Appendix 3: Template for proposing a new EEP

TAGs can use this Template for proposing a new EEP to the EEP Committee. As per default these applications follow from the RCP publication process and the Species Assessment Sheet should be sent along with this template. In exceptional cases new EEPs may also be proposed in between RCP editions. A separate Species Assessment Sheet should be completed if an EEP is being applied for in between RCP editions. Note that not all sections below may be relevant to each programme. Also note that 'species' represents any taxonomic unit the TAG has chosen as the unit of management in an EEP.

EEP Proposal for

Common Species Name: Rainbowfishes family
Scientific Species Name: *Melanotaeniidae*

Prepared by

Name(s): Freshwater TAG Denis TIRMARCHE, Brian ZIMMERMAN
Year: 2021

1. Contact information

Contact details of proposed EEP Coordinator

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2. Taxonomy information

Taxonomy of the species *(indicate which taxa are included in this programme and why, and give an indication of the degree of confidence in the taxonomic identification of the individuals in the EEP population)*

Animalia
Vertebrata
Actinopterygii
Atheriniforme

All forms/templates are available to download on the EAZA Member Area.

Melanoteaniidae

Cairnsichthys bitaeniatus	Daintree Rainbowfish
Cairnsichthys rhombosomoides	Cairns Rainbowfish
Chilatherina alleni	
Chilatherina axelrodi	Axelrod's Rainbowfish
Chilatherina bleheri	Bleher's Rainbowfish
Chilatherina bulolo	Bulolo Rainbowfish
Chilatherina campsi	Highlands Rainbowfish
Chilatherina crassispinosa	Silver Rainbowfish
Chilatherina fasciata	Barred Rainbowfish
Chilatherina lorentzii	Lorentz's Rainbowfish
Chilatherina pagwiensis	Pagwi Rainbowfish
Chilatherina pricei	Price’s Rainbowfish
Chilatherina sentaniensis	Sentani Rainbowfish
Glossolepis dorityi	Grime Rainbowfish
Glossolepis incisa	Red Rainbowfish
Glossolepis kabia	Kabia Rainbowfish
Glossolepis leggetti	Leggett's Rainbowfish
Glossolepis maculosa	Spotted Rainbowfish
Glossolepis multisquamata	Sepik Rainbowfish
Glossolepis pseudoincisa	Tami River Rainbowfish
Glossolepis ramuensis	Ramu Rainbowfish
Glossolepis wanamensis	Lake Wanam Rainbowfish
Iriatherina werneri	Threadfin Rainbowfish
Melanotaenia affinis	North New Guinea Rainbowfish
Melanotaenia ajamaruensis	Ajamaru lakes Rainbowfish
Melanotaenia albimarginata	Whitetip Rainbowfish
Melanotaenia ammeri	Ammer Rainbowfish
Melanotaenia angfa	Yakati Rainbowfish
Melanotaenia archboldi	Archbold’s Rainbowfish
Melanotaenia arfakensis	Arfak Rainbowfish
Melanotaenia arguni	Arguni Rainbowfish
Melanotaenia aruensis	Aru Rainbowfish
Melanotaenia australis	Western Rainbowfish
Melanotaenia batanta	Batanta Rainbowfish
Melanotaenia boesemani	Boeseman's Rainbowfish
Melanotaenia bowmani	Bowman’s Rainbowfish
Melanotaenia caerulea	Blue Rainbowfish

