SUPPORTING INFORMATION

Biogeography of Amazon birds: rivers limit species composition, but not areas of endemism

Ubirajara Oliveira, Marcelo F. Vasconcelos and Adalberto J. Santos

Appendix S1: Additional references, institutions that provided distribution records and results of AoEs and Detailed results of species composition analyses.

1 - Step-by-step analysis of spatial variation in species composition. See the Material and methods for details. Map created in ArcGIS 10.1 (http://www.esri.com) ................................................................. 3

2 - Map of sampling effort. The sampling effort were estimated by density of records through kernel interpolation in ArcGIS 10.1. To establish the search radius of kernel estimation we used the average distance between points of occurrence. .................................................................................. 4

3 - List of checklist references ............................................................................................................. 4

4 - List of institutions that provided distribution data to Gbif and Specieslink .......................................... 6

5 - AoEs identified by GIE through species occurrence. Numbers indicate corresponding areas in table 6. ........................................................................................................................................ 9

6 - Endemic species restricted to the areas indicated figure 5. ................................................................. 10

7 - AoEs identified by GIE through subspecies occurrence. Numbers indicate corresponding areas in table 8. ........................................................................................................................................ 13

8 - Endemic species restricted to the areas indicated figure 7. ................................................................. 14

9 - AoEs identified by NDM through species occurrence ............................................................................ 20

10 - AoEs identified by NDM through subspecies occurrence ................................................................. 25

11 - AoE identified by PAE through species occurrence .......................................................................... 45

12 - Consensus tree of PAE based on species occurrence ......................................................................... 46

13 - Tree of constrained PAE based on species occurrence ...................................................................... 47

14 - AoEs identified by PAE through subspecies occurrence ................................................................... 48

15 - Consensus tree of PAE based on subspecies occurrence ................................................................... 49

16 - Tree of constrained PAE based on subspecies occurrence ................................................................ 50

17 - Autocorrelogram of Moran I analysis of three axis of NMDS analysis ............................................. 51

18 - Most relevant breaks in species composition obtained by Monmonier’s Algorithm .......................... 52

19 - Interpolation of the three axes of NMDS based on species occurrence, subspecies occurrence. Numbers indicate correlation between maps ......................................................................... 53

20 - Unsupervised classification of the spatial variation in species composition. Colours represent different groups in the classification. Each line represents a classification in the number of classes indicated at left ............................................................................. 54

21 - Interpolation of the three axes of NMDS based on species and subspecies occurrence. Beta-diversity is partitioned into turnover and nestedness components ..................................... 56
1 - Step-by-step analysis of spatial variation in species composition. See the Material and methods for details. Map created in ArcGIS 10.1 (http://www.esri.com).
2 - Map of sampling effort. The sampling effort were estimated by density of records through kernel interpolation in ArcGIS 10.1. To establish the search radius of kernel estimation we used the average distance between points of occurrence.

Map created in ArcGIS 10.1 (http://www.esri.com)

3 - List of checklist references

Borges S.H. & Almeida R.A.M. de (2011) Birds of the Jaú National Park and adjacent areas, Brazilian Amazon: new species records with reanalysis of a previous checklist. Revista Brasileira de Ornitologia, 19, 108–133.

Dantas S. de M., Faccio M.S., & Lima M. de F. (2011) Avifaunal inventory of the Floresta Nacional de Pau-Rosa, Maués, state of Amazonas, Brazil. Revista Brasileira de Entomologia, 19, 154–166.

Del-Rio G., Silveira L.F., Cavarzere V., & Rêgo M.A. (2013) A taxonomic review of the Golden-green Woodpecker, Piculus chrysochloros (Aves: Picidae) reveals the existence of six valid taxa. Zootaxa, 3626, 531.

Dornas T. & Pinheiro R.T. (2011) Aves coligidas por José Hidasi e Manoel Santa-Brígida na Amazônia Tocantinense: implicações para a distribuição geográfica das aves amazônicas brasileiras. Revista Brasileira de Ornitologia, 19, 276–301.

Fernandes A.M. (2007) Southern range extension for the Red-And-Black Grosbeak (Periporphyrus erythromelas, Cardinalidae), Amazonian, Brazil. Revista Brasileira de Ornitologia, 15, 468–469.
Guilherme E. & Dantas S. de M. (2011) Avifauna of the Upper Purus River, State of Acre, Brazil. *Revista Brasileira de Ornitologia*, **19**, 185–199.

Lees A.C., Moura N.G. de, Andretti C.B., Davis B.J.W., Lopes E. V., Henriques L.M.P., Aleixo1 A., Barlow J., Ferreira J., & Gardner T.A. (2013) One hundred and thirty-five years of avifaunal surveys around Santarém, central Brazilian Amazon. *Revista Brasileira de Ornitologia*, **21**, 16–57.

Olmos F., Silveira L.F., & Benedicto G.A. (2011) A Contribution to the Ornithology of Rondônia, Southwest of the Brazilian Amazon. *Revista Brasileira de Ornitologia*, **19**, 200–229.

Portes C.E., Carneiro L.S.B., Schunck F., Silva M. de S., Zimmer K.J., Whittaker A., Poletto F., Silveira L.F., & Aleixo A. (2011) Annotated checklist of birds recorded between 1998 and 2009 at nine areas in the Belém area of endemism, with notes on some range extensions and the conservation status of endangered species. *Revista Brasileira de Ornitologia*, **19**, 167–184.

Santos M.P.D., Aleixo A., D’Horta F.M., & Portes C.E.B. (2011a) Avifauna of the Juruti Region, Pará, Brazil. *Revista Brasileira de Ornitologia*, **19**, 134–153.

Santos M.P.D., Silveira L.F., & Silva J.M.C. da (2011b) Birds of Serra do Cachimbo, Pará State, Brazil. *Revista Brasileira de Ornitologia*, **19**, 244–259.

Schunck F., Luca A.C. De, Piacentini V. de Q., Rego M.A., Rennó B., & Corrêa A.H. (2011) Avifauna of two localities in the south of Amapá, Brazil, with comments on the distribution and taxonomy of some species. *Revista Brasileira de Ornitologia*, **19**, 93–107.

Dantas M.P., Silva G.O., Reis A.L. (2011) Birds of the Igarapé Lourdes Indigenous Territory, Jí-Paraná, Rondônia, Brazil. *Revista Brasileira de Ornitologia*, **19**, 230–243.

Somenzari M., Silveira L.F., Piacentini V. de Q., Rego M.A., Schunck F., & Cavarzere V. (2011) Birds of an Amazonia-Cerrado ecotone in southern Pará, Brazil, and the efficiency of associating multiple methods in avifaunal inventories. *Revista Brasileira de Ornitologia*, **19**, 260–275.

Whittaker A. (2004) Noteworthy ornithological records from Rondonia, Brazil, including a first country record, comments on austral migration, life history, taxonomy and distribution, with relevant data from neighbouring states, and a first record for Bolivia. *British Ornithologists’ Club*, **124**, 239–271.
4 - List of institutions that provided distribution data to Gbif and Specieslink.

