	372.4408	0.0110	0.9890

CLADE C474 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	475.7562	0.9670	0.0330
NESTED CLADE	470.1471	0.9500	0.0500

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_111
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 45.9846

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_111	26.7643	105.0381
C475	26.4531	105.0552
C476	26.9777	105.0263

CLADE C475 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	240.8468	0.8320	0.1680
NESTED CLADE	233.7510	0.7570	0.2430

CLADE C476 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	204.3239	0.2320	0.7680	
NESTED CLADE	210.5658	0.2920	0.7080	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_119
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 41.9057

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_119	25.6989	102.5361
C417	24.5019	101.8079
C448	26.3203	102.9142

CLADE C417 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	222.0385	0.0840	0.9160	
NESTED CLADE	229.1965	0.1240	0.8760	

CLADE C448 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	312.9712	0.7030	0.2970	
NESTED CLADE	325.1279	0.7750	0.2250	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_121
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 36.8523

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN

OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_121	26.4756	104.6674
C442	26.0142	103.9884
C573	26.8913	105.2790

CLADE C442 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	242.0599	0.1290	0.8710
NESTED CLADE	255.9017	0.2810	0.7190

CLADE C573 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	254.4535	0.4020	0.5980
NESTED CLADE	271.3412	0.6840	0.3160

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_122
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 230.4349

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_122	25.6842	102.8349
C445	25.0256	103.2589
C449	25.1535	103.0337
C477	25.7502	104.0360
C478	25.8031	103.6734
C514	26.0713	101.7655
C575	25.5841	103.6801

CLADE C445 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	200.2451	0.2860	0.7140
NESTED CLADE	208.7671	0.2490	0.7510

CLADE C449 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
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WITHIN CLADE	175.5417	0.2340	0.7660
NESTED CLADE	176.1238	0.1110	0.8890
CLADE C477 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	181.6681	0.2940	0.7060
NESTED CLADE	204.4581	0.3550	0.6450
CLADE C478 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	208.3754	0.4080	0.5920
NESTED CLADE	214.4922	0.3450	0.6550
CLADE C514 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	279.4118	0.9130	0.0870
NESTED CLADE	296.5366	0.9780	0.0220
CLADE C575 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	103.6624	0.0160	0.9840
NESTED CLADE	134.6814	0.0170	0.9830

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_123
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 54.9461

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_123	25.1234	103.0204
C513	23.7939	99.7934
C542	26.4763	106.3042

CLADE C513 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	428.4124	0.3730	0.6270
NESTED CLADE	523.1162	0.7200	0.2800

CLADE C542 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	350.2576	0.1130	0.8870

NESTED CLADE 433.8870 0.2620 0.7380

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_125
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 48.8919

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_125	24.0392	104.3577
C342	23.9165	104.3138
C374	24.1536	104.3986

CLADE C342 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	440.3831	0.5100	0.4900
NESTED CLADE	440.0405	0.4120	0.5880

CLADE C374 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	447.5949	0.6560	0.3440
NESTED CLADE	448.6161	0.5890	0.4110

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_126
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 79.5280

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_126	24.9983	105.0387
C407	24.4863	104.8152
C440	25.5438	105.2769

CLADE C407 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	429.7534	0.9390	0.0610
NESTED CLADE	433.3309	0.9400	0.0600

CLADE C440 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	371.5135	0.0180	0.9820
NESTED CLADE	383.9372	0.0650	0.9350

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_133
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 47.9647

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_133	27.2149	108.0221
C438	27.1061	107.8472
C471	27.4633	108.4215

CLADE C438 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	375.3648	0.4730	0.5270
NESTED CLADE	373.3815	0.4170	0.5830

CLADE C471 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	389.6939	0.6240	0.3760
NESTED CLADE	395.8680	0.6000	0.4000

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_139
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 25.6492

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_139	28.1266	113.8186
C274	26.5968	109.0684
C466	28.4303	114.7615

CLADE C274 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	398.4310	0.9770	0.0230
NESTED CLADE	525.7307	0.9990	0.0010

CLADE C466 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	124.1374	0.0020	0.9980
NESTED CLADE	192.2731	0.0010	0.9990

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_141
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 34.5207

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_141	25.4756	109.2299
C307	24.7238	108.3981
C371	26.5309	110.3973

CLADE C307 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	371.3338	0.0750	0.9250	
NESTED CLADE	388.6547	0.1090	0.8910	

