SUPPLEMENTARY MATERIAL

corresponding to:

A polymorphism in oocyte pigmentation in natural populations of the glass frog \textit{Espadarana prosoblepon} (Centrolenidae)

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**Table S1.** Summary of collecting sites for *E. prosoblepon* samples from the Ecuadorian lowlands.

| Locality                                | Province    | Latitude      | Longitude      | Elevation (m) | Specimens code                                      |
|-----------------------------------------|-------------|---------------|----------------|---------------|-----------------------------------------------------|
| Junín                                    | Imbabura    | 0.279314      | -78.666662     | 1342          | QCAZ66722, QCAZ66723, QCAZ66724 & QCAZ66725         |
| Los Cedros Ecological Reserve           | Imbabura    | 0.3088        | -78.77927      | 1386          | QCAZ63221, QCAZ63222, QCAZ63223 & QCAZ63224         |
| Lita – Balneario                         | Imbabura    | 0.86305       | -78.45314      | 568           | QCAZ51400 & LSUMNS12758                              |
| Reserva Ecológica Bosque Nublado Santa Lucía | Pichincha  | 0.10962       | -78.60936      | 1657          | QCAZ56718                                           |
| Playa Rica                               | Pichincha   | 0.175312444   | -78.62957061   | 1048          | QCAZ41977                                           |
| Manta Real                               | Cañar       | -2.56681      | -79.36687      | 339           | QCAZ63364                                           |
| Río Chillaycu                            | El Oro      | -3.32834      | -79.58102      | 415           | QCAZ45306 & QCAZ45304                               |
| Jama Coaque                              | Manabí      | -0.1194       | -80.12085      | 424           | QCAZ50991                                           |
Table S2. Sequences of Centrolenid species and outgroups used in analyses.