Academy of Natural Sciences, Philadelphia
American Museum of Natural History
Australian National Wildlife Collection
Burke Museum of Natural History and Culture
Carnegie Museum of Natural History
Centro Universitário Moura Lacerda
Colecção Ornitológica Museu de Biologia Prof. Mello Leitão
Denver Museum of Nature & Science
Field Museum of Natural History Collection of Birds
Florida Museum of Natural History
Fundação Universidade do Tocantins
Fundação Universidade Federal do Rio Grande
Fundación Miguel Lillo - Colección Ornitológica
Fundación Puerto Rastrojo - Colombia
Instituto Adolfo Lutz São Paulo
Instituto de Investigación de Recursos Biológicos Alexander von Humboldt
Instituto Nacional de Pesquisas da Amazônia
KU Biodiversity Institute & Natural History Museum
Marjorie Barrick Museum of Natural History, University of Nevada - Las Vegas
Museo Argentino de Ciencias Naturales, Buenos Aires
Museu de História Natural Capão da Imbuia
Museu de Zoologia da Universidade de São Paulo
Museu Nacional, Universidade Federal do Rio de Janeiro
Muséum national d'Histoire naturelle
Museum of Comparative Zoology - Harvard University
Museum of Vertebrate Zoology of Berkeley
Museum of Zoology, University of Michigan
National Museum of Natural History, Smithsonian Institution
Natural History Museum London
Natural History Museum of Los Angeles County
Peabody Museum of Natural History, Yale University
Pontifícia Universidade Católica de Minas Gerais
Pontifícia Universidade Católica do Rio Grande do Sul
Provincial Museum of Alberta, Edmonton, AB, Canada
Royal Belgian Institute of natural Sciences
Royal Ontario Museum: ROM
San Diego Natural History Museum
Santa Barbara Museum of Natural History
Secretaria de Meio Ambiente - Acre
Senckenberg Museum, Frankfurt
Staatliches Museum Für Naturkunde Stuttgart
Universidade da Região de Joinville
Universidade de Brasília
Universidade do Estado de Mato Grosso
Universidade Estadual de Campinas
Universidade Estadual de Feira de Santana
Universidade Estadual de Maringá
Universidade Estadual Paulista
Universidade Federal da Bahia
Universidade Federal da Paraíba
Universidade Federal de Goiás
Universidade Federal de Juiz de Fora
Universidade Federal de Mato Grosso
Universidade Federal de Mato Grosso do Sul
Centro de Coleções Taxonômicas, Universidade Federal de Minas Gerais
Universidade Federal de Pernambuco
Universidade Federal de Rondônia
Universidade Federal de Santa Catarina
Universidade Federal de Sergipe
Universidade Federal de Viçosa
Universidade Federal do Ceará
Universidade Federal do Espírito Santo
Universidade Federal do Paraná
Universidade Federal do Paraná
Universidade Federal do Piauí
Universidade Federal do Rio Grande do Norte
Universidade Federal do Rio Grande do Sul
Universidade Federal do Vale do São Francisco
Universidade Federal dos Vales do Jequitinhonha e Mucuri
Universidade Federal Rural de Pernambuco
Universidade Federal Rural do Semi-Árido
Universidade Regional de Blumenau
University of East London
University of Wyoming Museum of Vertebrates
Zoological Museum, University of Amsterdam
5 - AoEs identified by GIE through species occurrence. Numbers indicate corresponding areas in table 6.

*Map created in ArcGIS 10.1 (http://www.esri.com)*
6 - Endemic species restricted to the areas indicated figure 5.

| Area of Endemism | Sinendemic species                      |
|------------------|-----------------------------------------|
| 1                | Amaurospiza carrizalensis              |
| 2                | Myioborus cardonai                     |
| 3                | Myioborus albifacies                   |
| 4                | Anas americana                         |
| 5                | Setopagis maculosa                     |
| 6                | Cyanocorax heilprini                   |
| 7                | Thripophaga cherriei                   |
| 8                | Aulacorhynchus whitelianus             |
| 9                | Emberizoides duidae                    |
| 10               | Synallaxis kollari                     |
| 11               | Diglossa duidae                        |
| 12               | Xiphorhynchus guttatoides              |
| 13               | Accipiter collaris                     |
| 14               | Dysithamnus occidentalis               |
| 15               | Chlorostilbon olivaresi                |
| 16               | Ardea cinerea                          |
| 17               | Turdus grayi                           |
| 18               | Polioptila facilis                     |
| 19               | Polioptila paraensis                   |
| 20               | Cantopus albogularis                   |
| 21               | Polioptila attenboroughi               |
| 22               | Thamnophilus melanothorax              |
| 23               | Percnostola arenorum                   |
| 24               | Zimmerius chicomendesi                |
| 25               | Grallaria przewalskii                  |
| 26               | Grallaricula ochraceifrons             |
| 27               | Hemitriccus cinnamomeipectus           |
| 28               | Herpsilochmus parkeri                  |
| 29               | Loddigesia mirabilis                   |
| 30               | Capito wallacei                        |
| 31               | Thamnophilus divisiorius               |
| 32               | Hypocnemis rondoni                     |
| 33               | Amazilia rondoniae                     |
| 34               | Cacicus latirostris                    |
| 35               | Hemitriccus cohnhafti                  |
| 36               | Cnematraupis aureodorsalis             |
| 37               | Piculus chrysochloros                  |
| 38               | Herpsilochmus sellowi                  |
| 39               | Hylonympha macrocerca                  |
| 40               | Phaethornis aethopyga                   |
| Area of Endemism | Sinendemic species |
|------------------|--------------------|
| 28               | *Synallaxis cinnamomea* |
| 29               | *Neomorphus squamiger* |
| 30               | *Hyllopezus auricularis* |
| 31               | *Philydor erythrocercus* |
| 32               | *Asthenes palpebralis* |
| 32               | *Asthenes vilcabambae* |
| 32               | *Atlapetes melanopsis* |
| 32               | *Atlapetes terborghi* |
| 32               | *Cranioleuca marcapatae* |
| 32               | *Hemispingus parodii* |
| 32               | *Leptasthenura xenothorax* |
| 32               | *Metallura eupogon* |
| 33               | *Asthenes helleri* |
| 33               | *Schistocichla brunneiceps* |
| 33               | *Terpsiphone smithii* |
| 34               | *Discosura letitiae* |
| 35               | *Cranioleuca henriciae* |
| 36               | *Campylopterus hyperythrus* |
| 36               | *Diglossa major* |
| 36               | *Mitrospingus oleagineus* |
| 36               | *Pipreola whitelyi* |
| 37               | *Epinecrophylla fjeldsaaei* |
| 38               | *Percnostola minor* |
| 38               | *Stigmatura napensis* |
| 39               | *Lepidothrix vilasboasi* |
| 40               | *Grallaria capitalis* |
| 41               | *Anairetes alpinus* |
| 41               | *Ara glaucogularis* |
| 41               | *Cacicus koepckeae* |
| 41               | *Grallaria erythroleuca* |
| 41               | *Phlogophilus harterti* |
| 42               | *Elaenia dayi* |
| 42               | *Lipaugus streptophorus* |
| 42               | *Poecilotriccus russatus* |
| 42               | *Pyrrhura egregia* |
| 42               | *Setopagis whitelyi* |
| 43               | *Dendrocolaptes hoffmannsi* |
| 43               | *Picumnus varzeae* |
| 43               | *Rhegmatorhina berlepschi* |
| 43               | *Tolmomyias sucunduri* |
| 44               | *Aglaeactis castelnaudii* |
| 44               | *Amazilia viridicauda* |
| 44               | *Andigena cucullata* |
| 44               | *Atlapetes melanolaemus* |
| Area of Endemism | Sinendemic species                      |
|------------------|----------------------------------------|
| 44               | *Cinclodes aricomae*                   |
| 44               | *Conioptilon mclhennyi*                |
| 44               | *Conothraupis speculigera*             |
| 44               | *Cranioleuca albicapilla*              |
| 44               | *Cranioleuca albiceps*                 |
| 44               | *Creurgops dentatus*                   |
| 44               | *Formicarius rufifrons*                |
| 44               | *Hemispingus calophrys*                |
| 44               | *Hemitriccus spodiops*                 |
| 44               | *Herpsilochmus motacilloides*          |
| 44               | *Lepidothrix coeruleocapilla*          |
| 44               | *Lipaugus uropygialis*                 |
| 44               | *Myiophobus inornatus*                 |
| 44               | *Myrmoborus melanurus*                 |
| 44               | *Nothoprocta taczanowskii*             |
| 44               | *Pipreola pulchra*                     |
| 45               | *Lophornis pavoninus*                  |
| 45               | *Polytmus milleri*                     |
| 46               | *Aramides calopterus*                  |
| 46               | *Galbalcyrhynchus pursianus*           |
7 - AoEs identified by GIE through subspecies occurrence. Numbers indicate corresponding areas in table 8.