CLADE C371 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	439.1655	0.5260	0.4740	
NESTED CLADE	491.3690	0.7600	0.2400	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_148
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 40.5045

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_148	29.7535	113.2595
C564	29.6332	113.0585
C597	29.9416	113.5737

CLADE C564 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	407.9178	0.7810	0.2190	
NESTED CLADE	401.2362	0.7540	0.2460	

CLADE C597 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	360.7744	0.1690	0.8310	
NESTED CLADE	375.3200	0.2020	0.7980	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_150
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 43.7500

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_150	28.3929	110.4792
C566	28.6004	110.9904
C599	28.2468	110.1192

CLADE C566 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	362.3361	0.1500	0.8500
NESTED CLADE	374.2249	0.0450	0.9550

CLADE C599 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	443.3837	0.9460	0.0540
NESTED CLADE	437.7634	0.9080	0.0920

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_153
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 78.0599

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_153	23.9183	103.2936
C376	23.6177	102.7086
C472	24.5959	104.6124

CLADE C376 (Tip)			
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	386.0150	0.4050	0.5950
NESTED CLADE	391.6457	0.4560	0.5440

CLADE C472 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	372.8798	0.3320	0.6680	
NESTED CLADE	406.1814	0.5750	0.4250	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_155
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 47.2381

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE	
NL_0_AID_155	26.1830	106.4621	
C538	26.5270	107.0536	
C569	24.9015	104.2585	

CLADE C538 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	654.7559	0.9580	0.0420	
NESTED CLADE	646.5246	0.9740	0.0260	

CLADE C569 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	220.3076	0.0000	1.0000	
NESTED CLADE	308.2663	0.0010	0.9990	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_156
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 17.4886

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN

OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_156	25.6078	106.7749
C406	25.2607	106.5166
C470	25.8608	106.9632

CLADE C406 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	271.3157	0.0630	0.9370
NESTED CLADE	266.2391	0.0070	0.9930

CLADE C470 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	578.3052	0.9930	0.0070
NESTED CLADE	576.5101	0.9930	0.0070

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_159
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 22.9351

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_159	22.3677	102.6729
C244	22.7102	104.0895
C260	20.3126	94.1723

CLADE C244 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	444.7370	0.1840	0.8160
NESTED CLADE	525.0752	0.3220	0.6780

CLADE C260 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	488.6914	0.3850	0.6150
NESTED CLADE	921.3757	0.9010	0.0990

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_160
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 33.8916

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_160	24.8873	106.7942
C373	24.0568	104.7138
C404	26.1814	110.0359

CLADE C373 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	466.1279	0.1580	0.8420
NESTED CLADE	472.8816	0.1180	0.8820

CLADE C404 (Tip)

TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=
WITHIN CLADE	455.7370	0.3870	0.6130
NESTED CLADE	586.2127	0.7740	0.2260

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_163
BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 17.8137

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
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NL_0_AID_163	26.5678	107.1123
C412	25.1233	103.3977
C434	28.7056	112.6093

CLADE C412 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	240.2581	0.0170	0.9830	
NESTED CLADE	444.2692	0.0830	0.9170	

CLADE C434 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	316.7153	0.3420	0.6580	
NESTED CLADE	650.2383	0.8130	0.1870	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

PERMUTATION ANALYSIS OF NL_0_AID_164
 BASED ON 1000 RESAMPLES

PART I. PERMUTATIONAL CONTINGENCY TEST:

OBSERVED CHI-SQUARE STATISTIC = 41.7981

THE PROBABILITY OF A RANDOM CHI-SQUARE BEING GREATER THAN
 OR EQUAL TO THE OBSERVED CHI-SQUARE = 1.0000

PART II. GEOGRAPHIC DISTANCE ANALYSIS:

GEOGRAPHICAL CENTERS	LATITUDE	LONGITUDE
NL_0_AID_164	26.6499	103.4463
C480	26.7484	102.8670
C572	26.3696	105.0963

CLADE C480 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	337.7317	0.5340	0.4660	
NESTED CLADE	350.3814	0.7180	0.2820	

CLADE C572 (Tip)				
TYPE OF DISTANCE	DISTANCE	PROB.<=	PROB.>=	
WITHIN CLADE	257.5550	0.0370	0.9630	
NESTED CLADE	321.2377	0.1840	0.8160	

NO INTERIOR/TIP CLADES EXIST IN THIS GROUP

** ANALYSIS FINISHED **
 It took 57.7660 seconds.