APPENDIX 1

Primers and PCR conditions to amplify partial segments of mitochondrial genes used in this study

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gene | Primer | Sequence 5´-3´ | Reaction volume | PCR conditions | Reference |
| cytb1 | LIZ1  LIZ2 | AGCCCCATCCAACATCTCTGCTTGATGAAA  TGACTGTGGCACCTCAGAATGATATTTGGCCTCA | 25ul | 93(5min); 93(10s), 45(15s),  72(45s) x 31; 72(10min) | Fitzgerald y col. 1999 |
| cytb2 | LIZ2F2  CB3H | GGCCAAATATCATTCTGAGGTG  GGCAAATAGGAARTATCATTC | 50ul | 94(3min); 94(1min), 50(1min),  72(1min) x 30; 72(5min) | Thisstudy  Palumbi y col. 1991 |
| ND4 | ND4  GramA | CACCTATGACTACCAAAAGCTCATGTAGAAGC  CATCAGGTGGCTATTAGTGGAA | 50ul | 93(5min); 93(10s), 45(15s),  72(45s) x 31; 72(10min) | Arévalo y col. 1994 |

cytb1: segment 1 of cytochrome b, cytb2: segment 2 of cytochrome b, ND4: segment ofsubunit 4 of NADH dehydrogenase

APPENDIX 2

Haplotypes found in the Venezuela datasetwhich consists of 93 concatenated sequences of cytochrome b-1, cytochrome b-2 and ND4; and in the South America datasetwith 102 concatenated sequences of cytochrome b-1 and ND4

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Population | Coordinates | Venezuela dataset | | | South America dataset | | |
|  |  | n | HapU | HapNU | N | HapU | HapNU |
| Amazonas | 01o55’14” N  67o03’36” W | 5 | 1 | 2 | 5 | 1 | 2 |
| Delta | 08o50’27.3” N  62o00’28” W | 17 | 2 | 5 | 17 | 2 | 5 |
| Guatopo | 10o01’16.45” N  66o26’37.64” W | 6 | 1 | 1 | 6 | 1 | 1 |
| Guri | 07o11’08” N  62o36’49” W | 17 | 2 | 3 | 18 | 2 | 3 |
| Llanos | 07o55’03” N  67o28’30” W | 25 | 7 | 5 | 25 | 4 | 6 |
| Zulia | 09o12’35” N  72o33’40” W | 23 | 6 | 4 | 25 | 4 | 3 |
| Brazil | - | - | - | - | 3 | 1 | 1 |
| Ecuador | - | - | - | - | 3 | 3 | 0 |

n = sample size, HapU = number of unique haplotypes (present in a single individual), HapNU = number of non-unique haplotypes (present in several individuals of the same population).