*Map created in ArcGIS 10.1 (http://www.esri.com)*
8 - Endemic species restricted to the areas indicated figure 7.

| Area of Endemism | Sinendemic species |
|------------------|--------------------|
| 1                | Amaurospiza carrizalensis |
| 2                | Amazilia brevirostris orienticola |
| 2                | Anas americana |
| 2                | Setopagis maculosa |
| 3                | Atlapetes personatus collaris |
| 3                | Atlapetes personatus personatus |
| 3                | Campylopterus duidae guaiquinimae |
| 3                | Crypturellus pтаритеpe |
| 3                | Diglossa major chimantae |
| 3                | Diglossa major disjuncta |
| 3                | Diglossa major gilliardi |
| 3                | Diglossa major major |
| 3                | Elaenia dayi auyantepui |
| 3                | Elaenia dayi dayi |
| 3                | Microcerculus ustulatus obscurus |
| 3                | Mitrostingus oleagineus oleagineus |
| 3                | Myioborus cardonai |
| 3                | Myioborus roraimae roraimae |
| 3                | Myrmothera simplex guaiquinimae |
| 3                | Myrmothera simplex pacaraime |
| 3                | Myrmotherula behni inornata |
| 3                | Myrmotherula behni yavii |
| 3                | Pheugopedius coraya obscurus |
| 3                | Pipreola whitelyi kathleenae |
| 3                | Pipreola whitelyi whitelyi |
| 3                | Roraimia adusta mayri |
| 3                | Schistocichla leucostigma saturata |
| 3                | Troglodytes rufulus rufulus |
| 3                | Xenopipo uniformis uniformis |
| 4                | Aulacorhynchus whitelianus |
| 5                | Thamnophilus nigrocinereus kulczynskii |
| 6                | Synallaxis kollari |
| 7                | Atlapetes personatus parui |
| 7                | Cyanocorax heilprini |
| 7                | Emberizoides duidae |
| 7                | Epinecrophylla ornata |
| 7                | Galbula dea |
| 7                | Hemitriccus minor |
| 7                | Knipolegus poecilurus paraquensis |
| 7                | Lophornis pavoninus duidae |
| 7                | Myioborus albifacies |
| 7                | Roraimia adusta duidae |
| Area of Endemism | Sinendemic species |
|------------------|--------------------|
| 7                | Roraimia adusta obscurodorsalis |
| 7                | Thripophaga cherriei |
| 7                | Troglodytes rufulus duidae |
| 7                | Troglodytes rufulus marahuacae |
| 7                | Troglodytes rufulus yavii |
| 8                | Cercomacra nigrescens |
| 8                | Epinecrophylla ornata ornata |
| 9                | Threnetes leucurus loehkeni |
| 10               | Atlapetes personatus jugularis |
| 10               | Cranioleuca demissa cardonai |
| 10               | Diglossa duidae hitchcocki |
| 10               | Frederickena unduligera |
| 10               | Heliodoxa xanthogonys willardi |
| 10               | Myioborus castaneocapilla maguirei |
| 10               | Troglodytes rufulus wetmorei |
| 11               | Hylexetastes stresemanni insignis |
| 12               | Xiphorhynchus guttatoides |
| 13               | Accipiter collaris |
| 13               | Dysithamnus occidentalis |
| 13               | Hylopezus fulviventris caquetae |
| 13               | Microbates collaris colombianus |
| 13               | Synallaxis cherriei napoensis |
| 14               | Chlorostilbon olivaresi |
| 15               | Ardea cinerea |
| 15               | Dendrexetastes rufigula paraensis |
| 15               | Philydor erythropterum diluviale |
| 15               | Picumnus spilogaster pallidus |
| 15               | Psophia crepitans |
| 15               | Turdus grayi |
| 16               | Picumnus lafresnayi pusillus |
| 16               | Polioptila facilis |
| 16               | Sclateria naevia |
| 17               | Lepidothrix iris iris |
| 17               | Polioptila paraensis |
| 18               | Thamnophilus nigrocinereus |
| 19               | Nonnula ruficapilla inundata |
| 20               | Brotophylus chrysoptera solimoensis |
| 20               | Celeus grammaricus |
| 20               | Contopus albogularis |
| 20               | Hylophilus hypoxanthus albignula |
| 20               | Microcerculus ustulatus |
| 20               | Myrmoborus lugubris femininus |
| 20               | Pipra aureola flavicollis |
| 20               | Polioptila attenboroughi |
| Area of Endemism | Sinendemic species |
|------------------|--------------------|
| 20               | *Thamnophilus melanothorax* |
| 21               | *Percnostola arenarum* |
| 21               | *Percnostola rufifrons jensoni* |
| 22               | *Zimmerius chicomendesi* |
| 23               | *Brotogeris cyanoptera gustavi* |
| 23               | *Grallaria przewalskii* |
| 23               | *Grallaricula ochraceifrons* |
| 23               | *Hemitriccus cinnamomeipectus* |
| 23               | *Herpsilochmus parkeri* |
| 23               | *Loddigesia mirabilis* |
| 23               | *Myrmeciza castanea castanea* |
| 23               | *Pheugopedius coraya albiventris* |
| 24               | *Capito wallacei* |
| 25               | *Hypocnemis rondoni* |
| 26               | *Tangara punctata annectens* |
| 26               | *Thamnophilus divisorius* |
| 27               | *Amazilia rondoniae* |
| 28               | *Cacicus latirostris* |
| 28               | *Hemitriccus cohnhafti* |
| 29               | *Piculus chrysochloros* |
| 30               | *Herpsilochmus sellowi* |
| 30               | *Hylonympha macrocerca* |
| 30               | *Phaethornis aethopyga* |
| 30               | *Pyrhura lepida lepida* |
| 30               | *Synallaxis cinnamomea* |
| 31               | *Neomorphus squamiger* |
| 32               | *Hylopezus auricularis* |
| 33               | *Philydor erythrocerus* |
| 34               | *Lampropsar tanagrinus violaceus* |
| 34               | *Synallaxis cabanisi cabanisi* |
| 35               | *Aglaeactis castelnaudii* |
| 35               | *Aglaeactis castelnaudii* |
| 35               | *Asthenes palpebralis* |
| 35               | *Asthenes vilcabambae* |
| 35               | *Atlapetes melanopsis* |
| 35               | *Atlapetes terborghi* |
| 35               | *Cinnycerithia fulva fitzpatricki* |
| 35               | *Cinnycerithia fulva fulva* |
| 35               | *Cnemathraupis aureodorsalis* |
| 35               | *Cranioleuca albicapilla albigula* |
| 35               | *Cranioleuca marcapatae weskei* |
| 35               | *Hemispingus parodii* |
| 35               | *Leptasthenura xenothorax* |
| 35               | *Metallura eupogon* |
| Area of Endemism | Sinendemic species                                                                 |
|------------------|------------------------------------------------------------------------------------|
| 35               | *Pipreola intermedia intermedia*                                                   |
| 35               | *Synallaxis cherriei*                                                              |
| 35               | *Tangara chilensis*                                                                |
| 35               | *Tangara punctata perenensis*                                                      |
| 36               | *Asthenes harterti harterti*                                                       |
| 36               | *Asthenes helleri*                                                                 |
| 36               | *Cranioleuca albiceps albiceps*                                                    |
| 36               | *Schistocichla brunneiceps*                                                        |
