

LIGHTS ON THE KARYOTIPIC EVOLUTION WITHIN THE
TELEOSTEAN FAMILY ARTEDIDRACONIDAEL. GHIGLIOTTI¹, T.J. NEAR², M. VACCHI³, E. PISANO¹¹Dip. di Biologia (DIBIO), Univ. di Genova, Viale Benedetto XV 5, 16132 Genova, Italia;²Department of Ecology and Evolutionary Biology and Peabody Museum of Natural History, Yale University, New Haven, CT 06520-8105, USA; ³ISPRA e MNA, Univ. di Genova

Plunderfishes of the family Artedidraconidae are components of the endemic Antarctic teleost fish fauna. The family includes 26 species classified in four genera: *Dolloidraco*, *Histiodraco* (both monotypic), *Artedidraco* (6 species), and *Pogonophryne* (18 species). We performed cytogenetic analyses in six species belonging to three of the four genera: *Artedidraco glareobarbatus*, *A. oriana*, *A. skottsbergi*, *A. shackletoni*, *Histiodraco velifer*, and *Pogonophryne* sp. The diploid number is highly conserved within the family ($2n = 46$), nevertheless the chromosomal morphology, and the chromosomal organization of ribosomal genes (45S rDNA), revealed a diversified intra-specific pattern. *A. skottsbergi* is the only species having heteromorphic sex-linked chromosomes, with the males having a Y chromosome and odd diploid number ($2n=45$); in this species the ribosomal genes are located at an interstitial region on a pair of small acrocentric chromosomes. The karyotypes of the remaining species can be classified in two homogeneous groups: a) species having 2 pairs of bi-armed chromosomes in the karyotype and bearing the ribosomal genes on the q arm of a pair of small-medium sized sub-metacentric chromosomes (*A. oriana*, *H. velifer*, and *Pogonophryne* sp.), and b) species having 4 pairs of bi-armed chromosomes in the karyotype and bearing the ribosomal genes on the p arm of a pair of large-medium sized sub-telocentric chromosomes (*A. glareobarbatus* and *A. shackletoni*). In order to interpret this pattern, the karyologic data were mapped on a phylogeny based on mitochondrial (ND2) and nuclear (S7 ribosomal protein intron 1) genes. The chromosomal peculiarity of *A. skottsbergi* is consistent with its phylogenetic position as the sister lineage of all the other Artedidraconidae. The karyological similarity between *A. glareobarbatus* and *A. shackletoni* appears to be a derived condition within Artedidraconidae and is consistent with the inferred sister relationship between these two species in the molecular phylogeny.