Melanotaenia catherinae	Waigeo Rainbowfish
Melanotaenia corona	Corona Rainbowfish
Melanotaenia duboulayi	Crimsonspotted Rainbowfish
Melanotaenia dumasi	Omba Rainbowfish
Melanotaenia eachamensis	Lake Eacham Rainbowfish
Melanotaenia ericrobertsi	Suswa Rainbowfish
Melanotaenia exquisita	Exquisite Rainbowfish
Melanotaenia etnaensis	Etna Bay Rainbowfish
Melanotaenia fasinensis	Fasin Rainbowfish
Melanotaenia flavipinnis	Misool Yellowfin Rainbowfish
Melanotaenia fluviatilis	Murray River Rainbowfish
Melanotaenia fredericki	Sorong Rainbowfish
Melanotaenia garylangei	Lange’s Rainbowfish
Melanotaenia goldiei	Goldie River Rainbowfish
Melanotaenia gracilis	Slender Rainbowfish
Melanotaenia grunwaldi	Gunwald’s Rainbowfish
Melanotaenia herbertaxelrodi	Lake Tebera Rainbowfish
Melanotaenia irianjaya	Irian Jaya Rainbowfish
Melanotaenia iris	Strickland Rainbowfish
Melanotaenia japenensis	Yapen Rainbowfish
Melanotaenia kamaka	Kamaka Rainbowfish
Melanotaenia klasioensis	
Melanotaenia kokasensis	
Melanotaenia kolaensis	Kola Rainbowfish
Melanotaenia lacustris	Lake Kutubu Rainbowfish
Melanotaenia lacunosa	Mbuta Rainbowfish
Melanotaenia lakamora	Lakamora Rainbowfish
Melanotaenia laticlavia	Aifuf Rainbowfish
Melanotaenia longispina	Longspinided Rainbowfish
Melanotaenia maccullochi	Macculloch's Rainbowfish
Melanotaenia mairasi	Lake Furnusu Rainbowfish
Melanotaenia mamahensis	Mamah Rainbowfish
Melanotaenia manibuii	Manibui’s Rainbowfish
Melanotaenia maylandi	Mayland's Rainbowfish
Melanotaenia misoolensis	Misool Rainbowfish
Melanotaenia monticola	Mountain Rainbowfish
Melanotaenia mubiensis	Mubi Rainbowfish
Melanotaenia multiradiata	Moswaren Rainbowfish
Melanotaenia naramasae	Naramasa Rainbowfish

Melanotaenia nigrans	Blackbanded Rainbowfish
Melanotaenia novaeguineae	New Guinea Rainbowfish
Melanotaenia ogilbyi	Ogilby's Rainbowfish
Melanotaenia oktediensis	Oktedi Rainbowfish
Melanotaenia papuae	Papuan Rainbowfish
Melanotaenia parkinsoni	Parkinson's Rainbowfish
Melanotaenia parva	Lake Kuromai Rainbowfish
Melanotaenia patoti	Patoti’s Rainbowfish
Melanotaenia picta	Painted Rainbowfish
Melanotaenia pierucciae	Pierucci's Rainbowfish
Melanotaenia pimaensis	Pima River Rainbowfish
Melanotaenia praecox	Dwarf Rainbowfish
Melanotaenia pygmaea	Pygmy Rainbowfish
Melanotaenia rubripinnis	Red finned Rainbowfish
Melanotaenia rubrivittata	Laser red Rainbowfish
Melanotaenia rumberponensis	Rumberpon Rainbowfih
Melanotaenia rubrostriata	Red-striped Rainbowfish
Melanotaenia sahulensis	Sahul Rainbowfish
Melanotaenia salawati	Salawati Rainbowfish
Melanotaenia sembrae	Sembra Rainbowfish
Melanotaenia senckenbergiana	Senckenberg Rainbowfish
Melanotaenia sexlineata	Fly River Rainbowfish
Melanotaenia sikuensis	Siku Rainbowfish
Melanotaenia sneideri	
Melanotaenia solata	Northern Rainbowfish
Melanotaenia sp. Nov. « Malanda »	
Melanotaenia sp. Nov. « running river »	
Melanotaenia splendida	Eastern Rainbowfish
Melanotaenia splendida spendida	
Melanotaenia splendida inornata	
melanotaenia splendida splendida	Eastern Rainbowfish
Melanotaenia splendida taeti	
Melanotaenia susii	Susi Rainbowfish
Melanotaenia sylvatica	Forest Rainbowfish
Melanotaenia synergos	Batanta blue Rainbowfish
Melanotaenia trifasciata	Banded Rainbowfish
Melanotaenia urisa	Urisa Rainbowfish
Melanotaenia utcheensis	Utchee Rainbowfish
Melanotaenia vanheurni	Van Heurn's Rainbowfish
Melanotaenia veoliae	Veolia Rainbowfish
Melanotaenia wanoma	Wanoma Rainbowfish

