# ERGA Assembly Report

v24.10.15

Tags: ATLASea[INVALID TAG]

| | |
|---|---|
| TxID | 2740763 |
| ToLID | **fLepCan1** |
| Species | Lepadogaster candolii |
| Class | Actinopteri |
| Order | Blenniiformes |

| Genome Traits | Expected | Observed |
|---|---|---|
| Haploid size (bp) | 1,012,449,432 | 1,100,949,132 |
| Haploid Number | 19 (source: ancestor) | 23 |
| Ploidy | 2 (source: ancestor) | 2 |
| Sample Sex | Unknown | Unknown |

## EBP metrics summary and curation notes

Obtained EBP quality metric for collapsed: 7.7.Q48

The following metrics were automatically flagged as below EBP recommended standards or different from expected:

. Observed Haploid Number is different from Expected

. Kmer completeness value is less than 90 for collapsed

### Curator notes

. Interventions/Gb: 109
. Contamination notes: ""
. Other observations: "The assembly of Lepadogaster candolii (fLepCan1.1) is based on 81X PacBio data and Arima Hi-C data generated as part of the ATLASea programme (https://www.atlasea.fr). The assembly process included the following steps: initial PacBio assembly generation with Hifiasm, removal of contaminant sequences using Context, removal of haplotypic duplications using purge_dups, and Hi-C-based scaffolding with YaHS. In total, 22 contigs were identified as contaminants (bacterial, archaeal, or viral), totaling 1.5 Mb (with the largest being 0.33 Mb). Additionally, 191 regions totaling 74.6 Mb (with the largest being 3.53 Mb) were identified as haplotypic duplications and removed. The mitochondrial genome was assembled using OATK. Finally, the primary assembly was analyzed and manually improved using Pretext. During manual curation, 8 haplotypic regions and 19 contaminant sequences were removed, totaling 8.17 Mb and 0.54 Mb (with the largest being 3.53 Mb and 0.04 Mb). Centromeric regions were more fragmented, and the organization of contigs in these regions has lower confidence. Centromeric regions were more fragmented, and the organization of contigs in these regions has lower confidence. Chromosome 5 appears to be a sex chromosome (half the coverage of other

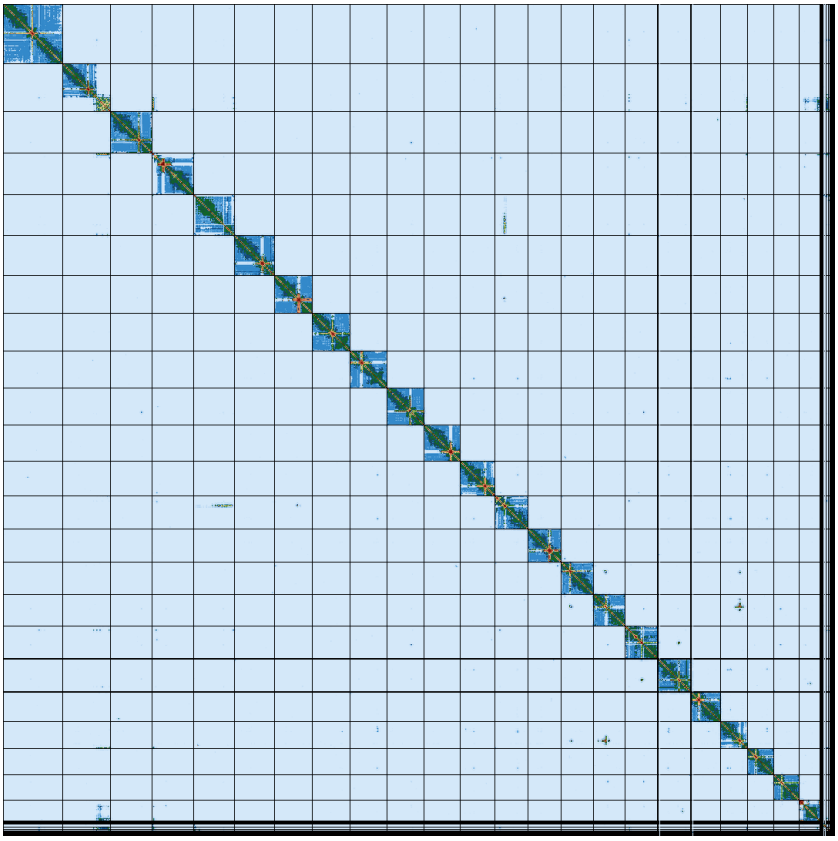
chromosomes), suggesting that it might correspond to two sex chromosomes that have been fused. However, there is no clear evidence of this on the Hi-C map.
Chromosome-scale scaffolds confirmed by Hi-C data were named in order of size. "

