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***Full Papers***

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**Distribution patterns of young of the year (YOY) native and non-native salmonid species in Mamachi Creek, Hokkaido, Japan**

Koh Hasegawa and Koji Maekawa

**Abstract** Information on young of the year (YOY) salmonid habitat is required to devise effective salmonid management methodology. In this study, we clarified the relationships between habitat characteristics and distribution patterns of YOY native salmonid species (white-spotted charr *Salvelinus leucomaenis* and masu salmon *Oncorhynchus masou*) and YOY non-native brown trout *Salmo trutta* by field survey. YOY brown trout was abundant where river scale was larger than habitat where YOY white-spotted charr were abundant. YOY masu salmon appeared frequently in the

stream. Our results showed apparent habitat segregation between YOY white-spotted charr and YOY brown trout.

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**Geographic distribution and biogeographical origin of the spined loach genus *Cobitis* in north-eastern Kyushu Island, Japan**

Emi Kitagawa, Jun Nakajima, Kazuo Hoshino and Tadao Kitagawa

**Abstract** In order to clarify the distribution pattern of three Japanese spined loach species' complexes in the genus *Cobitis* ('yamato', *biwae*, and *striata* complexes) in north-eastern Kyushu Island, 106 specimens obtained from 19 drainage systems were morphologically and genetically examined. Although that region has been previously considered occupied only by the 'yamato' complex, some populations of the *biwae* and *striata* complexes were confirmed, the distribution patterns being explained by the paleo-Setouchi drainage pattern during the most recent Pleistcene glacial periods. Distinctive populations within the middle race of *striata* complex included 2 new local forms in Fukuoka Prefecture (the Setouchi form, Hakata form and Onga form).

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**First records of an introduced molly *Poecilia mexicana* (Perciformes: Poeciliidae)**

**from Japan**

Mizuki Matsunuma and Hiroyuki Motomura

**Abstract** The Shortfin Molly, *Poecilia mexicana*, is herein reported for the first time from Japan on the basis of specimens collected from the Nitanda River (hot spring water) in Ibusuki City, Kagoshima Prefecture. The fish from Ibusuki City, previously misidentified as *P. sphenops*, is believed to represent an introduced population from the west coast of Central America (original locality of the species) or other places. *Poecilia mexicana* is characterized by having 9 dorsal- and anal-fin soft rays, 18 caudal-peduncle scales, unicuspid upper-jaw inner teeth, sensory pores on the dorsal surface of the snout, and the broad vertical orange band on the caudal fin in mature males. Morphological changes with growth and sexual dimorphism of Japanese *P. mexicana* are also described. A new Japanese name “Surikogi-môrî” is proposed for the species.

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**Longitudinal distribution and changes in the fish fauna of a mid-scale river, Shoro River system, eastern Hokkaido, with notes on signal crayfish**

Toru Nagasawa, Kentaro Morita and Jun-ichi Tsuboi

**Abstract** The distribution of fishes in the Shoro River system, a mid-scale river in eastern Hokkaido, Japan, was assessed using electric fishing gear. Of the 8 species recorded during the summer of 2007, Siberian stone loach (*Barbatula toni*), white-spotted charr (*Salvelinus leucomaenis*), masu salmon (*Oncorhynchus masou masou*) and dace [*Tribolodon* sp(p).] were relatively abundant. Among of these four

species, Siberian stone loach showed the most extensive distribution including above a large scale dam which provided a barrier to the fish migration. Other three species were recorded below the dam, but not recorded above the dam. Two exotic species, rainbow trout (*Oncorhynchus mykiss*) and signal crayfish (*Pacifastacus leniusculus*) were also recorded, the former being relatively abundant above the dam and in the uppermost reach below the dam in the main stream, but rare in the tributaries. Signal crayfish appeared mainly in the tributary streams flowing into the lower reaches of the main stream. Neither species had been recorded from the Shoro River system in the 1970's. The distribution of the two native salmonids, masu salmon and white-spotted charr, overlapped broadly in both the main stream and tributaries. In the uppermost reach below the dam, exotic rainbow trout were dominant salmonid, and native masu salmon being less common than downstream.

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**Annual reproductive cycle of the threatened cyprinid species, *Pseudorasbora pumila* subsp. sensu Nakamura (1963)**

Tomoki Ohnaka, Tokikazu Maeda, Tadashi Kitano and Yasunori Koya

**Abstract** In order to clarify the reproductive cycle of on the threatened cyprinid species, *Pseudorasbora pumila* subsp. sensu Nakamura (1963), historogical observation were conducted gonads of male and female specimens collected from Inuyama City, Aichi Prefecture, Japan. The maturation process was divided into two phases. In the first phase, from September to December, primary spermatocyte formation in males and cortical alveoli formation followed by accumulation of yolk globules in the oocytes in

females were observed. Concurrently, gonadosomatic indices (GSI) increased gradually during the first phase. The second phase, from March to April, was accompanied by rapid increases in GSI. Active spermatogenesis (second meiotic stage) in males and active accumulation of yolk globules in the oocytes in females also occurred during the second phase. The spawning period is probably from April to June. Multiple spawning during a single spawning season in this subspecies was indicated in the histological observations of ovaries. Moreover, changes in water temperature were probably significant factors in the onset and the cessation of spawning as in other cyprinid fishes. The spawning period of this subspecies was very similar to that of *P. parva*, raising the question of competition for over the spawning territories or substrate between the two species.

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## *Short Reports*

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**First record of *Pseudomonacanthus macrurus* (Tetraodontiformes: Monacanthidae) from Japan**

Hidenori Yoshigou, Tomoko Inoue and Tetsuo Yoshino

**Abstract** Eight specimens of *Pseudomonacanthus macrurus* (Bleeker, 1857), collected from the southeastern coast of Okinawa Island from October 2006 to February 2008, had the following combination of characters: dorsal fin rays 29–30, anal fin rays 28–29, lower end of gill opening located anterior to anterior margin of orbital, length of caudal peduncle 1.9–2.4 times in head length, caudal fin longer than head length, dorsal profile of head convex above the eye, many small brown spots on body, and caudal fin with two

vertical brown bands. The species has previously been recorded from the Philippines, Singapore, Indonesia and Papua New Guinea, the present specimens representing the first records from Japan.

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**Object discrimination and avoidance behavior of *Polynemus multifilis* (Perciformes: Polynemidae) observed in an aquarium**

Toshio Doi, Kasumi Yamashita, Daigo Okabe and Atsuko Fukuda

**Abstract** Avoidance behavior of *Polynemus multifilis* (Perciformes: Polynemidae), following contact of the long pectoral filaments (separate rays of the lower part of the pectoral fin) with certain objects (concrete block, same species and carp), was observed in an aquarium. The avoidance rate (avoidance frequency / contact frequency) following contact with a concrete block was significantly higher immediately after the latter was placed in the tank (mean±SD, 68.7±15.4%) than 3 days later (0%). The conspecific avoidance rate (10.4±2.7%) was significantly lower than that to carp (83.2±5.3%). Such evidence indicated that *P. multifilis* could discriminate between and selectively avoid objects by means of the long pectoral filaments.

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