LIGHTS ON THE KARYOTIC EVOLUTION WITHIN THE
TELEOSTEAN FAMILY ARTEDIDRACONIDAE

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Plunderfishes of the family Artedidraconidae are components of the endemic
Antarctic teleost fish fauna. The family includes 26 species classified in four genera:
\textit{Dolloydracon}, \textit{Histiodracon} (both monotypic), \textit{Artedidracon} (6 species), and \textit{Pogonophryne} (18
species). We performed cytogenetic analyses in six species belonging to three of the four
genera: \textit{Artedidracon glareobarbatus}, \textit{A. orianae}, \textit{A. skottsbergi}, \textit{A. shackletoni}, \textit{Histiodracon velifer}, and \textit{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. \textit{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 (\textit{A. orianae}, \textit{H. velifer}, and \textit{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 (\textit{A. glareobarbatus} and
\textit{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 \textit{A. skottsbergi} is consistent with its phylogenetic
position as the sister lineage of all the other Artedidraconidae. The karyological similarity
between \textit{A. glareobarbatus} and \textit{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.