APPENDIX 3

Haplotypes and individuals in the Venezuela dataset (cytochrome b-1 + cytochrome b-2 + ND4) andin the South America dataset (cytochrome b-1 + ND4)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Haplotype | Venezuela dataset | | | | | South America dataset | | | |
|  | n | Individuals | | Population | | n | Individuals | Population |
| H1 | 3 | DE001, DE008, DE011 | | | Delta | 3 | DE001, DE008, DE011 | Delta |
| H2 | 1 | DE002 | | | Delta | 1 | DE002 | Delta |
| H3 | 7 | DE003, DE007, DE010, DE012, DE013, DE014, DE015 | | | Delta | 7 | DE003, DE007, DE010, DE012, DE013, DE014, DE015 | Delta |
| H4 | 2 | DE004, DE017 | | | Delta | 2 | DE004, DE017 | Delta |
| H5 | 1 | DE005 | | | Delta | 1 | DE005 | Delta |
| H6 | 2 | DE006, DE016 | | | Delta | 2 | DE006, DE016 | Delta |
| H7 | 9 | DE018, CVG44, CVG45, CVG49, CVG50, CVG54, CVG56, CVG60, CVG61 | | | Delta, Guri | 12 | DE018, CVG44, CVG45, CVG49, CVG50, CVG53, CVG54, CVG56, CVG60, CVG61, B2431, B2450 | Delta, Guri, Brazil |
| H8 | 4 | | PM019, PM026, PM034, PM043 | | Llanos | 4 | PM019, PM026, PM034, PM043 | Llanos |
| H9 | 8 | | PM020, PM021, PM022, PM024, PM031, PM032, PM040, PM041 | | Llanos | 8 | PM020, PM021, PM022, PM024, PM031, PM032, PM040, PM041 | Llanos |
| H10 | 1 | | PM023 | | Llanos | 2 | PM023, PM042 | Llanos |
| H11 | 1 | | PM025 | | Llanos | 1 | PM025 | Llanos |
| H12 | 1 | | PM027 | | Llanos | 1 | PM027 | Llanos |
| H13 | 2 | | PM028, PM029 | | Llanos | 3 | PM028, PM029, PM039 | Llanos |
| H14 | 2 | | PM030, PM038 | | Llanos | 2 | PM030, PM038 | Llanos |
| H15 | 1 | | PM033 | | Llanos | 1 | PM033 | Llanos |
| H16 | 1 | | PM035 | | Llanos | 1 | PM035 | Llanos |
| H17 | 2 | | PM036, PM037 | | Llanos | 2 | PM036, PM037 | Llanos |
| H18 | 1 | | PM039 | | Llanos | 4 | CVG46, CVG051, CVG55, CVG57 | Guri |
| H19 | 1 | | PM042 | | Llanos | 3 | CVG47, CVG58, CVG59 | Guri |
| H20 | 4 | | CVG46, CVG51, CVG55, CVG57 | | Guri | 1 | CVG48 | Guri |
| H21 | 3 | | CVG47, CVG58, CVG59 | | Guri | 1 | CVG52 | Guri |
| H22 | 1 | | CVG48 | | Guri | 5 | GUA63, GUA64, GUA65, GUA67, GUA68 | Guatopo |
| H23 | 1 | | CVG52 | | Guri | 1 | GUA66 | Guatopo |
| H24 | 5 | | GUA63, GUA64, GUA65, GUA67, GUA68 | | Guatopo | 12 | ZUL69, ZUL70, ZUL78, ZUL82, ZUL84, ZUL85, ZUL88, ZUL89, ZUL90, ZUL92, ZUL94, ZUL97 | Zulia |
| H25 | 1 | | GUA66 | | Guatopo | 2 | ZUL71, ZUL91 | Zulia |
| H26 | 6 | | ZUL69, ZUL82, ZUL85, ZUL90, ZUL94, ZUL97 | | Zulia | 1 | ZUL72 | Zulia |
| H27 | 4 | | ZUL70, ZUL78, ZUL89, ZUL92 | | Zulia | 7 | ZUL75, ZUL76, ZUL77, ZUL80, ZUL83, ZUL93, ZUL95 | Zulia |
| H28 | 2 | | ZUL71, ZUL91 | | Zulia | 1 | ZUL79 | Zulia |
| H29 | 1 | | ZUL72 | | Zulia | 1 | ZUL81 | Zulia |
| H30 | 5 | | ZUL75, ZUL77, ZUL83, ZUL93, ZUL95 | | Zulia | 1 | ZUL87 | Zulia |
| H31 | 1 | | ZUL76 | | Zulia | 2 | RN098, RN100 | Amazonas |
| H32 | 1 | | ZUL79 | | Zulia | 2 | RN099, RN101 | Amazonas |
| H33 | 1 | | ZUL80 | | Zulia | 1 | RN102 | Amazonas |
| H34 | 1 | | ZUL81 | | Zulia | 1 | E2715 | Ecuador |
| H35 | 1 | | ZUL87 | | Zulia | 1 | E2703 | Ecuador |
| H36 | 2 | | RN098, RN100 | | Amazonas | 1 | E2678 | Ecuador |
| H37 | 2 | | RN099, RN101 | | Amazonas | 1 | B2405 | Brazil |
| H38 | 1 | | RN102 | | Amazonas | - | - | - |

n = number of specimens.