| 36               | *Terpsiphone smithii*                                                              |
| 37               | *Cranioleuca henricae*                                                             |
| 37               | *Discosura letitia*                                                                |
| 37               | *Pteroglossus azara*                                                               |
| 38               | *Xenopipo uniformis duidae*                                                        |
| 39               | *Campylopterus hyperythrus*                                                        |
| 39               | *Microcerculus ustulatus ustulatus*                                                 |
| 39               | *Mitrospingus oleagineus obscuripectus*                                            |
| 39               | *Myioborus castaneocapilla*                                                        |
| 39               | *castaneocapilla*                                                                  |
| 39               | *Pheugopedius coraya barrowcloughianus*                                            |
| 39               | *Pyrrhura egregia egregia*                                                         |
| 39               | *Schistocichla leucostigma obscura*                                                |
| 39               | *Thamnophilus insignis insignis*                                                    |
| 39               | *Troglydites rufulus fulvicularis*                                                  |
| 40               | *Colinus cristatus leucotis*                                                       |
| 40               | *Myrmotherula behni behni*                                                         |
| 41               | *Frederickena unduligera unduligera*                                               |
| 41               | *Myrmoborus lugubris stictopterus*                                                 |
| 41               | *Percnostola minor*                                                                |
| 41               | *Percnostola rufifrons subcristata*                                                |
| 42               | *Atlapetes canigenis*                                                              |
| 42               | *Cranioleuca albicapilla albicapilla*                                              |
| 42               | *Grallaria capitalis*                                                              |
| 42               | *Grallaria erythroleuca*                                                           |
| 42               | *Hypocnemis subflava subflava*                                                      |
| 42               | *Myrmoborus leucophrys koenigorum*                                                 |
| 42               | *Pheugopedius coraya cantator*                                                     |
| 42               | *Synallaxis gujanensis canipeles*                                                  |
| 43               | *Anairetes alpinus bolivianus*                                                     |
| 44               | *Asthenes harterti bejaranoi*                                                      |
| 44               | *Cranioleuca albiceps discolor*                                                    |
| 45               | *Atlapetes personatus paraquensis*                                                 |
| 45               | *Campylopterus duidae duidae*                                                       |
| 45               | *Cranioleuca demissa demissa*                                                      |
| 45               | *Gymnopithys rufigula pallidus*                                                     |
| Area of Endemism | Sinendemic species |
|------------------|--------------------|
| 45               | *Herpsilochmus roraimae kathleenae* |
| 45               | *Hylochistes subulatus lemae* |
| 45               | *Lipaugus streptophorus* |
| 45               | *Microcerculus ustulatus duidae* |
| 45               | *Myiophobus roraimae sadiecoatsae* |
| 45               | *Myrmothera simplex duidae* |
| 45               | *Myrmothera simplex simplex* |
| 45               | *Phylloscartes chapmani chapmani* |
| 45               | *Phylloscartes chapmani duidae* |
| 45               | *Poecilotriccus russatus* |
| 45               | *Psarocolius angustifrons oleagineus* |
| 45               | *Pyrrhura egregia obscura* |
| 45               | *Roraimia adusta adusta* |
| 45               | *Schistocichla caurensis caurensis* |
| 45               | *Setopagis whiteyi* |
| 45               | *Synallaxis macconnelli macconnelli* |
| 45               | *Thamnophilus insignis nigrofrontalis* |
| 45               | *Tyrannus dominicensis* |
| 46               | *Amazilia viridicauda* |
| 46               | *Atlapetes melanolaemus* |
| 46               | *Cercomacra nigrescens notata* |
| 46               | *Cinclodes aricoma* |
| 46               | *Doliornis sclateri* |
| 46               | *Epinecrophylla spodionota sororia* |
| 46               | *Herpsilochmus matacilloides* |
| 46               | *Hypocnemis cantator subflava* |
| 46               | *Lepidothrix coeruleocapilla* |
| 46               | *Picumnus lafresnayi taczanowskii* |
| 46               | *Pipreola pulchra* |
| 46               | *Pyrrhura rupicola rupicola* |
| 46               | *Rhegmatorhina melanosticta brunneiceps* |
| 46               | *Topaza pyra amaruni* |
| 47               | *Andigena cucullata* |
| 47               | *Creurgops dentatus* |
| 47               | *Dendrocincla merula remota* |
| 47               | *Hemispingus calophrys* |
| 47               | *Hemitriccus spodiops* |
| 47               | *Lipaugus uropygialis* |
| 47               | *Metallura aeneocauda malagae* |
| 47               | *Myiophobus inornatus* |
| 47               | *Pipreola intermedia signata* |
| 47               | *Tangara punctata punctulata* |
| 48               | *Herpsilochmus roraimae roraimae* |
| 48               | *Polytmus milleri* |
| Area of Endemism | Sinendemic species                                               |
|------------------|-----------------------------------------------------------------|
| 48               | *Tangara xanthogastra phelpsi*                                   |
| 49               | *Capito brunneipectus*                                           |
| 49               | *Euchrepomis spodioptila meridionalis*                           |
| 49               | *Hypocnemis hypoxantha ochraceiventris*                          |
| 50               | *Basileuterus chrysogaster*                                      |
| 50               | *Eubucco tucinkae*                                               |
| 50               | *Frederickena fulva*                                             |
| 50               | *Heliodoxa branickii*                                            |
| 50               | *Heterocercus aurantiivertex*                                    |
| 50               | *Hyllopezus fulviventris fulviventris*                           |
| 50               | *Metallura aeneocauda aeneocauda*                                |
| 50               | *Nannopsittaca dachilleae*                                       |
| 51               | *Hemitriccus inornatus*                                          |
| 51               | *Pteroglossus azara azara*                                       |
| 51               | *Synallaxis rutilans confinis*                                   |
9 - AoEs identified by NDM through species occurrence.

