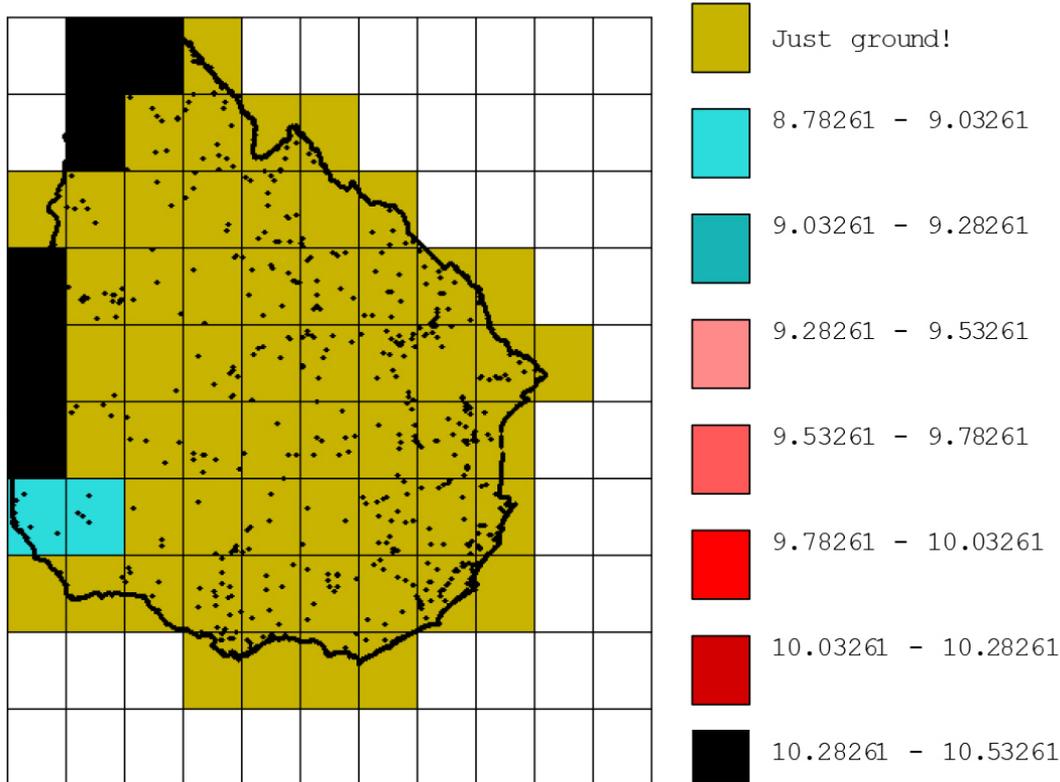


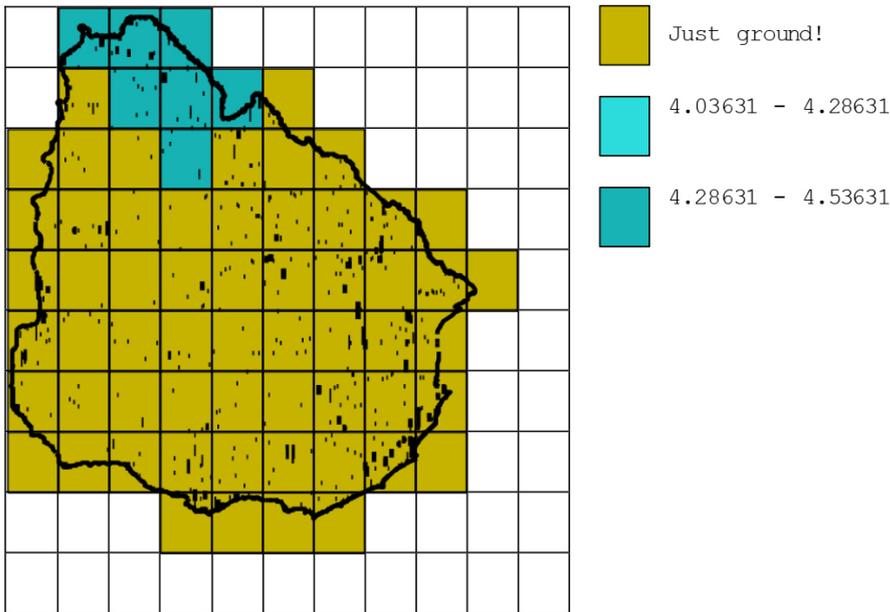
Consensus area 0 of 22 (from 4 areas; max. values)



19 species give score:

- | | |
|--|--|
| 2 <i>Ageneiosus_militaris</i> (0.000-0.750) | 6 <i>Aphyocharax_anisitsi</i> (0.346-0.464) |
| 7 <i>Apistogramma_commbrae</i> (0.000-0.450) | 10 <i>Auchenipterus_osteomystax</i> (0.000-0.800) |
| 14 <i>Austrolebias_alexandri</i> (0.688-0.800) | 16 <i>Austrolebias_bellottii</i> (0.444-0.611) |
| 26 <i>Austrolebias_nigripinnis</i> (0.000-0.545) | 47 <i>Corydoras_undulatus</i> (0.750-0.900) |
| 55 <i>Cynopotamus_argenteus</i> (0.556-0.938) | 56 <i>Cyphocharax_platanus</i> (0.000-0.611) |
| 67 <i>Galeocharax_humeralis</i> (0.000-0.800) | 70 <i>Gymnogeophagus_australis</i> (0.750-0.900) |
| 91 <i>Hoplosternum_littorale</i> (0.625-0.857) | 108 <i>Leporinus_striatus</i> (0.364-0.650) |
| 109 <i>Leptoplosternum_pectorale</i> (0.000-0.800) | 126 <i>Odontostilbe_pequira</i> (0.455-0.750) |
| 138 <i>Pimelodus_absconditus</i> (0.000-0.700) | 145 <i>Pseudostegophilus_maculatus</i> (0.318-0.600) |
| 151 <i>Rineloricaria_parva</i> (0.500-0.750) | |

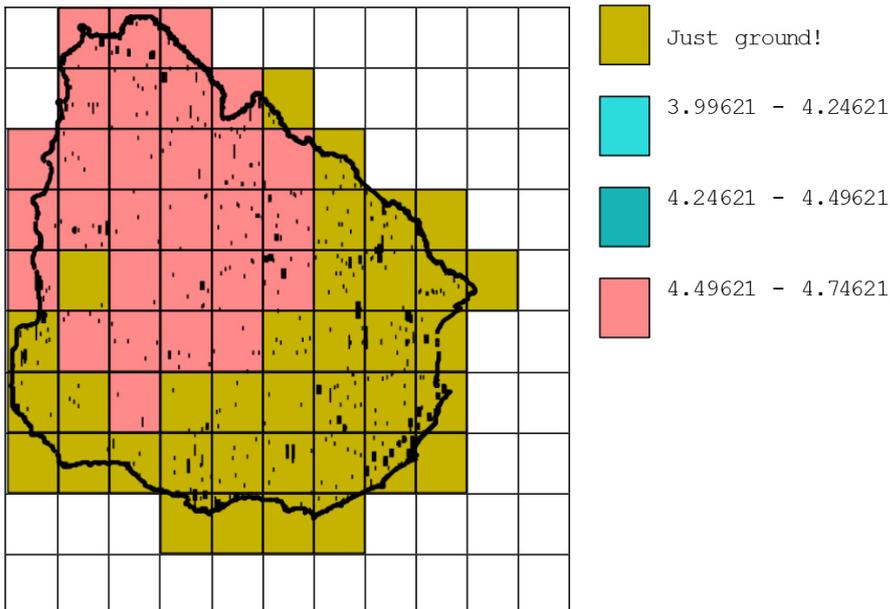
Consensus area 1 of 22 (from 3 areas; max. values)