Melanotaenia wilsoni	
Melanotaenia wokamensis	Wokam Rainbowfish
Pelangia mbutaensis	Mbuta Rainbowfish
Rhadinocentrus ornatus	Ornate Rainbowfish

Some of these species can have different subspecies and/or geographic forms. Even if all these species are potentially part of the EEP, only a small number of them will be chosen within the framework of a proactive management, according to the criteria of ex situ presence in EAZA institutions, threat, risk of hybridization with other species... Recommendations for not having a species may also be issued.

3. Identified roles

Identified role(s) description *(copy from the Species Assessment Sheet in RCP)*

4. Programme participants and governance

EAZA institutional scope *(As a default, participation in EEPs is obligatory for EAZA Members. If you wish for an exemption, identify which institution(s) holding this species is/are not part of the EEP and explain the underlying reasons.)*

Denis TIRMARCHE EEPs coordinator

I haven't look for other participants, but I want to contact Institutes who possessed *Melanotaeniidae* (in Species 360 list):

ANTWERP / Zoo of Antwerp

AQUATIS / Aquatis - Aquarium-Vivarium
BARNEVELD / Aeres MBO Barneveld Animal Collection
BASEL / Zoologischer Garten Basel AG
BEAUVAL / Zoo Parc de Beauval
BERLIN TP / Tierpark Berlin-Friedrichsfelde GmbH
BIOTROPIC / Biotropica Zoological Conservancy
BISHOPBUR / Bishop Burton College Animal Collection
BOCHUM / Tierpark Bochum gGmbH
BOULOGNE / NAUSICAÄCentre National de la Mer
BOURNEMTH / Oceanarium Bournemouth
BRISTOL / Bristol Zoological Gardens
BRNO / Brno Zoo and Environmental Education Centre, Semi Budgetary Organization
BUDAPEST / Budapest Zool.& Botanical Garden
CHESINGTN / Chessington World of Adventures, Ltd.
CHESTER / North of England Zoological Society
COLCHESTR / Colchester Zoo
COPEN AKV / Den Blå Planet, National Aquarium of Denmark
COPENHAGE / Copenhagen Zoo
DUISBURG / Zoo Duisburg gGmbH
EMMEN / Wildlands Adventure Zoo Emmen
FOLLYFARM / Folly Farm Leisure Ltd
FOTA / Fota Wildlife Park
FRANKFURT / Zoologischer Garten Frankfurt
FUENGIROL / Bioparc Fuengirola (Rain Forest S.L.)
HADLOWCOL / Hadlow College Animal Collection
HALLE / Zoologischer Garten Halle GmbH
HAMBURG / Tierpark Hagenbeck GmbH

All forms/templates are available to download on the EAZA Member Area.

