

| 学 位 論 文 要 旨  |   |
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| 題 目  | Systematics of the circumglobal scorpionfish family Setarchidae |
| <p>The systematic review of the circumglobal deepwater scorpionfish family Setarchidae Matsubara 1943 is carried out on the basis of 1,322 specimens, with morphological and molecular analyses. Although three genera with six species have been regarded in the family, a total of 10 species belonging to four genera is recognized in this study, including a resurrected genus <i>Lythrichthys</i> Jordan and Starks 1904, previously regarded as a junior synonym of <i>Setarches</i> Johnson 1862, and two new and two resurrected species of <i>Lythrichthys</i>.</p> <p><i>Lythrichthys</i> is recognized as valid, despite sharing some diagnostic characters with <i>Setarches</i>, both genera differing from <i>Lioscorpius</i> Günther 1880 and <i>Ectreposebastes</i> Garman 1899 in having the deep body, its depth at the pelvic-fin origin 29.1–42.9% of standard length (SL) (vs. 20.6–28.0% in <i>Lioscorpius</i>), snout, dorsal and ventral surface of the head naked (vs. scaled in <i>Ectreposebastes</i>), first lacrimal spine well developed and of similar length to the second and third spines (vs. rudimentary in the latter two), and swimbladder well developed (vs. absent or rudimentary in <i>Ectreposebastes</i>). <i>Lythrichthys</i> differs from <i>Setarches</i> in having the second preopercular spine short or rudimentary (vs. well-developed, of similar length to the first and third spines in <i>Setarches</i>), the thoracic and abdominal scales embedded (vs. exposed), the tip of the first lacrimal spine reaching the upper lip (vs. not reaching, except in juveniles), and nine abdominal vertebrae (vs. 10). In addition, examination of all nominal species included in Setarchidae showed that five were best placed in <i>Lythrichthys</i>, viz. <i>Lythrichthys longimanus</i> (Alcock 1894), <i>Lythrichthys eulabes</i> Jordan and Starks 1904, <i>Lythrichthys cypho</i> (Fowler 1938), <i>Lythrichthys dentatus</i> sp. nov. and <i>Lythrichthys grahami</i> sp. nov., with <i>Setarches</i> including only <i>Setarches guentheri</i> Johnson 1862. <i>Lythrichthys dentatus</i> differs from all other congeners in having long, spaced canine teeth on the jaws, and generally a single straight row (totaling ca. 40 teeth) on the premaxilla. <i>Lythrichthys grahami</i> can be distinguished from all other congeners by the following combination of characters: 8–11 (usually 9) scale rows between 6th dorsal-fin spine base and lateral line; scale rows between last dorsal-fin spine base and lateral line more than 10–12 (11); lower opercular spine length 30.6–33.5% (31.9%) of head length, its tip beyond posterior margin of opercle (sometimes slightly short of margin in specimens up to ca 80 mm SL); caudal-peduncle depth 8.8–10.9% (9.9%) of SL; and dorsal margin of interorbital space slightly raised; body base color blackish-red when fresh, and oral surface uniformly grey in preserved specimens from ca. 100 mm SL.</p> <p><i>Lioscorpius</i> and <i>Ectreposebastes</i>, and all nominal species of both genera, viz. <i>Ectreposebastes imus</i> Garman 1899, <i>Ectreposebastes niger</i> (Fourmanoir 1971), <i>Lioscorpius longiceps</i> Günther 1880, and <i>Lioscorpius trifasciatus</i> Last, Yearsley and Motomura 2005, are also confirmed as valid during this study. These genera are herein redescribed with newly recognized diagnosis and range extension of each species.</p> <p>All genera of Setarchidae are considered to be monophyletic (bootstrap values above 89%) on the ML tree, based on the COI, Cyt <i>b</i>, and RYR3 gene sequences (2,067 bp in total).</p> |   |