8 species give score:

69 <i>Gymnogeophagus_aff_setequedas</i> (0.688-0.929)	76 <i>Gymnogeophagus_peliochelynion</i> (0.318-0.455)
77 <i>Gymnogeophagus_pseudolabiatus</i> (0.688-0.929)	83 <i>Hemiancistrus_votouro</i> (0.000-0.462)
88 <i>Hisonotus_ringueleti</i> (0.625-0.857)	105 <i>Leporinus_amae</i> (0.000-0.700)
119 <i>Moenkhausia_dichrourea</i> (0.000-0.389)	155 <i>Schizodon_nasutus</i> (0.563-0.786)

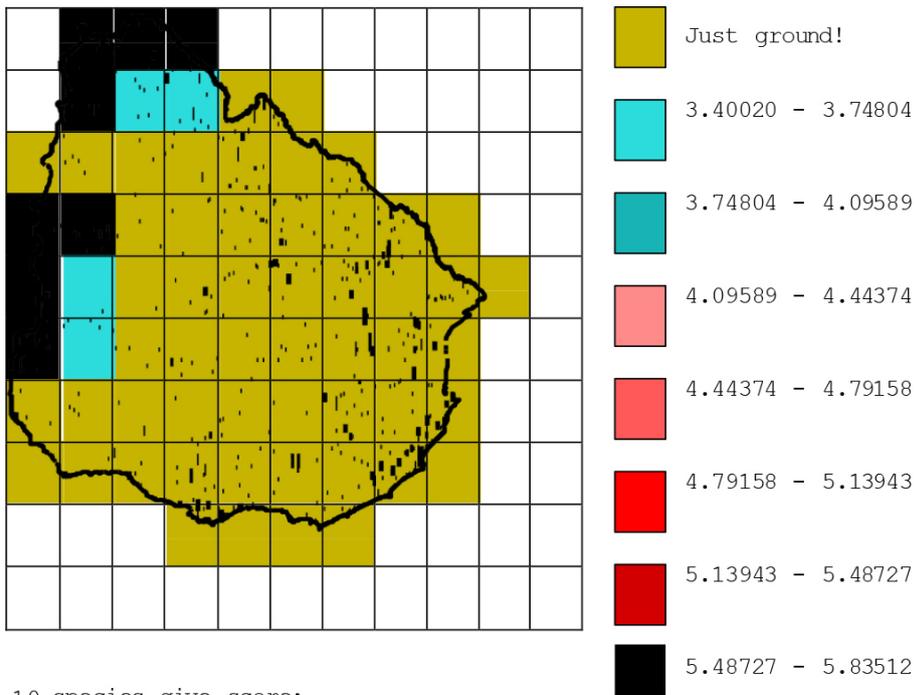
Consensus area 2 of 22 (from 3 areas; max. values)



9 species give score:

5 <i>Apareiodon_affinis</i> (0.514-0.652)	38 <i>Bryconamericus_poi</i> (0.000-0.640)
49 <i>Crenicichla_minuano</i> (0.621-0.741)	50 <i>Crenicichla_missioneira</i> (0.661-0.852)
63 <i>Diapoma_uruguayensis</i> (0.433-0.577)	75 <i>Gymnogeophagus_meridionalis</i> (0.000-0.643)
136 <i>Piabarchus_stramineus</i> (0.000-0.500)	137 <i>Pimelodella_gracilis</i> (0.000-0.527)
164 <i>Trachelyopterus_teaguei</i> (0.593-0.648)	

Consensus area 3 of 22 (from 2 areas; max. values)

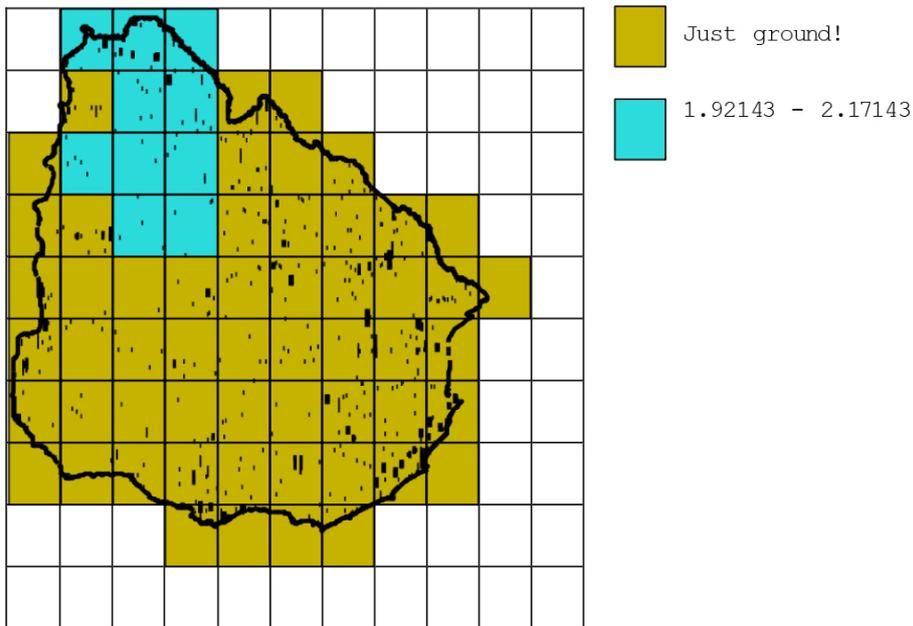


10 species give score:

0 *Acestrorhynchus_pantaneiro* (0.344-0.700)
 7 *Apistogramma_combrae* (0.000-0.600)
 55 *Cynopotamus_argenteus* (0.344-0.700)
 91 *Hoplosternum_littorale* (0.357-0.600)
 126 *Odontostilbe_pequira* (0.306-0.583)

6 *Aphyocharax_anisitsi* (0.000-0.464)
 47 *Corydoras_undulatus* (0.550-0.750)
 65 *Eigenmannia_trilineata* (0.000-0.625)
 109 *Leptoplosternum_pectorale* (0.500-0.688)
 160 *Steindachnerina_brevipinna* (0.375-0.750)

Consensus area 4 of 22 (from 1 areas; max. values)