HELSINGBO / Tropikariet
KAUNAS / Lietuvos Zoologijos Sodas
KNOWSLEY / Knowsley Safari Park
KOLN / Cologne Zoo
LEIPZIG / Zoo Leipzig
LISIEUX Z / CERZA Centre d'Etude et de Recherche Zoologique Augeron
LODZ / Miejski Ogród Zoologiczny w Lodzi Sp. z o.o.
MINSK ZOO / Minskiij Zoopark (Minsk Zoo)
MOSCOW / Moscow Zoological Park
MOULTONCO / Moulton College
MUNICH / Münchner Tierpark Hellabrunn
NEWBURY / Trust for Sustainable Living
NIKOLAEV / Nikolaev Zoo of Nikolaev-City Council
ORADEA / Zoo Oradea
OSTRAVA / Ostrava Zoological Garden and Botanical Park
PECS / Zoo and Aqua-Terrarium Nonprofit Company Ltd. 1.
PENKRIDGE / Rodbaston College Animal Collection
PERM ZOO / Mauk "Permskii Zoopark"
PLANCKNDL / Wild Animal Park Mechelen Planckendael
PLZEN / Zoologická a botanická zahrada Plzen
RHENEN / Ouwehand Zoo
RIGA / Riga Zoo
ROEVRUCHI / Municipal Independent Org. Roev Ruchei
ROSTOCK / Rostock Zoologischer Garten
ROSTOV / Rostov-on-Don Zoo
SAKHALIN / Sakhalin Zoo Botanical Park
SALZBURG / Salzburg Zoo Hellbrunn
STUTTGART / Wilhelma Zoo
TALLIN / Tallinn Zoo
TARGOVIST / Targoviste Zoo (Gradina Zoologica)
TENERIFE / Loro Parque Zoo
TROPICWLD / Tropical World
USTI / Usti nad Labem Zoo
VIENNA / Schönbrunner Tiergarten GmbH
VISSENBJG / Terrarium Vissenbjerg
WHIPSNADE / ZSL Whipsnade Zoo
WROCLAW / ZOO Wroclaw Sp z o.o.
ZAMOSCZSM / Ogrod Zoologiczny im. Stefana Milera

Non-EAZA holding institutional scope *Select one or more of the options below.*

All forms/templates are available to download on the EAZA Member Area.

EAZA population/community is the dominating driver of the EEP and any non-EAZA Members will occasionally join and are not integral to the structure of the EEP.
I haven't look for it. I wait to be the official coordinator.

In addition to EAZA, there are other structural/equal drivers of the EEP (e.g., World Pheasant Association, …). Please describe.
EUAC European Union of Aquarium Curator : https://www.euac.org/
This European organisation works on public aquarium problematic, exchange and writes publications.

UCA Union des Conservateurs d'Aquariums :
http://aquariumsdefrance.fr/
This French organisation works on public aquarium problematic, exchange and writes publications.

Internationnale Gesellschaft fur regenbogenfishes e. V.
https://www.irg-online.de/english/ European Organisation on protection and aquarium keeping specialist of Rainbowfishes. I never contact them, I don't know their serious.

A larger initiative exists and the EAZA population is a small part of this (e.g., GSMP, …). Please describe.

Additional information:

Essential non-EAZA partners not holding animals *(List the organisations, define their role, and how they will work with the EEP).*

I haven't look for it. I wait to be the official coordinator.

Members of the EEP core group (Species Committee + non-voting members)

- *By default, EEPs have a Species Committee (a democratically elected representation of the holders) as part of their EEP core group (information on the Species Committee and its associated default decision making process can be found in the Population Management Manual). If that will not be the case for this EEP, explain why and define the composition, structure and decision-making process for the EEP core group.*

I haven't look for it. I wait to be the official coordinator.
It is one of the first work I'll do when the *Melanotaeniidae* EEP is elected.

List the EEP core group members (names and institutions) (if already known): Species Committee members, Advisors, others.
I haven't look for it. I wait to be the official coordinator. It is one of the first work I do when the *Melanotaeniidae* EEP is elected.

Collaboration with EAZA Working Groups and Committees *(Explain any current and/or future proposed links to existing EAZA groups and committees, such as the Animal Training Working Group, Biobanking Working Group, EAZA Group on Zoo Animal Contraception (EGZAC), EAZA Population Management Advisory Group (EPMAG), EAZA Education Committee, EAZA Nutrition Working Group, EAZA Research Committee, Reintroduction and Translocations Group, Transport Working Group, EAZA Veterinary Committee, EAZA Conservation Committee, Animal Welfare Working Group, Palm oil Working Group).*

I haven't look for it. I wait to be the official coordinator. It is one of the first work I do when the *Melanotaeniidae* EEP is elected. I'll surely ask Fresh water fishes TAG help.

5. Programme characteristics

The detailed programme characteristics, goals, objectives and management strategies to fulfil the roles and goals of the EEP will be developed at a later stage as part of a Long-Term Management Plan (LTMP). The questions below are intended to help paint a rough view of what is currently intended/expected for the general EEP programme characteristics.

