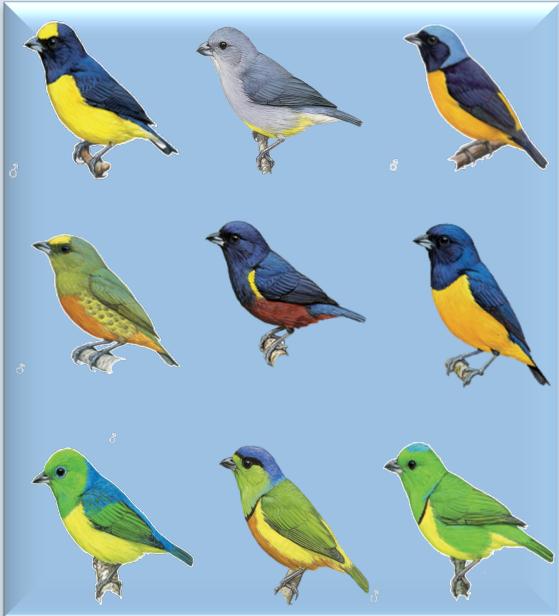


Phylogenomics of Euphoniinae subfamily (Aves, Fringillidae)

PhD student: Alma Melisa Vázquez López

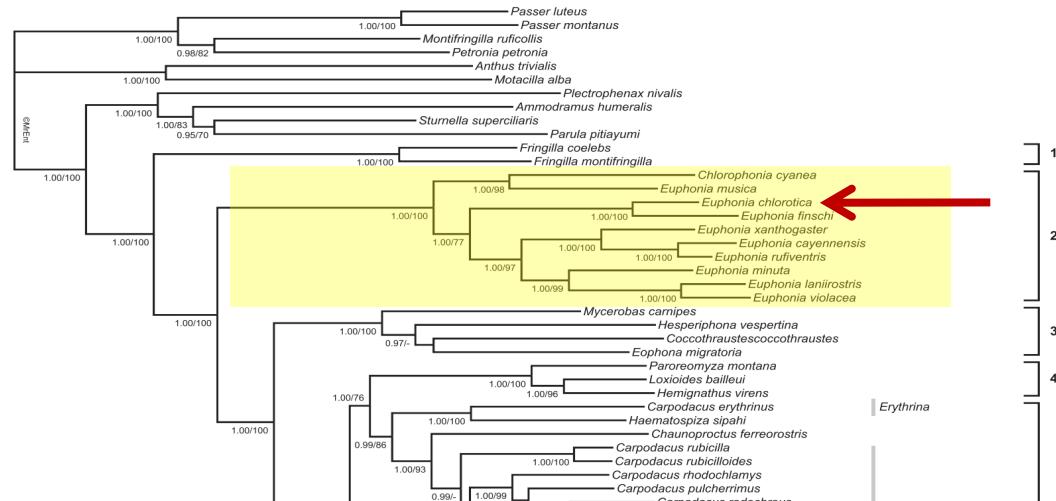
Advisor: Dra. Blanca Estela Hernández Baños



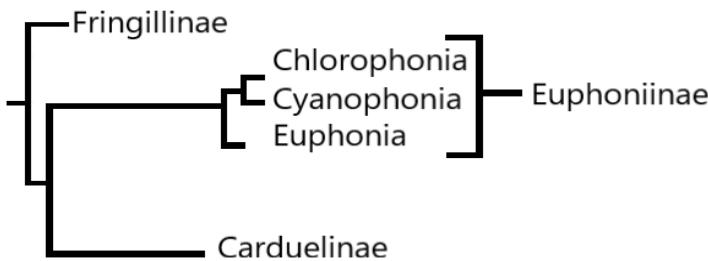


- Fringillidae family
- Two genus :
- *Euphonia* 27 species
- *Chlorophonia* 5 species

Zuccon et al. 2012



El IOC World Birds List (International Ornithological Committee, Gill y Dansker (Eds) 2019



A phylogeny will help us to answer these questions

- Are *Chlorophonia* and *Euphonia* a monophyletic, parafiletic or polifiletic genera?
- What are the status and relationships of genera?
- Does the phylogenetic relationships correspond with the morphological diversity within the Euponiinae subfamily?

SAMPLING AND LABORATORY PROCESS

96 tissues from
AMNH, KU, LSUMNS
FMNH, MZFC, ANSP, MNCN

INGROUP
13 for Chlorophonia genus
79 for Euphonia genus

OUTGROUP
Cardulinae: 1 *Cocothrautes abellei*,
1 *Haemotrochus mexicanus*.
Fringillinae: 1 *Fringilla montifringilla*, 2 *F. coelebs*.
Rhodiniclididae: 1 *R. rosea*, Passeridae: 1 *P. domesticus*

DNA EXTRACTION

NextRAD sequenced by
SNPsaurus, LLC

(Rusello et al. 2015)

PCR: ND2 NADH
Dehydrogenase Subunit 2

(Sorenson et al. 1999)

NexTera Flex
reagent (Illumina,
Inc)
HiSeq 4000

BIOINFORMATICS ANALYSIS

Stringent and
Relaxed
BBMap tools

(<http://sourceforge.net/projects/bbmap/>)

ipyrad (Eaton 2014)

*improve parameters to obtain
the optimal alignment

Partitions and Evolutionary Models
Partition Finder (Lanfear, et al. 2012)

r-cluster algorithm

ML RaxML v.8.0.0 (Stamatakis, 2014)

IB Mr. Bayes (Ronquist et al., 2012)

DT Beast 1.10 (Suchard et al., 2018)

SNAPP (Bryant et al. 2012)

Fastqc

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- LSU
- ANSP
- PAPIIT (UNAM)
- AMNH
- FMNH
- CONACYT
- KU
- MZFC (UNAM)
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