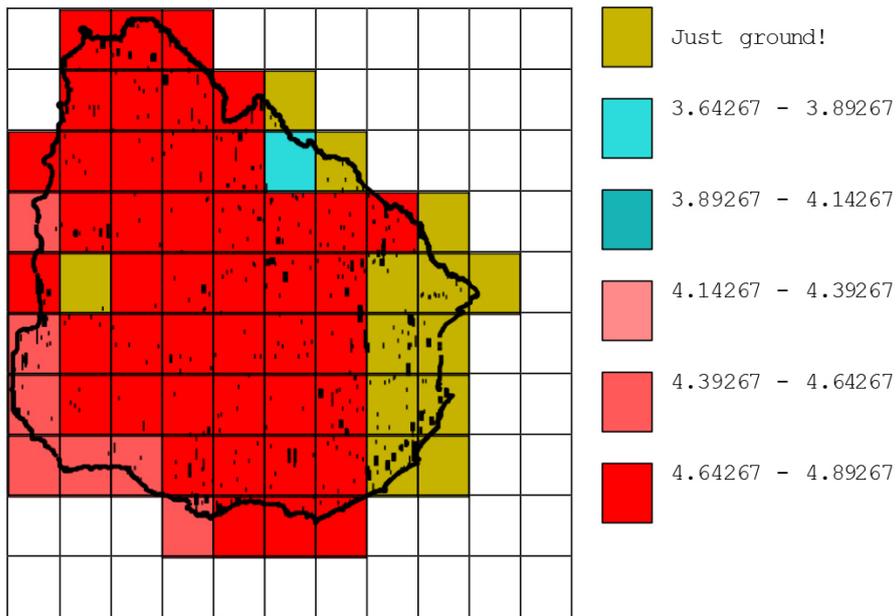


3 species give score:

76 *Gymnogeophagus_peliochelynion* (0.750)
 127 *Odontostilbe_sp* (0.600)

83 *Hemiancistrus_votouro* (0.571)

Consensus area 5 of 22 (from 3 areas; max. values)

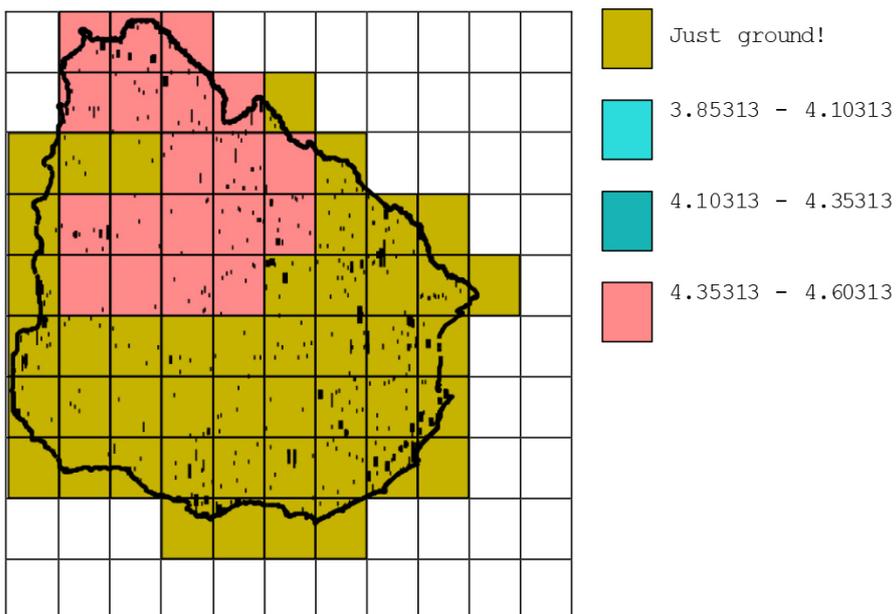


9 species give score:

4 *Ancistrus taunayi* (0.609-0.776)
 62 *Diapoma terofali* (0.714-0.853)
 74 *Gymnogeophagus mekinos* (0.000-0.745)
 90 *Hoplias lacerdae* (0.000-0.739)
 136 *Piabarchus stramineus* (0.000-0.714)

52 *Crenicichla scottii* (0.718-0.773)
 64 *Ectreopeterus uruguayensis* (0.000-0.734)
 79 *Gymnogeophagus terrapurpura* (0.625-0.777)
 96 *Hypostomus aspilogaster* (0.000-0.567)

Consensus area 6 of 22 (from 2 areas; max. values)

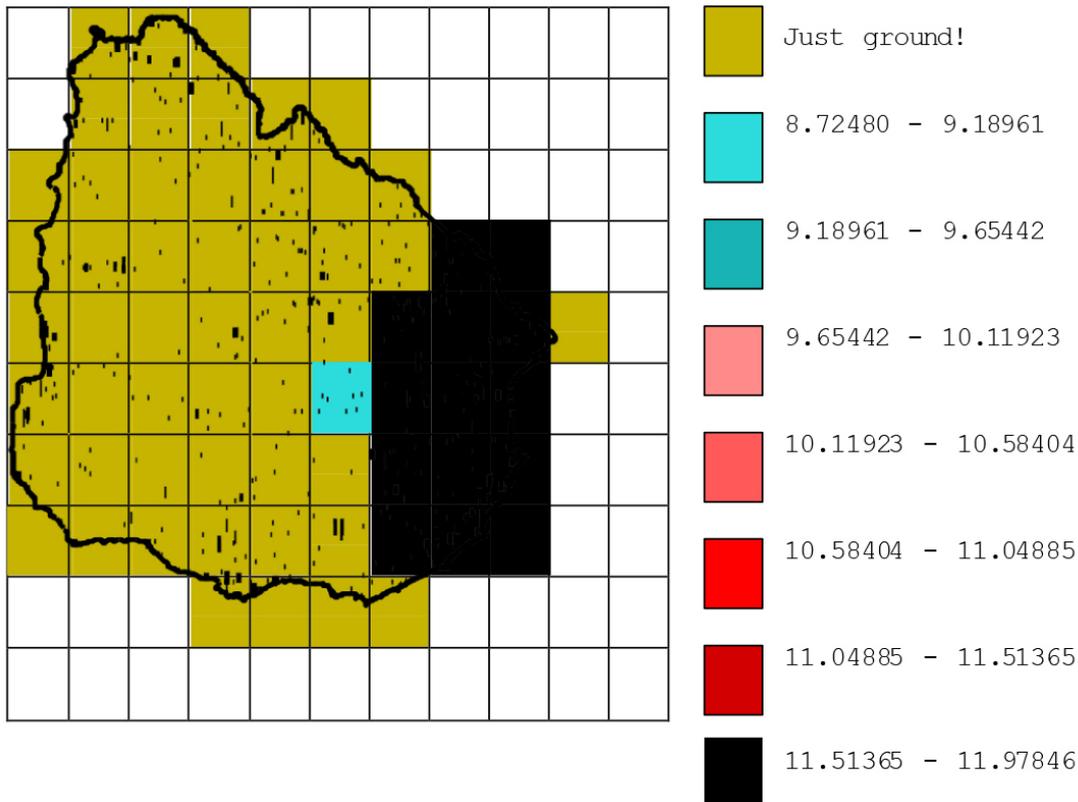


8 species give score:

38 *Bryconamericus poi* (0.000-0.605)
 42 *Characidium zebra* (0.540-0.674)
 83 *Hemiancistrus votouro* (0.632-0.711)
 148 *Rhamdella longiuscula* (0.595-0.667)