Consensus area 0 of 9 (from 15 areas; max. values)

Just ground!
2.09091 - 2.68721
2.68721 - 3.28351
3.28351 - 3.87981
3.87981 - 4.47610
4.47610 - 5.07240
5.07240 - 5.66870
5.66870 - 6.26500

10 species give score:
Asthenes_harterti (0.636-1.000)
Asthenes_uruBambensis (0.000-1.000)
Creuropops_dentatus (0.000-0.563)
Hemispingus_calophrys (0.000-0.619)
Myiophobus_inornatus (0.000-0.750)
Odontophorus_balliviani (0.000-0.507)
Myioborus_castaneocapilla (0.000-0.762)
Phylloscartes_nigrifrons (0.000-0.743)

Consensus area 1 of 9 (from 10 areas; max. values)

Just ground!
2.34615 - 2.66198
2.66198 - 2.97780
2.97780 - 3.29362
3.29362 - 3.60944
3.60944 - 3.92527
3.92527 - 4.24109
4.24109 - 4.55691

10 species give score:
Atlapetes_melanolaemus (0.000-0.643)
Ceratopipra_cornuta (0.000-0.747)
Grallaria_erythroleuca (0.000-0.750)
Myiotheretes_fuscorufus (0.000-0.643)
Phlogophilus_harterti (0.000-0.875)
Atlapetes_personatus (0.000-0.827)
Cranioleuca_demissa (0.000-0.717)
Herpsilochmus_foraimae (0.000-0.672)
Myrmothera_simplex (0.000-0.808)
Phylloscartes_nigrifrons (0.000-0.743)
4 species give score:
   Amazilia viridicauda (0.500-0.800)   Herpsilochmus motacilloides (0.750-0.857)
   Lepidothrix coeruleocapilla (0.629-0.667)   Pipreola pulchra (0.650-0.714)
Consensus area 3 of 9 (from 1 areas; max. values)
   Just ground!
   3.55882 - 3.80882

5 species give score:
   Aglaeactis_pamela (0.669)   Andigena_cucullata (0.566)
   Ara_rubrogenys (0.669)   Compsosp iza_garleppi (0.772)
   Hapalopsittaca melanotis (0.882)
3 species give score:
Picumnus_varzeae(0.750)           Rhegmatorhina_berlepschi(0.607)           Tolmomyias_sucunduri(0.769)

5 species give score:
Campylopterus_hyperythrus(0.729)                    Diglossa_major(0.833)
Mitrosp ingus_oleagineus(0.875)                 Pipreola_whitelyi(0.656)
         Setopagis_whitelyi(0.583)
3 species give score:
- *Eubucco_tucinkae*(0.864)
- *Grallaria_eludens*(0.680)
- *Nannopsittaca_dachilleae*(0.765)

Consensus area 7 of 9 (from 1 areas; max. values)
Consensus area 8 of 9 (from 1 areas; max. values)

Just ground!

2.26786 - 2.51786

3 species give score:

Atlapetes_melanolaemus(0.643)            Grallaria_erythroleuca(0.750)
Phlogophilus_harterti(0.875)
10 - AoEs identified by NDM through subspecies occurrence.

5 species give score:
157 Elaenia_dayi_auyantepui(0.286) 302 Microbates_collaris_paraguensis(0.182)
400 Phylloscartes_chapmani_chapmani(0.714) 500 Synallaxis_macconnelli_yavii(0.714)
581 Troglydytes_rufulus_fulvigularis(0.556)

8 species give score:
112 Campylorhynchus_procurvirostris_procurvirostris(0.000-0.596) 170 Formicarius_analis_crissalis(0.000-0.667)
188 Gymnopithys_ruficapilla_ruficapilla(0.600-0.741) 308 Myrmeciza_ferruginea_ferruginea(0.000-0.614)
378 Pithys_albicollis_albicollis(0.000-0.896) 677 Capito_niger_(0.462-0.765)
757 Epinecrophylla_gutturalis_(0.542-0.607) 1087 Tyrannus_virescens_(0.000-0.316)
302 Microbates collaris paraguensis (0.250) 356 Myrmothera simplex guaiquinimae (0.500)
365 Microcerculus ustulatus lunatipicus (0.750) 896 Myioborus cardonai (0.500)

18 Atlapetes personatus collaris (0.250) 73 Cranioleuca demissa demissa (0.188)
157 Elaenia dayi auyan tepui (0.333) 239 Hyloctistes subulatus lemae (0.188)
292 Myioborus castaneocapilla castaneocapilla (0.333) 302 Microbates collaris paraguensis (0.375)
346 Mitrospingus oileagineus obscuripictus (0.500) 400 Phylloscartes chapmani chapmani (0.500)
411 Pyrrhura egregia obscura (0.200) 424 Schistocichla leucostigma obscura (0.167)
500 Synallaxis macconnelli yewii (0.167) 549 Thamnophilus insignis insignis (0.500)
670 Campylopterus hyperythrus (0.250) 731 Crypturellus ptaritepui (0.333)
1053 Setopagis whitelyi (0.250)
Consensus area 4 of 41 (from 1 areas; max. values )

Just ground!
3.46061 - 3.71061
8 species give score :
42 Cranioleuca albigailla_albigailla(0.273)           243 Hypocnemis subflava_subflava(0.333)
323 Myrmoborus leucophrys_koenigorum(0.714)           531 Pheugopedius coraya_cantator(1.000)
646 Atlapetes melanopsiisl(0.286) 788 Grallaria capitalis(0.182)
825 Herpsilochmus motacillosides(0.273) 1071 Tangara chilensis(0.400)

Consensus area 5 of 41 (from 1 areas; max. values )