| Species                    | Voucher     | GenBank Accession No. 16S | NDI  | References |
|----------------------------|-------------|--------------------------|------|------------|
| *Allophryne ruthveni*      | MAD 1512    | AY843564                 | –    | 1          |
| *Celsiella revocata*       | MHNLS 17319 | EU663019                 | –    | 2          |
| *Centrolene altitudinale*  | MHNLS 17194 | EU662974                 | –    | 2          |
| *Centrolene antioquiense*  | NRPS 014    | EU662977                 | –    | 2          |
| *Centrolene buckleyi*      | KU 178031   | EU662979                 | –    | 2          |
| *Centrolene daidaleum*     | MHUA 3271   | EU663007                 | –    | 2          |
| *Centrolene geckoideum*    | KU 178015   | EU662982                 | –    | 2          |
| *Centrolene hexasperum*    | MHNSM 25802 | EU662986                 | –    | 2          |
| *Centrolene notostictum*   | MAR 510     | EU662992                 | –    | 2          |
| *Centrolene peristictum*   | QCAZ 22312  | EU662993                 | –    | 2          |
| *Centrolene savagei*       | MHUA 4094   | EU663020                 | –    | 2          |
| *Centrolene venezuelense*  | MHNLS 16497 | EU663001                 | –    | 2          |
| *Chimerella mariaelenae*   | QCAZ 31729  | EU662991                 | –    | 2          |
| *Cochranella euknemos*     | CH 5109     | EU663008                 | –    | 2          |
| *Cochranella granulosa*    | CH 5121     | EU663010                 | –    | 2          |
| *Cochranella litoralis*    | QCAZ 27693  | EU662990                 | –    | 2          |
| *Cochranella mache*        | QCAZ 27747  | EU663013                 | –    | 2          |
| *Espadarana andina*        | JMG 366     | EU662976                 | EU663072 | 2          |
| *Espadarana callistomma*   | QCAZ 28555  | EU662981                 | –    | 2          |
| *Espadarana prosoblepon – Costa Rica* | MV 149741 | – | AY286061 | 3          |
| *Espadarana prosoblepon – Costa Rica* | MVZ 203790 | – | JX564857 | 3          |
| *Espadarana prosoblepon – Panama* | AJC 1776 | KR863253 | – | 4          |
| *Espadarana prosoblepon – Panama* | CA 155 | – | AY286058 | 3          |
| *Espadarana prosoblepon – Panama* | FE 345 | – | AY578735 | 3          |
| *Espadarana prosoblepon – Panama* | MVZ232752 | – | AY948756 | 5          |
| *Espadarana prosoblepon – EC Rio Chillayuco* | QCAZ 45306 | MT018468 | MT025718 | This study |
| *Espadarana prosoblepon – EC Rio Chillayuco* | QCAZ 45304 | – | MT025719 | This study |
| *Espadarana prosoblepon – EC Manta Real* | QCAZ63364 | – | MT025720 | This study |
| *Espadarana prosoblepon – EC Jama Coaque* | QCAZ50991 | – | MT025721 | This study |
| *Espadarana prosoblepon – EC Lita* | QCAZ 51400 | MT018469 | MT025732 | This study |
| Species                          | Accession 1       | Accession 2       | Accession 3       | Notes               |
|---------------------------------|-------------------|-------------------|-------------------|--------------------|
| Espadarana prosoblepon          | LSUMNS12758       |                   |                   | 6                  |
| – EC Lita                       |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ63222         |                   |                   | This study         |
| – EC Los Cedros                 |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ63223         |                   |                   | This study         |
| – EC Los Cedros                 |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ63221         |                   |                   | This study         |
| – EC Los Cedros                 |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ63224         |                   |                   | This study         |
| – EC Los Cedros                 |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ66724         |                   |                   | This study         |
| – EC Junin                      |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ66722         |                   |                   | This study         |
| – EC Junin                      |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ66723         |                   |                   | This study         |
| – EC Junin                      |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ66725         |                   |                   | This study         |
| – EC Junin                      |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ41977         |                   |                   | This study         |
| – EC Playa Rica                 |                   |                   |                   |                    |
| Espadarana prosoblepon          | QCAZ56718         |                   |                   | This study         |
| – EC Santa Lucia                |                   |                   |                   |                    |
| Hyalinobatrachium               | QCAZ 32105        |                   |                   |                    |
| aureoguttatum                   | EU663032          |                   |                   | 2                  |
| Hyalinobatrachium               | MHNCP 5713        |                   |                   |                    |
| bergeri                         | GQ142062          |                   |                   | 7                  |
| Hyalinobatrachium               | MTD48146          |                   |                   |                    |
| cappellei                       | JN870851          |                   |                   | 8                  |
| Hyalinobatrachium               | ZMFK 75238        |                   |                   |                    |
| carlesvilai                     | GQ142057          |                   |                   | 7                  |
| Hyalinobatrachium               | UCR 17424         |                   |                   |                    |
| chirripoi                       | EU663037          |                   |                   | 2                  |
| Hyalinobatrachium               | UCR 17423         |                   |                   |                    |
