Papers Published in *Japanese Journal of Ichthyology*

Vol. 60, No. 2 November 5, 2013

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Japanese Journal of Ichthyology

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Identification of two species of *Amblygaster* (Clupeiformes: Clupeidae) and the occurrence of a species-specific parasite *Ryukyua globosa* (Isopoda: Cymothoidae), from the Ryukyu Islands

Hiro-o Ishimori, Daisuke Uyeno and Tetsuo Yoshino

Abstract Two species of *Amblygaster*, *A. leiogaster* and *A. sirm*, are sympatrically distributed in the Ryukyu Islands and often caught by the same set net. Although both species are important resources for food and fishing bait, they are not distinguished by local fishermen. Since these two species are so similar to each other, identification errors

have often occurred in publications. In this study, we re-evaluated the known identification characters (position of the dorsal fin, upper jaw length, number of gill rakers) and also searched for other distinguishable characters based on 52 specimens (110.3–226.0 mm SL) of *A. leiogaster* and 53 specimens (77.5–234.5 mm SL) of *A. sirm.* *Amblygaster leiogaster* is characterized by the origin of dorsal fin at the middle of snout tip and caudal fin base (predorsal length 48.5–52.6% SL), small upper jaw (26.2–35.7% HL), fewer gill rakers (31–36), dorsal sides of body blue when fresh, no oblique line above the upper jaw, while *A. sirm* is characterized by the origin of the dorsal fin closer to snout tip than caudal fin base (predorsal length 42.4–47.1% SL), larger upper jaw (32.2–38.7 % HL), more gill rakers (37–42), dorsal sides of body greenish blue when fresh, and an oblique line (greenish when fresh and black after being preserved) above the upper jaw. In addition, prevalence of *Ryukyua globosa* on two species of *Amblygaster* was examined based on 128 specimens (120.3–211.3 mm SL) of *A. leiogaster* and 117 (122.5–159.0 mm SL) of *A. sirm*. No parasitic *R. globosa* were found on specimens of *A. leiogaster*. In contrast, the parasite was found only on specimens of *A. sirm* (total 85%) and its prevalence increased with host body-size.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 91−101

Seasonal distribution of Ryukyu-ayu *Plecoglossus altivelis ryukyuensis* in the Katoku River, Amami-oshima Island, southern Japan

Tei Kishino and Toshihiko Yonezawa

Abstract The longitudinal distribution of Ryukyu-ayu *Plecoglossus altivelis ryukyuensis* in the Katoku River, a small stream on Amami-oshima Island, southern

Japan, was observed from December 2003 to November 2004. The number of Ryukyu-ayu in pools was greater than in glides or riffles in each life history season [spawning (Nov. to Feb.), up stream migration (Mar. to May) and growth (Jun. to Oct.) seasons], an analysis by Spearman's correlation coefficient by rank test indicating that such abundance in pools tended to be consistently greater in lower reaches. This suggests that large pools in lower reaches are an important habitat for Ryukyu-ayu in the Katoku River. Accordingly, for the future conservation of the lower reaches and creation of large pools may be a positive step of this endangered fish.

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Short Reports

Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 103−110

First Japanese record of *Naso tergus* (Perciformes: Acanthuridae) from the Tokara Islands, southern Japan

Mizuki Matsunuma and Hiroyuki Motomura

Abstract A single specimen of the unicornfish *Naso tergus* Ho, Shen and Chang, 2011 (Perciformes: Acanthuridae), a species previously known only from Taiwan, was collected off Nakano-shima Island, Tokara Islands, Kagoshima Prefecture, southern Japan, therefore representing the northernmost record for the species and first record from Japan. Comparisons of *N. tergus* with a congener, *Naso hexacanthus* (Bleeker, 1855), were made and the diagnosis of the former reviewed. A new standard Japanese name "Shinobi-tenguhagi" is proposed for *N. tergus*.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 111–116