Just ground!
2.90000 - 3.15000
7 species give score :
74 Campylopterus duidae_duidae(0.625)           232 Herpsilochmus roraimae_kathleenae(0.500)
287 Microcerculus_bambla_caurensis(0.167)  355 Mymothera simplex_duidae(0.333)
364 Microcerculus ustulatus_duidae(0.375)  399 Schistocichla_caurensis_caurensis(0.500)
550 Thamnophilus_insignis_nigrofrontalis(0.400)
7 species give score:

- Anabacerthia ruficaudata_subflavescens (0.500-0.750)
- Hylopezus fulviventeris_fulviventeris (0.750)
- Hylophilus hypoxanthus_fusciapillus (0.227-0.300)
- Frederickena fulva_(0.333-0.500)
- Epinecrophylla ornata_saturata(0.000-0.357)
- Hyloteleia pyrodes (0.227-0.341)
- Hyloteleia eurynota_eurynota (0.000-0.173)

5 species give score:

- Sphecotheria rufipennis (0.000-0.173)
- Phyllostreta vicina_vicina (0.000-0.173)
- Cercotrichas grisea_pallidipennis (0.800)
- Cercotrichas grisea_melanogaster (0.800)
- Hyloteleia eurynota_eurynota (0.250-0.341)
7 species give score:
26 Atlapetes_rufinucha_rufinucha(0.333)
575 Tangara_punctata_punctulata(0.364)
820 Hemitriccus_spodiops (0.556)
985 Phyllomyias_weedeni_(0.333)
52 Cranioleuca_albiceps_discolor(0.429)
615 Aglaeactis_pamela_(0.286)
862 Leptasthenura_yanacensis_(0.400)

8 species give score:
9 Asthenes_harterti_bejaranoi(0.429-0.667)
24 Atlapetes_rufinucha_carrikeri(0.308-0.600)
52 Cranioleuca_albiceps_discolor(0.667-0.800)
221 Hapalopsittaca_melanotis_melanotis(0.167-0.182)
282 Metallura_aeneocauda_malagae(0.250-0.286)
615 Aglaeactis_pamela_(0.500-0.600)
626 Andigena_cucullata_(0.444-0.625)
707 Compsospiza_garleppi_(0.250-0.286)
4 species give score:
123 Xencipo_uniformis_duidae(0.500)  159 Elaenia_dayi_tyleri(0.500)
298 Myioborus_castaneocapilla_duidae(0.500)  471 Roraimia_adusta_duidae(0.500)

8 species give score:
112 Campylorhamphus_procurvoides_procurvoides(0.521-0.563)  188 Gymnopithys_rufigula_rufigula(0.530-0.561)
308 Myrmeciza_ferruginea_ferruginea(0.409-0.469)  378 Pithys_albifrons_albifrons(0.731-0.769)
677 Capito_niger_(0.484-0.484)  757 Epinecrophylla_gutturalis_(0.536-0.571)
1050 Selenidera_piperivora_(0.000-0.290)  1087 Tyranneutes_virescens_(0.310-0.333)
Consensus area 12 of 41 (from 1 areas; max. values)

3 species give score:
- 123 *Xenopipo_uniformis_duidae*(0.667)
- 471 *Roraimia_adusta_duidae*(0.667)
- 159 *Elaenia_dayi_tyleri*(0.667)

Consensus area 13 of 41 (from 1 areas; max. values)

10 species give score:
- 42 *Cranioleuca_albicapilla_albicapilla*(0.250)
- 243 *Hypocnemis_subflava_subflava*(0.300)
- 323 *Myrmoborus_leucophrys_koenigorum*(1.000)
- 359 *Epinecrophylla_spodionota_sororia*(0.250)
- 531 *Pheugopedius_coraya_cantator*(0.833)
- 618 *Amazilia_viridicollis*(0.167)
- 646 *Atlapetes_melanopsis*(0.250)
- 825 *Herpsilochmus_rotacilloides*(0.400)
- 1008 *Pipreola_pulchra*(0.500)
- 1071 *Tangara_chilensis*(0.333)
Consensus area 14 of 41 (from 3 areas; max. values)

4 species give score:
78 Celeus elegans hellmayri (0.308-0.400)  84 Campylorhynchus griseus griseus (0.500-0.900)
686 Cercomacra carbonaria (0.308-0.400)  1056 Sporophila intermedia (0.545-0.750)

Consensus area 15 of 41 (from 1 areas; max. values)

12 species give score:
18 Atlapetes personatus collaris (0.250)  73 Cranioleuca demissa demissa (0.111)
157 Elaenia dayi auyantepui (0.333)  302 Microbates collaris paraguensis (0.667)
346 Mitrospingus pleugineus obscuriceps (0.300)  400 Phylloscartes chapmani chapmani (0.500)
411 Pyrrhura egregia obscura (0.200)  470 Roraimia adusta adusta (0.250)
500 Synallaxis macconnelli yavii (0.167)  549 Thamnophilus insignis insignis (0.500)
731 Crypturellus ptaritepui (0.333)  1053 Setopagis whitelyi (0.250)
Consensus area 16 of 41 (from 2 areas; max. values)

Just ground!
4.65119 - 4.90119
11 species give score:

- 42 Cranioleuca_albicapilla_albicapilla (0.143-0.233)
- 106 Cercomacra_nigrescens_notata (0.462-0.500)
- 243 Hypocnemis_subflava_subflava (0.714-0.833)
- 323 Myrmoborus_leucophrys_koenigorum (0.364-0.400)
- 359 Epinecrophylla_spodionota_sororia (0.222-0.250)
- 430 Picumnus_lafresnayi_taczanowskii (0.556-0.625)
- 531 Pheugopedius_coraya_cantator (0.444-0.500)
- 745 Dolichorhynchus_scilarii (0.250-0.364)
- 788 Grallaria_capitalis (0.500-0.714)
- 825 Herpsilochmus_motacilloides (0.400-0.556)
- 1008 Pipreola_pulchra (0.222-0.250)

Consensus area 17 of 41 (from 2 areas; max. values)

Just ground!
5.11667 - 5.36667
13 species give score:

- 29 Asthenes_urubambensis_urubambensis (0.500)
- 55 Crypturellus_atrocapillus_garleppi (0.250)
- 82 Cinnycerthia_fulva_gravesii (0.400)
- 415 Pipreola_intermedia_signata (0.400-0.625)
- 575 Tangara_punctata_punctulata (0.333-0.500)
- 640 Asthenea_maculicoda (0.333)
- 726 Creugops_dentatus (0.250)
- 808 Hemispingus_calophrys (0.250)
- 811 Hemispingus_trifasciatus (0.400)
- 820 Hemitriccus_spodiops (0.500)
- 868 Lipaugus_uropygialis (0.500)
- 901 Myiopogon_inornatus (0.567)
- 916 Myrmotherula_grisea (0.167)
Consensus area 18 of 41 (from 1 areas; max. values)

12 species give score:

- 18 Atlapetes personatus collaris (0.600)
- 239 Hylochites subulatus lemae (0.118)
- 292 Myioborus castaneocapilla castaneocapilla (0.364)
- 302 Microbates collaris paraguensis (0.222)
- 346 Mitrospingus oleagineus obscuripectus (0.333)
- 356 Myrmothera simplex guaiquinimae (0.400)
- 365 Microcerculus ustulatus lunatippectus (0.286)
- 424 Schistocichla leucostigma obscura (0.333)
- 472 Roraimia adusta mayri (0.400)
- 549 Thamnophilus insignis insignis (0.286)
- 731 Crypturellus ptaritepui (0.400)
- 896 Myioborus cardonai (0.400)

Just ground!