| colombiphyllum                  | EU663039          |                   |                   | 2                  |
| Hyalinobatrachium               | MHNLS 16475       |                   |                   |                    |
| crurifasciatum                  | EU663040          |                   |                   | 2                  |
| (synon. cappellei; Castroviejo– |                   |                   |                   |                    |
| Fisher et al., 2011)            |                   |                   |                   |                    |
| Hyalinobatrachium               | MHNLS 16493       |                   |                   |                    |
| duranti                         | EU663041          |                   |                   | 2                  |
| Hyalinobatrachium               | MHNLS 17335       |                   |                   |                    |
| eccentricum                     | EU663042          |                   |                   | 2                  |
| (synon. Cappellei; Castroviejo– |                   |                   |                   |                    |
| Fisher et al., 2011)            |                   |                   |                   |                    |
| Hyalinobatrachium               | QCAZ 22303        |                   |                   |                    |
| fleischmanni                    | EU663044          |                   |                   | 2                  |
| Hyalinobatrachium               | LSUMZ H 15460     |                   |                   |                    |
| iaspidiense                     | JN870867          |                   |                   | 9                  |
| Hyalinobatrachium               | MAR 503           |                   |                   |                    |
| ibama                           | EU663048          |                   |                   | 2                  |
| Hyalinobatrachium               | SMNS 12255        |                   |                   |                    |
| mondolfii                       | JN870870          |                   |                   | 9                  |
| Hyalinobatrachium               | MHNLS 17238       |                   |                   |                    |
| pallidum                        | EU663052          |                   |                   | 2                  |
| Hyalinobatrachium               | MHNCP 4880        |                   |                   |                    |
| pellucidum                      | GQ142065          |                   |                   | 10                 |
| Hyalinobatrachium               | CH 5330           |                   |                   |                    |
| talamancae                      | EU663054          |                   |                   | 2                  |
| Hyalinobatrachium               | MHNLS 17174       |                   |                   |                    |
| tatayoi                         | EU663055          |                   |                   | 2                  |
| Species                                  | Accession Numbers | Additional Accession Numbers |
|------------------------------------------|-------------------|------------------------------|
| **Hyalinobatrachium taylori**            | MHNLS 17141       | EU663056, EU663151           |
| **Hyalinobatrachium valerioi**           | UCR 17418         | EU663057, –                  |
| **Ikakogi tayrona**                      | MAR 546           | EU662999, –                  |
| **Nymphargus grandisonae**               | QCAZ 22310        | EU662985, 2                 |
| **Nymphargus grandisonae**               | QCAZ 11683        | –, AY819465, 11             |
| **Nymphargus griffiths**                 | QCAZ 29525        | KF208516, –, 12             |
| **Nymphargus pluvialis**                 | LU 173224         | EU663065, –, 2              |
| **Nymphargus siren**                     | KU 179171         | EU663067, –, 2              |
| **Nymphargus wileyi**                    | QCAZ 27435        | EU663068, –, 2              |
| **Rulyrana flavopunctata**               | QCAZ 32265        | EU663009, –, 2              |
| **Sachatamia albomaculata**              | USNM 534151       | EU663003, –, 2              |
| **Sachatamia ilex**                      | UCR 16861         | EU662988, –, 2              |
| **Teratohyla midas**                     | KHJ               | EU663014, –, 2              |
| **Teratohyla pulverata**                 | USNM 538588       | EU663053, –, 2              |
| **Teratohyla spinosa**                   | USNM 538863       | EU663023, –, 2              |
| **Vitreorana castroviejoi**              | MHNLS 16446       | EU663004, –, 2              |
| **Vitreorana gorzulai**                  | MHNLS 15735       | EU266750, –, 13             |
| **Vitreorana heleae**                    | MHNLS 17139       | EU663012, –, 2              |
| **Vitreorana oyampiensis (ritosae)**     | MB 165            | EU266755, –, 13             |
| **Epipedobates machalilla**              | QCAZ 53672        | KY407889, –, 14             |
| **Dendrobates auratus**                  | AF124115          | AF124115, –, 15             |
| **Engystomops coloradorum**              | QCAZ 19418        | DQ337222, –, 16             |
| **Engystomops guayaco**                  | QCAZ 23553        | DQ337219, –, 16             |
| **Pleuroderma bufoninum**                | MLP A 4747        | JQ937176, –, 17             |
| **Pleuroderma cordobae**                 | MACN 42299        | JQ937182, –, 17             |
| **Pleuroderma diplolister**              | TG427             | KU495455, –, 18             |
| **Rhinella marina**                      | QCAZ 50702        | KR012644, –, 19             |
| **Atelopus spumarius**                   | BPN 754           | DQ283260, –, 20             |
| **Agalychnis spurrelli**                 | CP13217           | AY326043, –, 21             |
| **Dendropsophus carnifex**               | QCAZ A39333       | KY406456, –, 22             |
Table S3. Egg pigmentation and oviposition site documented in 56 species of the Centrolenidae family