- *If there is a recent/active Long-term Management Plan for this species, list the demographic, genetic and other goals determined (if they still apply post RCP workshop).*

  I haven't worked on it yet.

- *What is the anticipated duration of the programme?*

No limit of time. There are many ecological and industrial injuries in the origin countries.

- *What is the anticipated likelihood and time scale of the use of the EEP population for restoration in the wild (reintroduction, reinforcement, etc.)?*

I think it during a long time. In origin country, there are the destruction biotope with mine, oil agriculture, urbanism and with exotic animals introduction. Forest fire is also a problem in Australia. Environmental problem must be solved before reintroduction. Also genetic study will be necessary.

- *Are some or all the individuals within this EEP intended to be held in specialist ex situ centres in the species' native range? Specify.*

My choice depends of the Red List status of UICN. It depends also with the phylogenetic trees. It depends also of the difficult to obtain pure genetic fishes.

- *Is it expected to be necessary that the whole population, or a certain proportion thereof, will need to be held off exhibit in order to fulfil the roles of the programme? If yes, please explain. (this question does not refer to the temporary housing of individuals off exhibit for space reasons)*

A big part of population will stay in reserves. We have the risk to mix the females and juveniles of different species because they look very similar.
We have also to separate babies from bigger fishes.
The second problem is to have spontaneous reproduction and the new generation mixes with the old generation. Lots or pairs must be formed and kept isolated from each other in order to maintain genetic mixing.

- *Does a part or the whole of the EEP population need to be held in bio-secure facilities? And/or are there known diseases that have an above average effect on fulfilling the roles of the EEP?*

If the quality of water is good, the Melanonaeniidae generally are easy to care and breed. Some species live in brackish water and can have more supervising. No health risk has been identified yet.

- *What is the expected estimated number of individuals and institutions required to fulfil the selected roles? (this question will be answered in detail during the LTMP session for the taxon, but if some indication of scale is clear already, this should be stated here)*

  Normally six institutes for one species, and 500 adults for one species, are sufficient. But I need help from TAG fresh water fishes to confirm this.

- *Is this EEP intended to include rearing of wild eggs/young (i.e. head-starting)?*
  Some handbook say it is possible to transport eggs. But I haven't the knowledge to know if it is really possible.

- *Is this EEP intended to include ex situ breeding?*

  Yes

- *Is there likely sufficient expertise for this, or a model, taxon to achieve the roles of the programme and provide conditions for good welfare? Please indicate if Best Practice Guidelines already exist and if yes, include publication date.*
  The *Melanotaeniidae* family are common found in the aquarium trade. There are many publications. For me, the best one is "the Rainbowfishes, their Care & Keeping in Captivity" Adrian R. Tappin, 2011, 560 pages. It is free access: https://www.lomilo.de/rainbowfish-book/
  The internet site from the same writer is also good 2015, http://www.rainbowfish.angfaqld.org.au/Rainbowfish.htm

- *Will (non-)breeding and transfer recommendations be issued? If yes, with what frequency? (naturally problems will need to be solved throughout the year, but with what frequency will recommendations be issued for the whole population at once)*

  For me, the best is to reproduce the two or three years-old fishes and to transfer fishes between institutions every each generation. I

don't know how many fishes will be transferred. The TAG will work together to resolve these population management issues.

- *Do you anticipate that the EEP population will be (largely) closed or will there be regular planned additions of individuals? In case of the latter, will this be for genetic and/or demographic reasons and what will be the source (other ex situ sources and/or from the wild)?*

  I think yes. Because the fish live only seven years. We have to reproduce them at two or three years-old. I am afraid that a captive selection comes with the fry. They are fragile and only the most aquarium adaptive fishes survive. And it is not good if fishes return in wild rivers.
  I want to work with institutions who work on wild.