4.14160 - 4.39160

Consensus area 19 of 41 (from 1 areas; max. values)

5 species give score:

- 21 Atlapetes personatus paraquensis (0.385)
- 358 Myrmothera simplex simplex (0.889)
- 529 Pheugopedius coraya barrowcloughianus (0.333)
- 867 Lipaugus streptophorus (1.000)
- 1012 Poecilotriccus russatus (0.667)

Just ground!

3.27350 - 3.52350

Consensus area 20 of 41 (from 1 areas; max. values)

4 species give score:

- 21 Atlapetes personatus paraquensis (0.385)
- 358 Myrmothera simplex simplex (0.889)
- 529 Pheugopedius coraya barrowcloughianus (0.333)
- 867 Lipaugus streptophorus (1.000)

Just ground!

3.27350 - 3.52350
Consensus area 20 of 41 (from 1 areas; max. values)

Just ground!

2.25000 - 2.50000

5 species give score:
7 Aglaeactis_castelnaudii_castelnaudii (0.333)          243 Hypocnemis_subflava_subflava (0.167)
745 Doliornis_sclateri (1.000)          788 Grallaria_capitalis (0.500)
932 Nephelornis_oneilli (0.250)

Consensus area 21 of 41 (from 1 areas; max. values)

Just ground!

2.64127 - 2.89127

6 species give score:
18 Atlapetes_personatus_collaris (0.400)          302 Microbates_collaris_paraguensis (0.280)
356 Myrmothera_simplex_quaquisinae (0.667)          365 Microcerculus_ustulatus_lunatpectus (0.400)
424 Schistocichla_leucostigma_obscura (0.222)          896 Myioborus_cardonai (0.667)
Consensus area 22 of 41 (from 2 areas; max. values)

- Just ground!
- 2.25000 - 2.50000
- 2.50000 - 2.75000

6 species give score:
- 38 Brotogeris_chrysoptera_tenuifrons (0.308-0.500)
- 143 Dendrocincla_merula_obidensis (0.000-0.444)
- 453 Percnostola_rufifrons_subcristata (0.444-0.500)
- 56 Capito_auratus_hypochondriacus (0.500-0.667)
- 331 Myrmoborus_lugubris_stictopterus (0.429-0.500)
- 1059 Stigmatura_napensis (0.222-0.250)

Consensus area 23 of 41 (from 1 areas; max. values)

- Just ground!
- 2.13333 - 2.38333

4 species give score:
- 411 Pyrrhura_egregia_obscura (0.800)
- 599 Tangara_xanthogastra_phelpsi (0.133)
- 470 Roraimia_adusta_adusta (0.600)
- 1053 Setopagis_whitelyi (0.600)
Consensus area 24 of 41 (from 1 areas; max. values)

Just ground!

4.02720 - 4.27720

13 species give score:

18 Atlapetes_personatus_collaris(0.600)
239 Hyloctistes_subulatus_lemae(0.118)
302 Microbates COLLARIS_paraguensis(0.429)
356 Myromthera_simpless_guainimae(0.400)
400 Phylloscartes_chapmani_ymani(0.333)
500 Synallaxis_macconnelli_yavii(0.182)
731 Crypturellus_ptaritepui(0.400)
157 Elaenia_dayi_ayantepu(0.400)
292 Myioborus_castaneocapilla_castaneocapilla(0.231)
346 Mitrospingus_oleaginis_obscurepectus(0.182)
365 Microcerculus_ustulatus_lunatipectus(0.286)
424 Schistocichla_leucostigma_obcura(0.182)
549 Thamnophilus_insignis_insignis(0.286)

Consensus area 25 of 41 (from 1 areas; max. values)

Just ground!

2.34842 - 2.59842

4 species give score:

212 Hylophilus_hypoxanthus_sericoapillus(0.923)
537 Pheugopedius_coraya_griseipectus(0.440)
769 Frederickena_fulva(0.462)
823 Herpsilochmus_dugandi(0.524)
Consensus area 26 of 41 (from 1 areas; max. values )

Just ground!

3.40000 - 3.65000

5 species give score:
36 Brotogeris_cyanoptera_gustavi(1.000)
534 Tangara_chilensis_chlorocorys(0.400)
812 Hemitriccus_cinnamomeipectus (0.667)

Consensus area 27 of 41 (from 1 areas; max. values )

Just ground!

2.44444 - 2.69444

4 species give score:
6 Anurolimnas_castaneiceps_coccineipes(0.444)
206 Hylolophas_fulviventris_cocquetae(0.400)

Consensus area 27 of 41 (from 1 areas; max. values )

Just ground!

2.44444 - 2.69444

4 species give score:
6 Anurolimnas_castaneiceps_coccineipes(0.444)
206 Hylolophas_fulviventris_cocquetae(0.400)
62 Conopophaga_aurita_occidentalis(1.000)
296 Microbates_collaris_colombianus(0.600)
Consensus area 28 of 41 (from 1 areas; max. values)

4.32857 - 4.57857
7 species give score:

- 21 Atlapetes_personatus_paraguayensis (0.500)
- 358 Myrmothera_simplex_simplex (0.800)
- 670 Campylopterus_hyperythrus (0.600)
- 1012 Poecilotrichus_russatus (0.600)
- 292 Myioborus_castanocapilla_castanocapilla (0.500)
- 529 Pheugopedius_barroeloueffianus (0.429)
- 867 Lipaugus_streptophorus (0.900)

Consensus area 29 of 41 (from 1 areas; max. values)

2.00000 - 2.25000
2 species give score:

- 159 Elaenia_dayi_tyleri (1.000)
- 471 Roraimia_adusta_duidae (1.000)
Consensus area 30 of 41 (from 1 areas; max. values)

- Just ground!
- 2.31746 - 2.56746

4 species give score:
- 26 Atlapetes_rufinucha_rufinucha (0.222)
- 985 Phyllomyias_weedeni_(0.429)
- 1043 Schistocichla_brunneiceps_(0.667)

Consensus area 31 of 41 (from 1 areas; max. values)

