



Zootaxa 3714 (1): 001–063
www.mapress.com/zootaxa/

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Monograph

ISSN 1175-5326 (print edition)

ZOOTAXA

ISSN 1175-5334 (online edition)

<http://dx.doi.org/10.11646/zootaxa.3714.1.1>

<http://zoobank.org/urn:lsid:zoobank.org:pub:AADEC3E3-FAEF-4865-8A26-B1483B11DCE9>

ZOOTAXA

3714

**A new genus of cardinalfish (Apogonidae: Percomorpha),
redescription of *Archamia* and resemblances and relationships with *Kurtus*
(Kurtidae: Percomorpha)**

THOMAS H. FRASER

*Florida Museum of Natural History, University of Florida, Gainesville, Florida, 32611–7800 USA, and Mote Marine Laboratory,
1600 Ken Thompson Parkway, Sarasota, FL 34236–1096 USA. E-mail: cardinalfish@comcast.net*

“The parts are the evidence: parts of organisms as evidence of relationship.” Nelson, 2011



Magnolia Press
Auckland, New Zealand

Accepted by E. Hilton: 12 Aug. 2013; published: 19 Sept. 2013

THOMAS H. FRASER

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(*Zootaxa* 3714)

63 pp.; 30 cm.

19 Sept. 2013

ISBN 978-1-77557-266-4 (paperback)

ISBN 978-1-77557-267-1 (Online edition)

FIRST PUBLISHED IN 2013 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

<http://www.mapress.com/zootaxa/>

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ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

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Abstract

Archamia is restricted to a single species, *A. bleekeri*. A recently described genus, *Kurtamia*, a reference to a suggested relationship with the enigmatic *Kurtus*, is the junior synonym of *Archamia*. *Kurtamia bykhovskiyi* is a junior synonym of *A. bleekeri*. *Archamia* is redescribed using osteological, color pattern, pore and free neuromast patterns supplementing those characters used in other publications noting clear differences between *A. bleekeri* and all other species formerly in that genus. The new genus *Taeniamia*, type species *Archamia leai* contains the remaining species. Osteology, color patterns and lateralis characters are reviewed for *Taeniamia leai* and other species. Species placed in *Taeniamia* have two broadly different color patterns: 1) yellow, orange, red or dark bars with or without a dark basicaudal spot, and 2) yellow or dark midline stripe with another stripe above the lateral line, lacking bars. These color patterns suggest two lineages exist within *Taeniamia*. New species combinations are: *Taeniamia ateania*, *T. biguttata*, *T. bilineata*, *T. buruensis*, *T. dispilus*, *T. flavofasciata*, *T. fucata*, *T. kagoshimana*, *T. leai*, *T. lineolata*, *T. macroptera*, *T. melasma*, *T. mozambiquensis*, *T. pallida*, and *T. zosterophora*. *Archamia* and *Taeniamia* are sister genera. A diagnosis is provided for the Apogonidae: one or two anal spines, first spine small, supernumerary in position, second spine or first anal fin-ray (only *Paxton*) in serial association with first distal and proximal-middle radials; first segmented anal ray branched; males mouth brood fertilized eggs; swim bladder simple without anterior or posterior modifications, a dorsal oval and ventral gas glands; free neuromasts on head, body and caudal fin. Characters of *Holapogon* were used to help identify common plesiomorphic characters for the Apogonidae, elsewhere among percoids using the Centropomidae and information for basal Percomorpha. A table of basal characters and derived changes is provided for the Apogonidae. Characters for two species *Kurtus indicus* and *K. gulliveri* are described and examined in a search for morphological synapomorphies with *Archamia*, *Taeniamia*, *Holapogon* and other apogonids. A diagnosis is provided for the Kurtidae: highly modified ribs, anterior dorsal spines individually fused with all radials of the pterygiophore complex, medially fused pterospheneoids, gill rakers on second branchial arch, tooth plates between each gill raker, serrated curved extension of the male's supraoccipital crest, tiny cycloid scales on head and body, very short pored lateral-line scales and free neuromast patterns on the head and body. The second epibranchial articulating with third pharyngobranchial and radial ridges simple or bifid filaments around the micropyle of the egg related to egg ball organization are supported as possible non-exclusive synapomorphic characters for kurtids and apogonids. Parental care of eggs has not been demonstrated for *Kurtus indicus*, an estuarine/coastal marine species. Kurtids share foramina in the lateral lower part of each caudal vertebra with carangine species, some ehippids, some leiognathids, some priacanthids and scatophagids and share tiny cycloid scales with carangoids: possible synapomorphies or independently derived features.

Key words: *Archamia bleekeri*, *Taeniamia leai*, *Kurtamia bykhovskiyi*, *Kurtus indicus*, *Kurtus gulliveri*, *Holapogon maximus*, *Centropomus*, *Lates*, osteology, axial and caudal skeleton, ribs, dorsal and anal fins, pterygiophores, free neuromasts, ultra structure of eggs