# Quality metrics table

| Metrics | Pre-curation collapsed | Curated collapsed |
|---|---|---|
| Total bp | 1,109,624,145 | 1,100,949,132 |
| GC % | 39.16 | 39.15 |
| Gaps/Gbp | 60.38 | 129.89 |
| Total gap bp | 6,700 | 23,700 |
| Scaffolds | 210 | 114 |
| Scaffold N50 | 43,667,422 | 49,201,026 |
| Scaffold L50 | 11 | 10 |
| Scaffold L90 | 25 | 21 |
| Contigs | 277 | 257 |
| Contig N50 | 18,941,000 | 18,941,000 |
| Contig L50 | 21 | 21 |
| Contig L90 | 66 | 64 |
| QV | 47.2322 | 48.91 |
| Kmer compl. | 80.8236 | 80.7562 |
| BUSCO sing. | 93.8% | 94.1% |
| BUSCO dupl. | 1.5% | 1.1% |
| BUSCO frag. | 1.2% | 1.1% |
| BUSCO miss. | 3.5% | 3.6% |

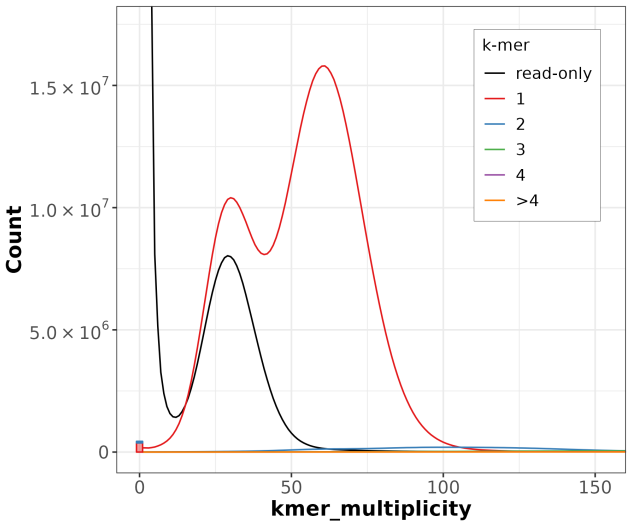
BUSCO: 5.8.2 (euk_genome_met, metaeuk) / Lineage: actinopterygii_odb12 (genomes:75, BUSCOs:7207)