- *Do you expect genetic and demographic management in this EEP to be individual and/or group-based?*

  Melanotaeniidae species are small fishes. They size avoids to tag them, but it is an advantage to keep a shoal of 60.
  The problem is for the reproduce. The risk if all the group breed in the same tank, is to have only a few dominant males give their genes to the next generation.
  For the reproduction I think to put only one or two females for one male. For keeping the genes, we are oblige to reproduce all the fishes of the group one per one. I think it will be the challenge to overcome for keeping *Melanotaeniidae*.

- *Do you expect genetic management in this EEP to be based on pedigree analysis, group history analysis, and/or molecular genetics?*

  All these sort of management could be used, but prior need to be discuss with specialist of population management.
  If the fishes come from trade population, genetic studies will be necessary.
  Some wild species have Genetic drift because of introduction of exotic *Melanotaeniidae*.
  Management of the different geographic sub populations will be suitable to maintain pure genetic strain.

There are also the risk to mix the females of the different species, because they look very similar. Regular supervisions will be used helpful.

- *Do you anticipate, or proactively plan for, biobanking and/or assisted reproduction to be key components of this programme?*

  Melanotaenidae are small fishes easy to transport around the earth. Every institutes can keep a big numbers of breeders without problem. Assisted reproduction is normally not useful.
  Biobanking could be useful for genetic studies.

- *Do you anticipate certain national or international legislation to form a particular hindrance (more than average) to achieving the roles of your EEP (e.g., CITES, BALAI, governmental ownership, etc.). If so, explain how.*

  I think no. Because these fishes are very common in aquarium trade and are regular breed by professional traders (in UICN red list).
  Melanotaeniidae aren't wild caught for trade (*in* UICN red list) and normally the CITES list don't change.
  In Europe they are no problem with *Melanoteniidae* (introduction, invasive species...) normally law doesn't change.

- *Are there any other issues/plans related to in situ conservation support that you feel should be mentioned and are not evident from the role description of the EEP?*

  I don't know all protection programme. In Australia there is a programme for the reintroduction of *Melanotaenia sp. nov. 'Running River'* Running River Rainbowfish. I'll want to contact these organisations who care this programme. Collaborative partnerships are probably possible.

- *Is there a research component/aspect to the EEP that is expected to have important consequences for the design of the EEP programme (e.g. housing*

and husbandry of a significant proportion of the population, etc.)? If yes, explain.

Melanotaeniidae fishes are very productive fishes. Rapidly aquariums institutes will have overpopulation problem. I don't know what to do with all these fishes.

- *Do you anticipate there to be any sizeable political, social, or public conflicts of interest related to the EEP programme and how do you plan to deal with them?*

I can't answer for politic and social. *Melanotaeniidae* have small size and don't interest European public (they defend big species like manta, tuna, shark...). I want to communicate on the reason of ex situ population and the profit for wild population. UICN say that the fishes are not export for trade.

- *Any important additional programme characteristics that you would like to mention?*

I don't know how to keep and breed a big number of fishes. If we reproduce several fishes in the same tank, the dominated don't breed and eat the dominate fishes eggs. It is impossible to know the proportion of eggs produced by each fish. If we want to know it, we are obliged to reproduce a small group of fishes at every spawning (one male and one female is the best). But we will have one or two hundred fry at each spawning. The EEP will work with members/holders to determine the best option for selection and population management.
And is it possible to pass a large time to reproduce all the fishes of the group.
I'll need the fresh water TAG help to make the appropriate methodology.

6. References (if any)

UICN red list

All forms/templates are available to download on the EAZA Member Area.

Fishbase

Species 360

Le dessous des cartes : Papouasie Occidentale, un conflit oublié, 2017, ARTE, https://www.youtube.com/watch?v=5zJkQjOhCxM

Saving the running river Rainbowfish, 2017, Australian and New Guinea Fishes Association – ANGFA, https://www.youtube.com/watch?v=APrMBsGA0Kw

the Rainbowfishes, their Care & Keeping in Captivity" Adrian R. Tappin, 2011, 560 pages. It is free access : https://www.lomilo.de/rainbowfish-book/

the Rainbowfishes, Adrian R. Tappin, 2015
http://www.rainbowfish.angfaqld.org.au/Rainbowfish.htm

GOOGLE earth