39 *Catathyridium sp* (0.440-0.565)
 50 *Crenicichla missioneira* (0.517-0.630)
 104 *Jenynsia onca* (0.522-0.524)
 164 *Trachelyopterus teaguei* (0.000-0.619)

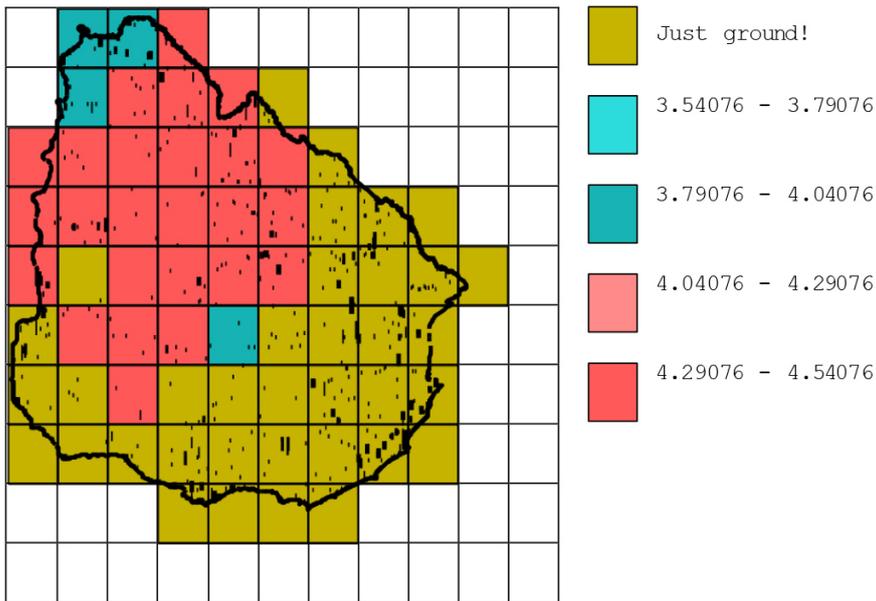
Consensus area 7 of 22 (from 5 areas; max. values)



25 species give score:

- | | |
|---|--|
| 3 <i>Ancistrus_multispinis</i> (0.000-0.607) | 17 <i>Austrolebias_charrua</i> (0.000-0.792) |
| 18 <i>Austrolebias_cheradophilus</i> (0.000-0.750) | 22 <i>Austrolebias_gymnoventris</i> (0.000-0.750) |
| 24 <i>Austrolebias_luteoflammulatus</i> (0.000-0.833) | 31 <i>Austrolebias_reichertii</i> (0.000-0.667) |
| 33 <i>Austrolebias_wolterstorffi</i> (0.000-0.792) | 40 <i>Characidium_orientale</i> (0.405-0.639) |
| 51 <i>Crenicichla_punctata</i> (0.447-0.719) | 54 <i>Cynopoecilus_melanotaenia</i> (0.469-0.833) |
| 61 <i>Diapoma_speculiferum</i> (0.625-0.792) | 68 <i>Geophagus_brasiliensis</i> (0.000-0.667) |
| 72 <i>Gymnogeophagus_gymnogenys</i> (0.500-0.821) | 73 <i>Gymnogeophagus_labiatus</i> (0.500-0.688) |
| 82 <i>Hemiancistrus_punctulatus</i> (0.000-0.611) | 85 <i>Heterocheiroidon_jacuhiensis</i> (0.000-0.750) |
| 87 <i>Hisonotus_armatus</i> (0.000-0.850) | 89 <i>Hisonotus_taimiensis</i> (0.000-0.607) |
| 118 <i>Mimagoniates_inequalis</i> (0.531-0.750) | 128 <i>Oligosarcus_robustus</i> (0.607-0.636) |
| 130 <i>Otocinclus_flexilis</i> (0.469-0.679) | 131 <i>Otothyris_rostrata</i> (0.000-0.708) |
| 141 <i>Pimelodus_pintado</i> (0.429-0.667) | 147 <i>Rhandella_eriarcha</i> (0.000-0.607) |
| 152 <i>Rineloricaria_strigilata</i> (0.500-0.714) | |

Consensus area 8 of 22 (from 3 areas; max. values)

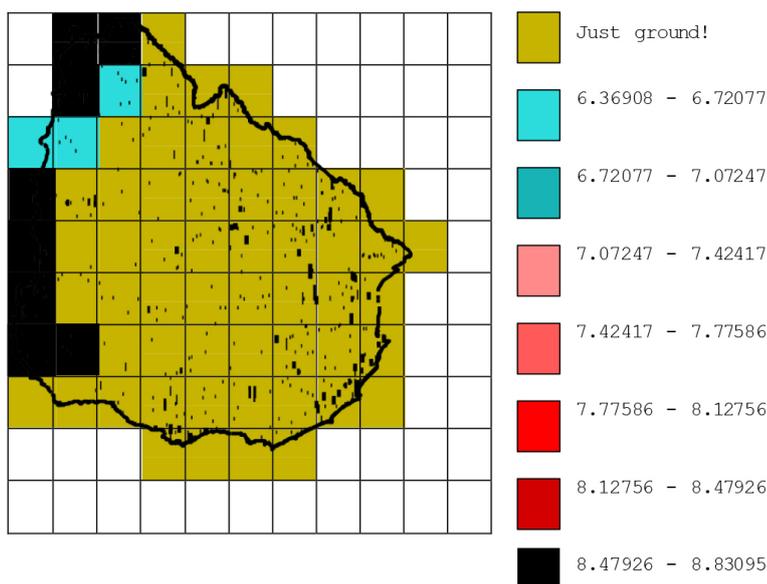


9 species give score:

5 *Apareiodon affinis* (0.514-0.652)
 49 *Crenicichla minuano* (0.621-0.741)
 63 *Diapoma uruguayensis* (0.433-0.577)
 136 *Piabarchus stramineus* (0.000-0.404)
 164 *Trachelyopterus teaguei* (0.000-0.648)

38 *Bryconamericus poi* (0.000-0.646)
 50 *Crenicichla missioneira* (0.661-0.852)
 75 *Gymnogeophagus meridionalis* (0.000-0.557)
 137 *Pimelodella gracilis* (0.000-0.527)

Consensus area 9 of 22 (from 3 areas; max. values)