# HiC contact map of curated assembly

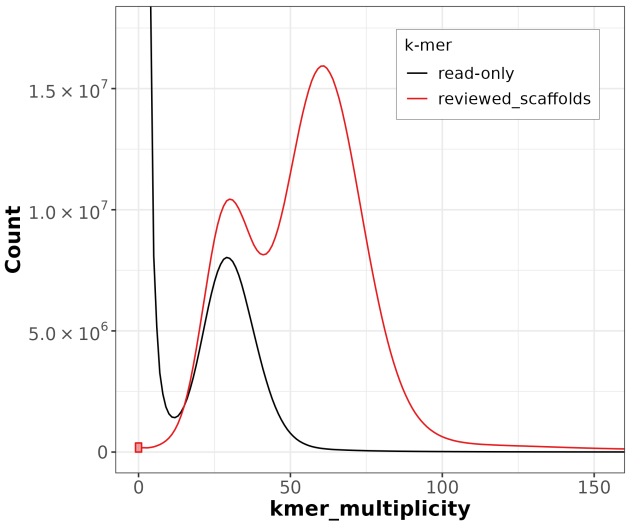


**collapsed** [LINK]

# K-mer spectra of curated assembly

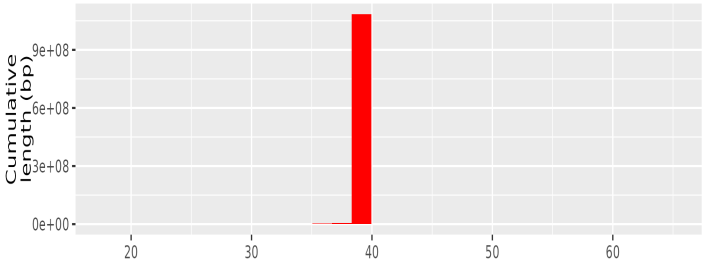



Distribution of k-mer counts per copy numbers found in asm

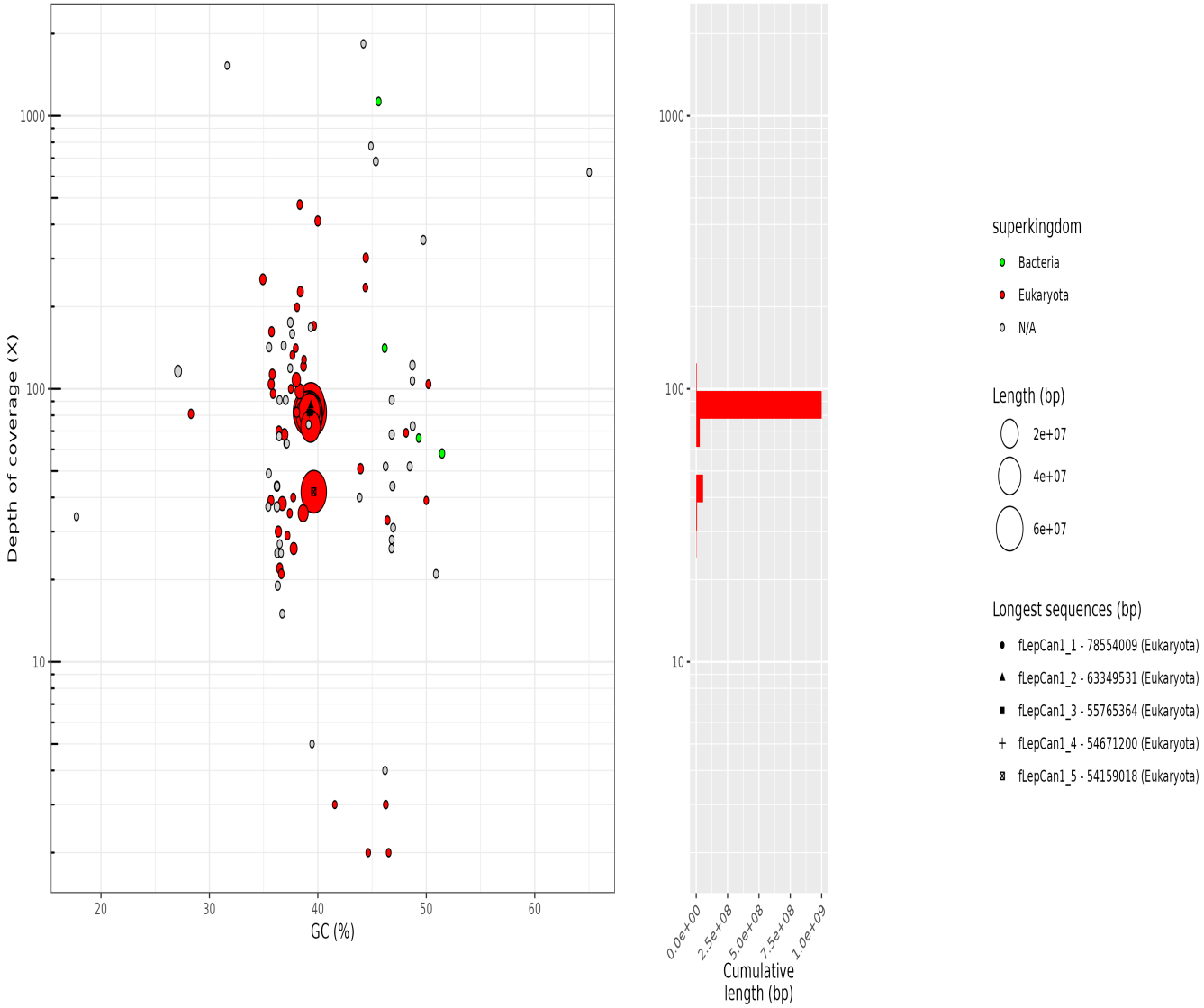



Distribution of k-mer counts coloured by their presence in reads/assemblies

# Post-curation contamination screening




TAPAs summary Graph




**collapsed.** Bubble plot circles are scaled by sequence length, positioned by coverage and GC proportion, and coloured by taxonomy. Histograms show total assembly length distribution on each axis.

# Data profile

| Data | PACBIO Hifi | Arima |
|---|---|---|
| Coverage | 81 | 138 |

# Assembly pipeline

- **Hifiasm**
  |_ *ver:* 0.19.5-r593
  |_ *key param:* NA
- **purge_dups**
  |_ *ver:* 1.2.5
  |_ *key param:* NA
- **YaHS**
  |_ *ver:* 1.2
  |_ *key param:* NA

# Curation pipeline

- **PretextMap**
  |_ *ver:* 0.1.9
  |_ *key param:* NA
- **PretextView**
  |_ *ver:* 0.2.5
  |_ *key param:* NA

Submitter: Jean-Marc Aury
Affiliation: Genoscope

Date and time: 2025-05-08 14:35:32 CEST