| Species                  | Egg color | Oviposition site | 0 & E | 0 & U | 1 & E | 1 & U | 0 & B | 1 & B | Reference(s) |
|--------------------------|-----------|------------------|-------|-------|-------|-------|-------|-------|--------------|
| Celsiella revocata       | 0         | B                | 1     |       |       |       |       |       | 23,24        |
| Centrolene altitudinale  | 0         | E                | 1     |       |       |       |       |       | 24          |
| Centrolene antioquiense  | 0         | U                | 1     |       |       |       |       |       | 25–27        |
| Centrolene bacatum       | 0         | E                | 1     |       |       |       |       |       | 28          |
| Centrolene buckleyi      | 1         | E                | 1     |       |       |       |       |       | D.A.         |
| Centrolene daidaleum     | 0         | E                | 1     |       |       |       |       |       | 29,30        |
| Centrolene geckoideum    | 1         | E                | 1     |       |       |       |       |       | 31          |
| Centrolene hesperium     | 0         | E                | 1     |       |       |       |       |       | 32          |
| Centrolene notostictum   | 0         | U                | 1     |       |       |       |       |       | 33          |
| Centrolene peristictum   | 0         | B                | 1     |       |       |       |       |       | 34,35        |
| Centrolene savagei       | 0         | E                | 1     |       |       |       |       |       | 36          |
| Centrolene venezuelense  | 0         | E                | 1     |       |       |       |       |       | 24,37        |
| Chimerella mariaeelenae  | 0         | B                | 1     |       |       |       |       |       | 38          |
| Cochranella euknemos     | 1         | E                | 1     |       |       |       |       |       | 39          |
| Cochranella granulosa    | 1         | E                | 1     |       |       |       |       |       | 34          |
| Cochranella litoralis    | 0         | E                | 1     |       |       |       |       |       | 40          |
| Cochranella mache        | 0         | E                | 1     |       |       |       |       |       | 41,42        |
| Cochranella vosmedianoi  | 0         | E                | 1     |       |       |       |       |       | 24          |
| Espadarana andina        | 0         | E                | 1     |       |       |       |       |       | 37          |
| Espadarana callistomma   | 1         | E                | 1     |       |       |       |       |       | 43          |
| Espadarana prosoblepon   | 1         | B                | 1     |       |       |       |       |       | 44–46        |
| Hyalinobatrachium aureoguttatum | 0     | U                | 1     |       |       |       |       |       | 47          |
| Hyalinobatrachium bergeri| 0         | U                | 1     |       |       |       |       |       | 48          |
| Hyalinobatrachium cappellei| 0     | U                | 1     |       |       |       |       |       | 9,49         |
| Hyalinobatrachium carlesvilai| 0   | B                | 1     |       |       |       |       |       | 7           |
| Hyalinobatrachium chirripoi| 0      | U                | 1     |       |       |       |       |       | 50          |
| Hyalinobatrachium clymbiphyllum | 0 | U                | 1     |       |       |       |       |       | 51,52        |
| Hyalinobatrachium crurifasciatum | 0    | U                | 1     |       |       |       |       |       | 24,53        |
| Hyalinobatrachium duranti| 0         | U                | 1     |       |       |       |       |       | 24          |
| Hyalinobatrachium eccentricum | 0    | U                | 1     |       |       |       |       |       | 24          |
| Hyalinobatrachium fleischmanni | 0  | B                | 1     |       |       |       |       |       | 54          |
| Hyalinobatrachium iaspidiense| 0  | U                | 1     |       |       |       |       |       | 9,55         |
| Hyalinobatrachium ibama  | 0         | U                | 1     |       |       |       |       |       | 30          |
| Species                              | Count | Position | Color          | Frequency |
|--------------------------------------|-------|----------|----------------|-----------|
| *Hyalinobatrachium mondolfii*        | 6     | U        | Pale           | 56        |
| *Hyalinobatrachium pallidum*         | 3     | B        | Dark-Brown     | 24,30     |
| *Hyalinobatrachium pellucidum*       | 2     | U        | Pale           | 57        |
| *Hyalinobatrachium talamancae*       | 2     | U        | Pale           | 58        |
| *Hyalinobatrachium tatayoi*          | 1     | U        | Pale           | 59        |
| *Hyalinobatrachium taylori*          | 3     | B        | Dark-Brown     | 24,60     |
| *Hyalinobatrachium valerioi*         | 1     | U        | Pale           | 61,62     |
| *Ikakogi tayrona*                    | 1     | B        | Dark-Brown     | 54        |
| *Nymphargus grandisonae*             | 1     | E        | Exposed        | 63        |
| *Nymphargus griffiths*               | 1     | B        | Dark-Brown     | 64        |
| *Nymphargus pluvialis*               | 1     | E        | Exposed        | 65        |
| *Nymphargus siren*                   | 1     | E        | Exposed        | 66        |
| *Nymphargus wileyi*                  | 1     | E        | Exposed        | 53,67     |
| *Rulyrana flavopunctata*             | 1     | B        | Dark-Brown     | 68        |
| *Sachatamia albomaculata*            | 1     | B        | Dark-Brown     | 53,69,70  |
| *Sachatamia ilex*                    | 1     | E        | Exposed        | 71        |
| *Teratohyla midas*                   | 1     | E        | Exposed        | 72        |
| *Teratohyla pulverata*               | 1     | E        | Exposed        | 34,73     |
| *Teratohyla spinosa*                 | 1     | B        | Dark-Brown     | 53,74     |
| *Vitreorana castroviejoi*            | 1     | E        | Exposed        | 24        |
| *Vitreorana gorzulae*                | 1     | B        | Dark-Brown     | 10        |
| *Vitreorana helenae*                 | 1     | E        | Exposed        | 24        |
| *Vitreorana oyampiensis*             | 1     | B        | Dark-Brown     | 75,76     |

**TOTAL** | 19 | 17 | 9 | 0 | 11 | 0

* 0= Pale, 1=Dark–Brown

† E= Exposed, U= Underside of leaves, B= Both,

D.A. Diego Acosta, Centro Jambatu com. pers.
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