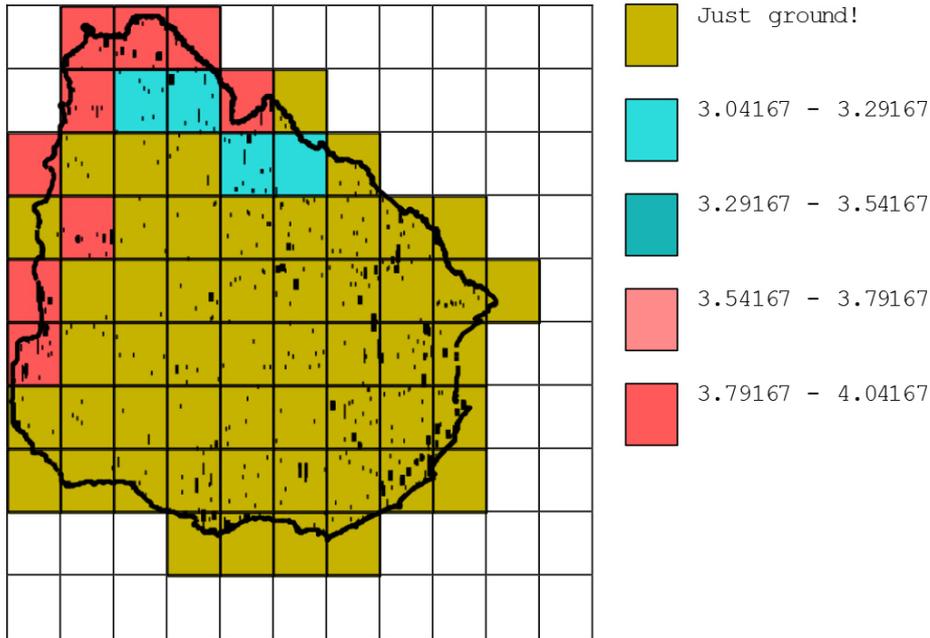


15 species give score:

6 *Aphyocharax anisitsi* (0.462-0.577)
 16 *Austrolebias bellottii* (0.591-0.611)
 47 *Corydoras undulatus* (0.000-0.786)
 56 *Cyphocharax platanus* (0.462-0.611)
 91 *Hoplosternum littorale* (0.591-0.857)
 126 *Odontostilbe pequirá* (0.577-0.750)
 145 *Pseudostegophilus maculatus* (0.455-0.600)
 157 *Serrapinnus calliurus* (0.000-0.722)

14 *Austrolebias alexandri* (0.000-0.714)
 26 *Austrolebias nigripinnis* (0.538-0.545)
 55 *Cynopotamus argenteus* (0.538-0.938)
 70 *Gymnogeophagus australis* (0.545-0.786)
 108 *Leporinus striatus* (0.500-0.650)
 138 *Pimelodus absconditus* (0.000-0.643)
 151 *Rineloricaria parva* (0.000-0.688)

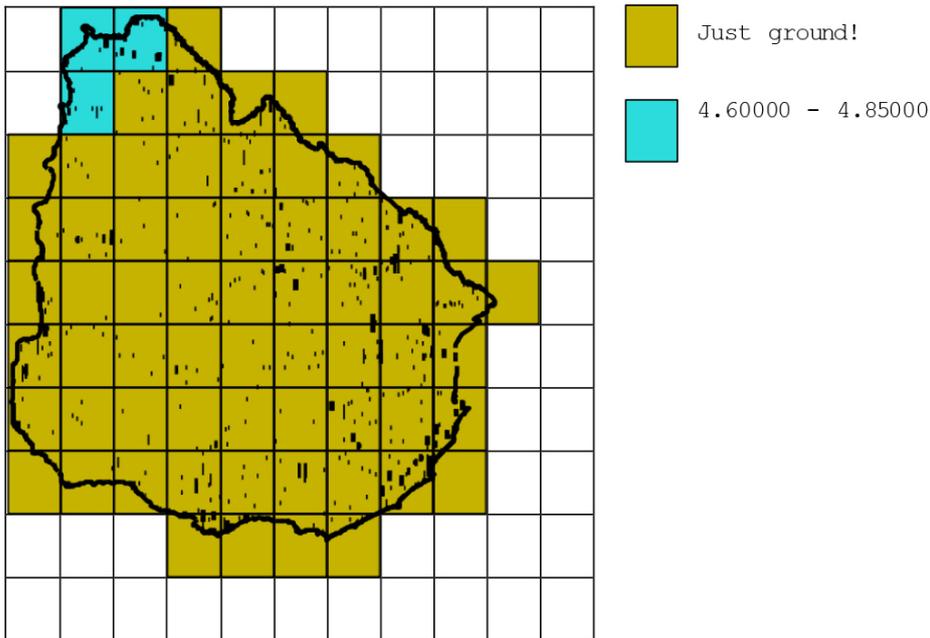
Consensus area 10 of 22 (from 2 areas; max. values)



6 species give score:

- | | |
|---|---|
| 0 <i>Acestrorhynchus pantaneiro</i> (0.792-0.889) | 6 <i>Aphyocharax anisitsi</i> (0.000-0.577) |
| 7 <i>Apistogramma commbrae</i> (0.000-0.778) | 42 <i>Characidium zebra</i> (0.000-0.750) |
| 160 <i>Steindachnerina brevipinna</i> (0.833-0.944) | 162 <i>Trachelyopterus albicrux</i> (0.667-0.722) |

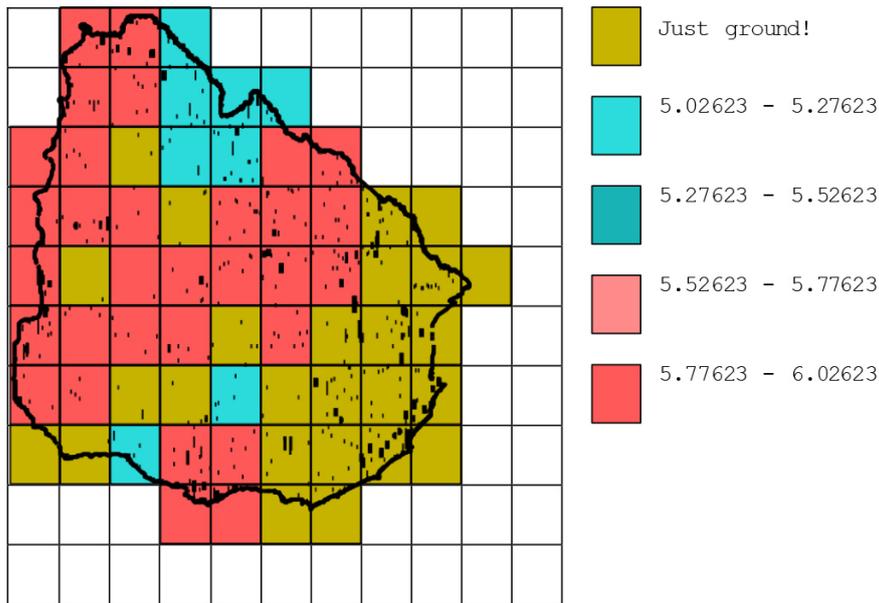
Consensus area 11 of 22 (from 1 areas; max. values)



6 species give score:

- | | |
|--|--|
| 8 <i>Astyanax lacustris</i> (0.833) | 71 <i>Gymnogeophagus balzani</i> (0.833) |
| 93 <i>Hypheosobrycon eques</i> (0.500) | 106 <i>Leporinus lacustris</i> (0.833) |
| 119 <i>Moenkhausia dichroura</i> (0.600) | 158 <i>Serrapinnus kriegi</i> (1.000) |