First Japanese record of *Aphyonus gelatinosus* (Ophidiiformes, Aphyonidae)

Shinpei Ohashi, Hisashi Imamura and Mamoru Yabe

Abstract Two specimens (131.5 and 147.0 mm in standard length) of the Gelatinous Blindfish *Aphyonus gelatinosus* Günther, 1878, collected from southern Japan (Kumano Sea and near the Tori Island, part of the Izu Island chain), were found among preserved specimens held by the Department of Natural Science, Faculty of Science, Kochi University, Kochi, Japan and National Museum of Nature and Science, Tsukuba, Japan. *Aphyonus gelatinosus* is recognizable in having only a single pelvic fin ray, high numbers of dorsal fin rays (92–118) and caudal vertebrae (46–55), few long gill rakers (3–4), and short predorsal length (26.5–30.5% SL). This species and genus is known from the Pacific Ocean, but not from the north Pacific including Japanese waters. Thus, these specimens are a new record of both the genus *Aphyonus* and *A. gelatinosus* for Japan.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 117–121

First Japanese records of a deep-sea chiasmodontid fish, *Kali colubrina*

Kazuyuki Ban, Munehiro Takami, Shinichi Tomiyama and Atsushi Fukui

Abstract Two chiasmodontid specimens (110.2–232.0 mm in standard length), collected off Shikoku, Japan, represent the first records of *Kali colubrina* Melo 2008 from Japanese waters, being distinguished from six congeneric species by the combination of a unique dentition pattern (two rows of recurved caniniform teeth on the premaxilla and

dentary, not developed as fangs, 12–22 lateral and 5–9 mesial teeth on the premaxilla, 8–18 lateral and 5–10 mesial teeth on the dentary, mesial teeth larger than adjacent lateral teeth), 23–26 second dorsal-fin rays, 23–25 anal-fin rays and 39–41 vertebrae. The new Japanese name “Jaguchi-bouzugisu” is proposed for the species.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 123−128

Identificational keys of *Pempheris adusta* Bleeker, 1877 (Pempheridae) with comments on its standard Japanese name

Keita Koeda, Tetsuo Yoshino and Katsunori Tachihara

Abstract The diagnostic morphological characters of *Pempheris adusta* Bleeker, 1877 (Perciformes, Pempheridae) are redescribed based on specimens collected from the Pacific Ocean. The Japanese name Ryukyu-hatanpo has been commonly used for the species in the Ryukyu Archipelago, and is a factor in the taxonomical confusion with Japanese *Pempheris*. This Japanese name was proposed by Okada in 1938 for *P. oualensis* in Snyder’s list of 1912. However, the specimens used in Snyder’s list are herein reidentified as *P. adusta*. This result indicates that the Japanese name Ryukyu-hatanpo should be adapted for the species *P. adusta*.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 129−134

First record of the sandperch (Perciformes: Pinguipedidae) *Parapercis randalli* from Yoron-jima island, Kagoshima Prefecture, Japan

Yusuke Hibino, Hiroyuki Motomura and Seishi Kimura

Abstract A single specimen of *Parapercis randalli* Ho and Shao, 2012, previously known only from the type locality (Taiwan), was collected from Yoron-jima island, Amami Islands, Kagoshima Prefecture, Japan. It represents the first record of the species from Japan and the northernmost record for the species. The specimen is described in detail and the new Japanese name "Homura-toragisu" is proposed. *Parapercis randalli* resembles *P. basimaculata* and *P. rubromaculata*, but differs from both in fresh coloration and the following morphological characters: greater pre-pelvic-fin length [26.3–27.7% of standard length (SL)], shorter longest soft dorsal- and anal-fin ray length (12.4–15.9% SL and 11.4–13.1% SL, respectively), shorter pectoral-fin length (19.3–20.9% SL), shorter pelvic-fin length (18.0–22.2% SL) and shorter caudal-fin length (20.2–22.1% SL).