- Just ground!
- 2.03929 - 2.28929

8 species give score:
- 73 Cranioleuca_demissa_demissa (0.214)
- 292 Myioborus_castaneocapilla_castaneocapilla (0.250)
- 424 Schistocichla_leucoptera_obscura (0.200)
- 581 Troglodytes_rufulus_fulviflamma (0.167)
- 239 Hylloctistes_subulatus_lemae (0.125)
- 472 Roraimia_adusta_mayri (0.500)
- 1053 Setopagis_whitelyi (0.333)
- 411 Pyrrhura_egregia_obscura (0.250)
11 species give score:
42 Cranioleuca_albicapilla_albicapilla(0.214) 106 Cercomacra_nigrescens_notata(0.800)
243 Hypocnemis_subflava_subflava(0.625) 323 Myrmoborus_leucophrys_koenigorum(0.750)
359 Epinecrophylla_spodionota_sororia(0.375) 430 Picumnus_lafresnayi_taczanowskii(0.500)
475 Rhegmatorhina_melanosticta_brunneiceps(0.167) 531 Pheugopedius_coraya_cantator(0.625)
618 Amazilia_viridicauda_(0.250) 825 Herpsilochmus_motacilloides_(0.500)
1008 Pipreola_pulchra_(0.375)

4 species give score:
0 Anairetes_alpinus_bolivianus(0.333) 26 Atlapetes_rufinucha_rufinucha(0.833)
977 Phibalura_boliviana_(0.500) 985 Phyllomyias_weedeni_(0.833)
Consensus area 34 of 41 (from 1 areas; max. values)

2 species give score:
- Picumnus_lafresnayi_pusillus (1.000)
- Percnostola_minor (1.000)

Consensus area 35 of 41 (from 1 areas; max. values)

8 species give score:
- Aglaeactis_castelnaudii_regalis (0.571)
- Craniolena_albicoppella_albiculla (0.571)
- Synallaxis_gujanensis_canipileus (0.222)
- Asthenes_ottonis (1.000)
- Atlapetes_canigenis (0.462)
- Grallaria_erythroleuca (0.571)
- Oreonympha_nobilis (0.556)
- Phlogophilus_harterti (0.182)
3 species give score:

- 31 Amazilia_viridigaster_viridigaster(1.000)
- 348 Epinecrophylla_ornata_ornata(0.667)
- 301 Myrmothera_campanisona_Mmodesta(1.000)

6 species give score:

- 73 Cranioleuca_demissa_demissa(0.467)
- 239 Hyloctistes_subulatus_lemae(0.353)
- 599 Tangara_xanthogastra_phelpsi(0.400)
- 233 Herpsilochrus_roraimae_roraimae(0.579)
- 411 Pyrrhura_egregia_obscura(0.308)
- 1053 Setopagis_whitelyi_(0.231)
Consensus area 38 of 41 (from 1 areas; max. values)

- Just ground!
- 2.12500 - 2.37500

4 species give score:
- 28 Anabacerthia_ruficaudata_subflavescens (0.500)
- 208 Hylopezus_fulviventris_fulviventris (0.750)
- 349 Epinecrophylla_ornata_saturata (0.250)
- 571 Topaza_pyra_amaruni (0.625)

Consensus area 39 of 41 (from 1 areas; max. values)

- Just ground!
- 3.81290 - 4.06290

8 species give score:
- 8 Aglaeactis_castelnaudii_regalis (0.800)
- 44 Cranioleuca_albicapilla_albigula (0.800)
- 489 Synallaxis_gujanensis_canipileus (0.286)
- 641 Asthenes_ottonis (0.556)
- 643 Asthenes_vilcabambae (0.286)
- 644 Atlapetes_canigenis (0.385)
- 791 Grallaria_erythroleuca (0.429)
- 950 Oreonympha_nobilis (0.273)
11 - AoE identified by PAE through species occurrence.

Map created in ArcGIS 10.1 (http://www.esri.com)

Areas of Endemism identified through PAE based on occurrence points.
(a) and (b): colours represent grid cells clustered in a same AoE, (c) AoE formed by a single grid cell PAE analysis of points.
12 - Consensus tree of PAE based on species occurrence.

Strict consensus of PAE based on occurrence points. Tree with 7,112 steps. Branches and terminals in blue indicate the presence of one endemic species, and red branches and terminals indicate two endemic species.
13 - Tree of constrained PAE based on species occurrence.

Strict consensus of constrain in PAE based on occurrence points. Tree with /bjo steps. Branches and terminals in blue indicate the presence of one endemic species, and red branches and terminals indicate two endemic species.
14 - AoEs identified by PAE through subspecies occurrence.

Map created in ArcGIS 10.1 (http://www.esri.com)

Areas of Endemism identified through PAE based on occurrence points of subspecies. Colours represent grid cells clustered in a same AoE. AoE formed by a single grid cell in PAE analysis were represented by gray cells.
Consensus tree of PAE based on subspecies occurrence.

Strict consensus of PAE analysis with subspecies points of occurrence tree with 3.992 steps. Branches and terminals in blue indicate the presence of one endemic species, and red branches and terminals indicate two or more endemic species.
16 - Tree of constrained PAE based on subspecies occurrence.

Strict consensus of constrain in PAE based on occurrence points of subspecies. Tree with 8,904 steps. Branches and terminals in blue indicate the presence of one endemic species, and red branches and terminals indicate two or more endemic species.
17 - Autocorrelogram of Moran I analysis of three axis of NMDS analysis.
Most relevant breaks in species composition obtained by Monmonier’s Algorithm

Map created in ArcGIS 10.1 (http://www.esri.com)
19 - Interpolation of the three axes of NMDS based on species occurrence, subspecies occurrence. Numbers indicate correlation between maps.

*Map created in ArcGIS 10.1 (http://www.esri.com)*
20 - Unsupervised classification of the spatial variation in species composition. Colours represent different groups in the classification. Each line represents a classification in the number of classes indicated at left.

Map created in ArcGIS 10.1 (http://www.esri.com)
21- Interpolation of the three axes of NMDS based on species and subspecies occurrence. Beta-diversity is partitioned into turnover and nestedness components

*Map created in ArcGIS 10.1 (http://www.esri.com)*
## 22- Results of Discriminant Analysis.

|                  | Guiana | Imeri | Inambari | Napo | PantepuiDuida | PantepuiGranSabana | Belem | Jau | Rondonia | Tapajos | Xingu | Total |
|------------------|--------|-------|----------|------|---------------|---------------------|-------|-----|---------|--------|-------|-------|
| **NMDS based species** |        |       |          |      |               |                     |       |     |         |        |       |       |
| PercentCorrect   | 86.87  | 66.00 | 44.00    | 61.00| 0.00          | 0.00                | 54.08 | 37.00| 72.16   | 15.00  | 59.00 | 45.42 |
| pvalue           | 0.09   | 0.09  | 0.09     | 0.09 | 0.09          | 0.09                | 0.09  | 0.09| 0.09    | 0.09   | 0.09  | 0.09  |
| **NMDS based in subspecies** |        |       |          |      |               |                     |       |     |         |        |       |       |
| PercentCorrect   | 88.88  | 99.93 | 89.00    | 59.00| 65.21         | 88.88               | 97.93 | 39.00| 83.87   | 58.58  | 75.25 | 76.76 |
| pvalue           | 0.09   | 0.09  | 0.09     | 0.09 | 0.08          | 0.09                | 0.09  | 0.09| 0.08    | 0.09   | 0.09  | 0.09  |