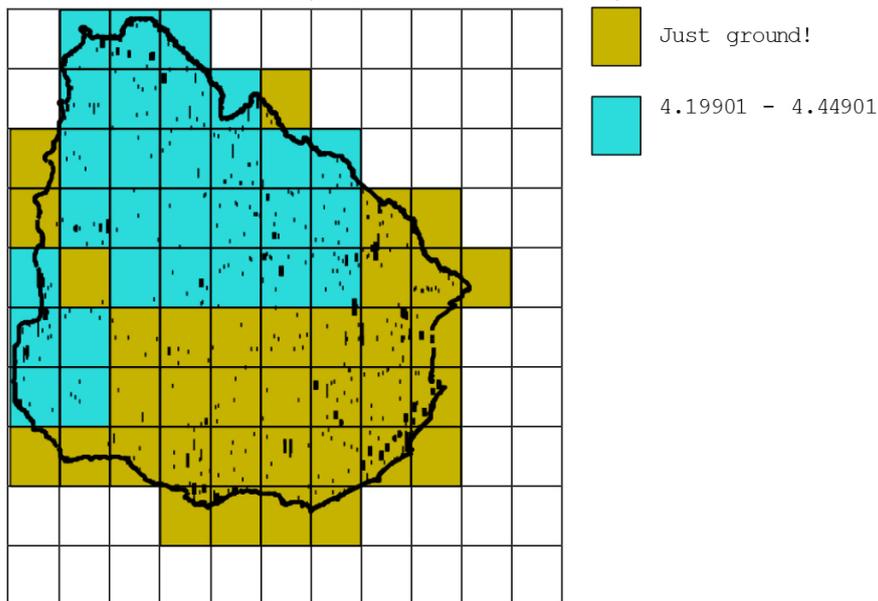
Consensus area 12 of 22 (from 2 areas; max. values)



11 species give score:

- | | |
|---|---|
| 4 <i>Ancistrus taunayi</i> (0.531-0.592) | 43 <i>Cichlasoma dimerus</i> (0.635-0.771) |
| 62 <i>Diapoma terofali</i> (0.000-0.431) | 75 <i>Gymnogeophagus meridionalis</i> (0.000-0.771) |
| 86 <i>Heterocheiron yatai</i> (0.000-0.600) | 101 <i>Iheringichthys labrosus</i> (0.603-0.730) |
| 132 <i>Pachyurus bonariensis</i> (0.600-0.686) | 133 <i>Paraloricaria vetula</i> (0.000-0.677) |
| 134 <i>Parapimelodus valenciennis</i> (0.000-0.635) | 136 <i>Piabarchus stramineus</i> (0.570-0.784) |
| 140 <i>Pimelodus maculatus</i> (0.662-0.692) | |

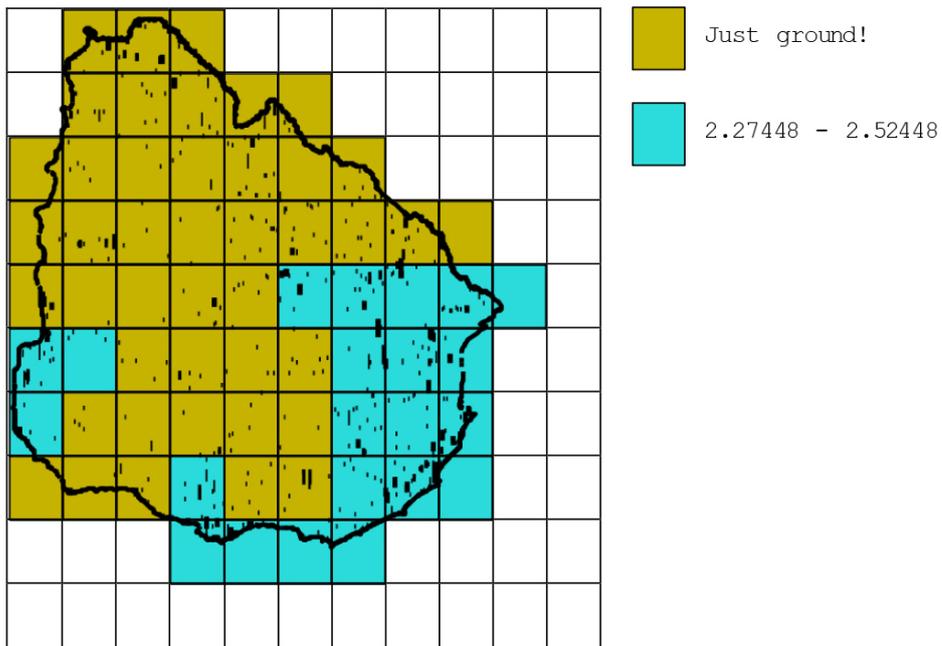
Consensus area 13 of 22 (from 2 areas; max. values)



8 species give score:

- | | |
|--|---|
| 5 <i>Apareiodon affinis</i> (0.559-0.667) | 39 <i>Catathyridium sp</i> (0.615-0.688) |
| 42 <i>Characidium zebra</i> (0.643) | 50 <i>Crenicichla missioneira</i> (0.559) |
| 57 <i>Cyphocharax saladensis</i> (0.000-0.646) | 63 <i>Diapoma uruguayensis</i> (0.500-0.583) |
| 112 <i>Loricariichthys melanocheilus</i> (0.000-0.635) | 137 <i>Pimelodella gracilis</i> (0.486-0.696) |

Consensus area 14 of 22 (from 1 areas; max. values)

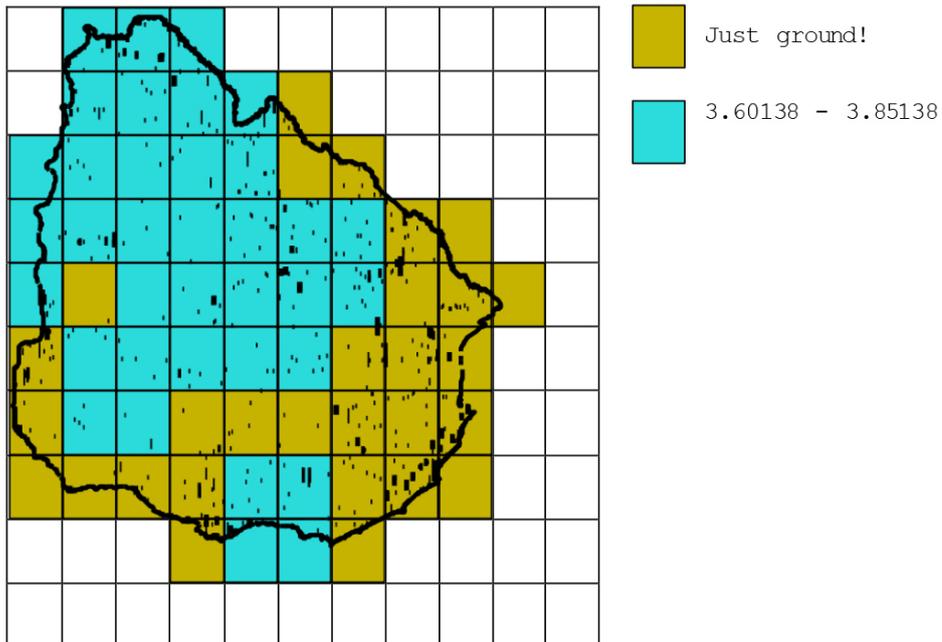


3 species give score:

92 *Hyphessobrycon boulengeri* (0.750)
143 *Platanichthys platana* (0.615)

103 *Jenynsia lineata* (0.909)

Consensus area 15 of 22 (from 1 areas; max. values)

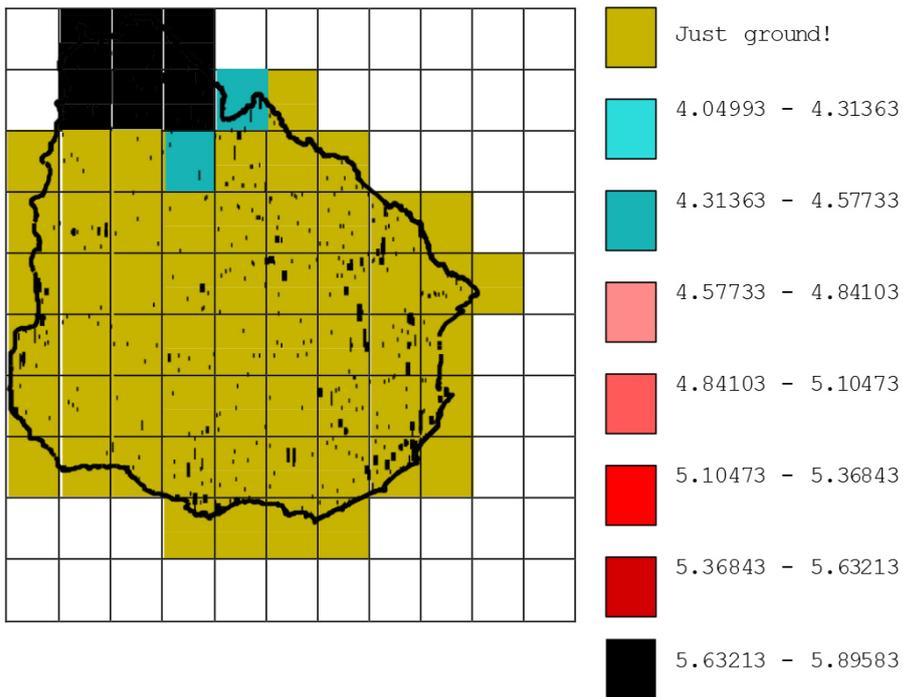


6 species give score:

4 *Ancistrus taunayi* (0.663)
64 *Ectreoptherus uruguayensis* (0.542)
90 *Hoplías lacerdae* (0.688)

62 *Diapoma terofali* (0.578)
86 *Heterocheiroduon yatai* (0.632)
140 *Pimelodus maculatus* (0.500)

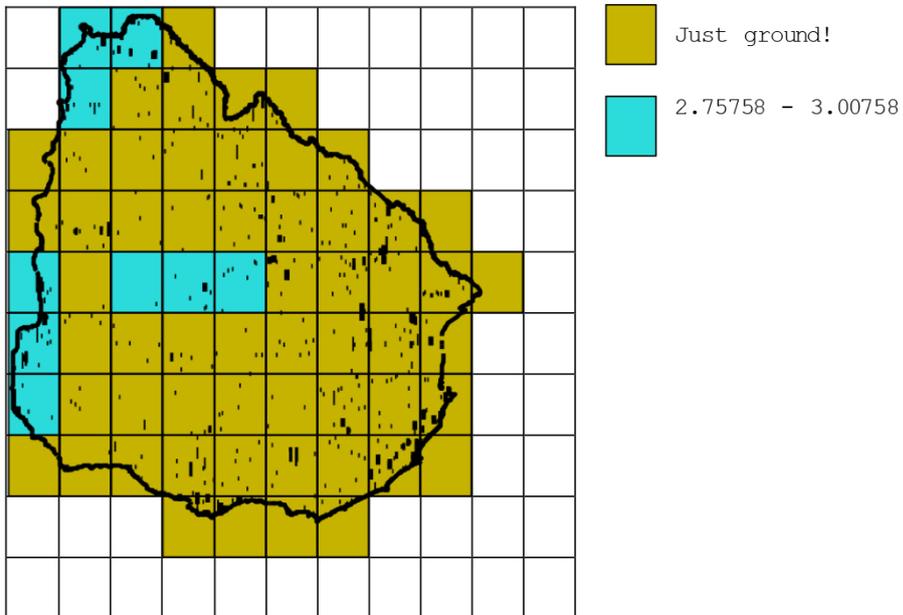
Consensus area 16 of 22 (from 3 areas; max. values)



11 species give score:

69 <i>Gymnogeophagus aff. setequedas</i> (0.688-0.929)	76 <i>Gymnogeophagus peliochelynion</i> (0.318-0.455)
77 <i>Gymnogeophagus pseudolabiatius</i> (0.688-0.929)	83 <i>Hemiancistrus votouro</i> (0.000-0.462)
88 <i>Hisonotus ringueleti</i> (0.625-0.857)	93 <i>Hyphessobrycon eques</i> (0.000-0.750)
105 <i>Leporinus amae</i> (0.000-0.700)	106 <i>Leporinus lacustris</i> (0.000-0.667)
119 <i>Moenkhausia dichrourea</i> (0.000-0.833)	155 <i>Schizodon nasutus</i> (0.563-0.786)
158 <i>Serrapinnus kriegi</i> (0.000-0.750)	

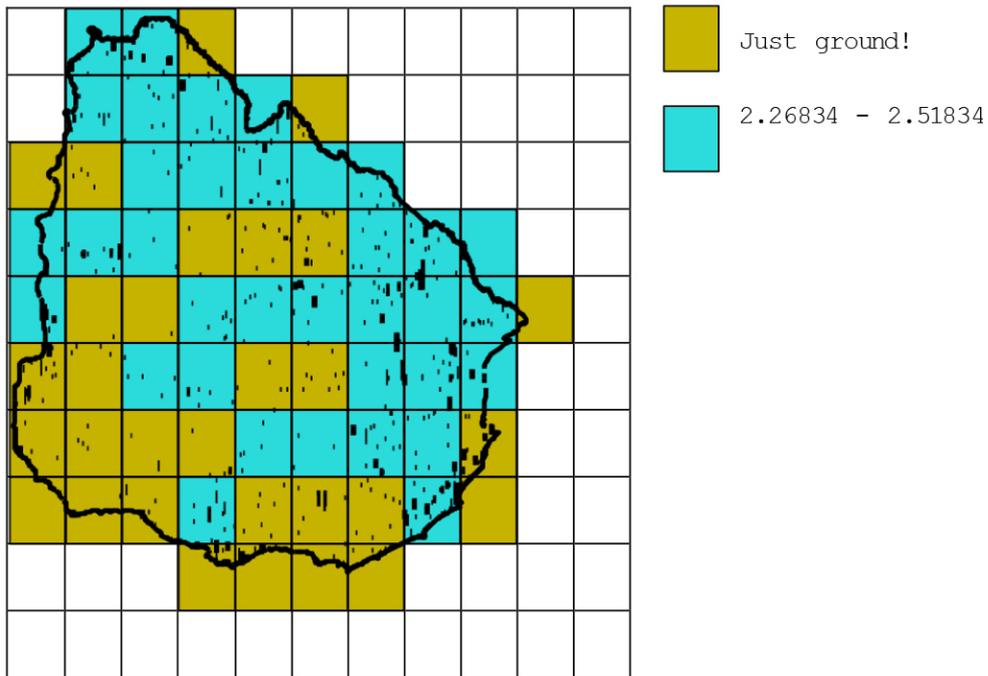
Consensus area 17 of 22 (from 1 areas; max. values)



4 species give score:

66 <i>Eigenmannia virescens</i> (0.773)	99 <i>Hypostomus roseopunctatus</i> (0.591)
100 <i>Hypostomus uruguayensis</i> (0.667)	124 <i>Odontesthes perugiae</i> (0.727)

Consensus area 18 of 22 (from 1 areas; max. values)



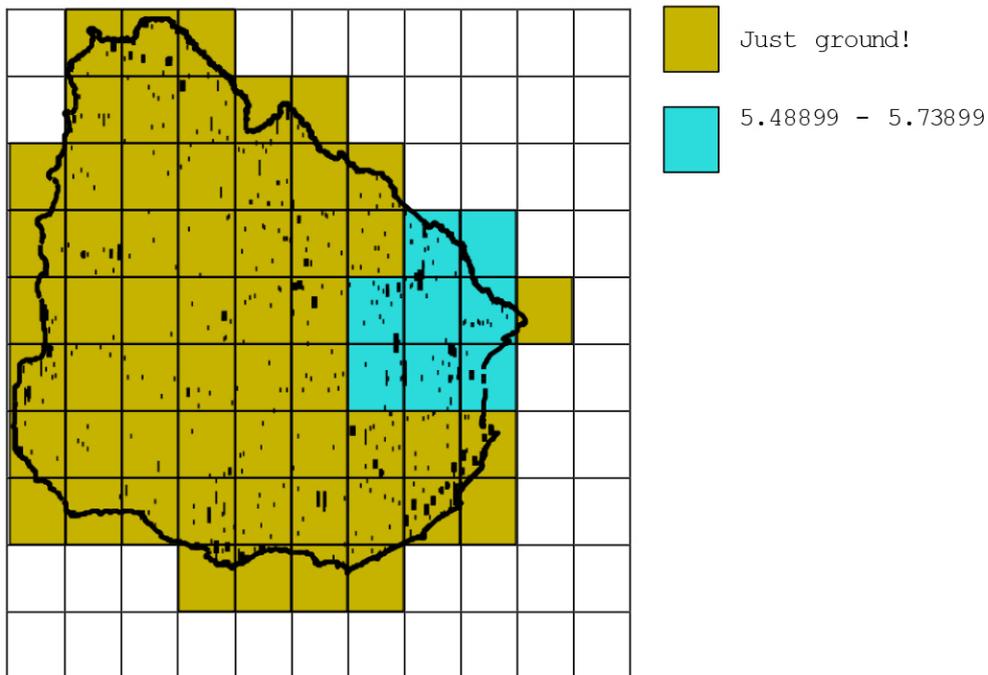
3 species give score:

41 *Characidium tenue* (0.838)

96 *Hypostomus aspilogaster* (0.716)

59 *Diapoma alburnus* (0.714)

Consensus area 19 of 22 (from 1 areas; max. values)



10 species give score:

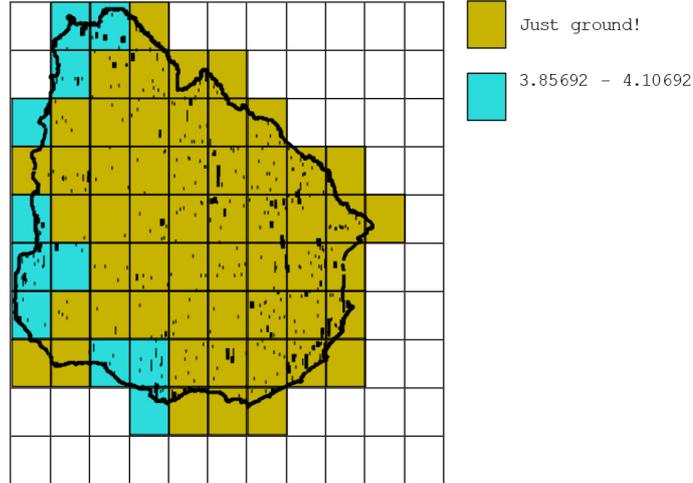
23 *Austrolebias juanlangi* (0.344)

31 *Austrolebias reicherti* (0.688)

30 *Austrolebias quirogai* (0.393)

44 *Cichlasoma portalegrensis* (0.625)

Consensus area 20 of 22 (from 1 areas; max. values)

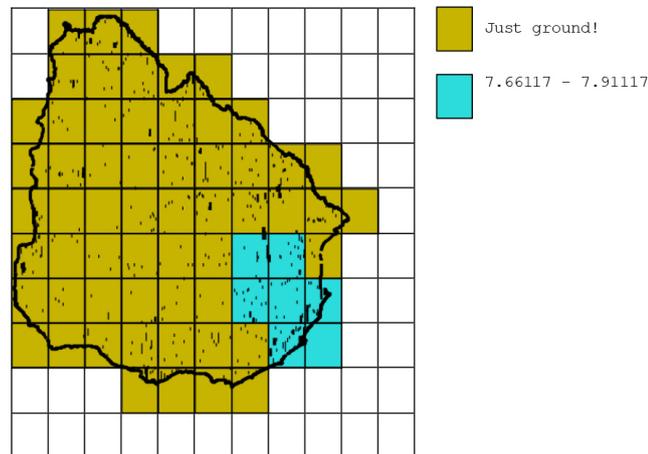


6 species give score:

26 *Austrolebias nigripinnis* (0.818)
114 *Luciopimelodus pati* (0.533) 153
Salminus brasiliensis (0.529)

56 *Cyphocharax platanus* (0.727)
146 *Pygocentrus nattereri* (0.615)
159 *Serrasalmus maculatus* (0.633)

Consensus area 21 of 22 (from 1 areas; max. values)



11 species give score:

17 *Austrolebias charrua* (0.722)
22 *Austrolebias gymnoventris* (0.929)
28 *Austrolebias prognathus* (0.714)
33 *Austrolebias wolterstorffi* (0.722)
84 *Heptapterus sympterigium* (0.857)
141 *Pimelodus pintado* (0.556)

18 *Austrolebias cheradophilus* (0.667)
24 *Austrolebias luteoflammulatus* (0.462)
32 *Austrolebias viarius* (0.714)
54 *Cynopocilus melanotaenia* (0.462)
131 *Otothyris rostrata* (0.857)

Neotropical Ichthyology



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Official Journal of the
Sociedade Brasileira de Ictiologia

FIGURE S3 | Consensus Areas Consensus (50%) Areas of Endemism of freshwater fishes from Uruguay. Grid Cell 59 km x 59 km.

HOW TO CITE THIS ARTICLE

- Bessonart J, Loureiro M, Guerrero JC, Szumik C. Distribution of freshwater fish from the Southern Neotropics reveals three new areas of endemism and show diffuse limits among freshwater ecoregions. *Neotrop Ichthyol.* 2021; 19(4):e200153. <https://doi.org/10.1590/1982-0224-2020-0153>