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 135−140

First record of the congrid eel *Blachea xenobranchialis* from the Okinawa Trough, Japan

Shinta Sakurai, Hisashi Imamura and Mamoru Yabe

Abstract A single specimen of a rare congrid eel, *Blachea xenobranchialis* Karrer and Smith, 1980, was collected from the Okinawa Trough, the East China Sea, Japan in 1994. *Blachea xenobranchialis* is separable from its congener *Blachea longicaudalis* Karmovskaya, 2004 in having 158–160 total vertebrae, 81–84 precaudal vertebrae and 75–

79 caudal vertebrae. *Blachea xenobranchialis* can be also distinguished by the combination of dorsal and anal fin rays, predorsal and head lengths, and gill opening height, although the ranges of these characters in the two species are continuous or partly overlapping each other. This specimen, for which a full description is given, represents the first record of *B. xenobranchialis* and the genus *Blachea* from Japan.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 141–147

Spawning habitat of the Chinese false gudgeon, *Abbottina rivularis*, in an irrigation channel near the Ushizu River, northern Kyushu Island, Japan

Kosuke Hayashi, Akihiko Koyama and Norio Onikura

Abstract The spawning habitat of the endangered Chinese false gudgeon, *Abbottina rivularis*, was investigated in an irrigation channel near the Ushizu River, northern Kyushu Island, Japan, from March to May, 2012. Sixteen nest sites were identified from early April to mid-May. A generalized mixed liner model incorporating nest presence/absence data and several environmental parameters, disclosed the environmental characteristics of the spawning habitat of the species, indicating the probability of occurrence of a nest with distance from the channel bank, current velocity and emergent plants. The results suggested that the maintenance of low current velocity and few or no emergent plants near the banks were most important for conservation of the spawning habitats of *A. rivularis*.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 149−155

Selection of spawning sites by Biwa salmon in Lake Biwa inlet stream, central Japan

Masanori Oda and Yasushi Harada

Abstract Biwa salmon, endemic to Lake Biwa, central Japan, is an important species for local fisheries. Because little is known about the species spawning sites, despite the importance of such for effective management, suitable spawning sites for Biwa salmon in the Ishida River entering Lake Biwa were evaluated, focusing on distribution, water depth, current velocity and gravel composition (substrate). Many spawning redds were concentrated immediately downstream of an almost impassable weir (Umehara weir, approximately 5.2 km upstream from the river mouth). Statistical analyses of other factors, using Manly's selection index, revealed that adult females have significant preferences when selecting spawning redds: water depth of 10–30 cm, current velocity of 20–30 cm/s and 40–50 cm/s, and a specific substrate (pebbles of 17–64 mm).

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 157−161

First Japanese records of *Halicampus spinirostris* (Syngnathidae) from the Ryukyu Islands, Japan

Mizuki Matsunuma, Hiroshi Senou and Hiroyuki Motomura

Abstract The Spiny-snout Pipefish *Halicampus spinirostris* (Dawson and Allen, 1981) (Syngnathidae: Syngnathinae), previously known from the eastern Indian and western

Pacific Oceans with the northernmost record from the South China Sea in the Pacific, was recorded on the basis of two specimens from Geruma-jima and Yoron-jima islands in the Ryukyu Islands and underwater photographs of a live individual from Ishigaki-jima island. The specimens and underwater photographs from the Ryukyu Islands represent the first records of *H. spinirostris* from Japan, the Yoron-jima specimen being the northernmost record for the species. The specimens are described here and a new standard Japanese name "Hime-toge-umiyakko" proposed for the species.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 163−170

Changes in the distribution patterns of freshwater fishes in a dual-purpose agricultural channel in Mie Prefecture, Japan, following the onset of irrigation

Akiko Minagawa, Kota Tawa and Jyun-ichi Kitamura

Abstract Changes in the distribution patterns of freshwater fishes in an agricultural channel in Mie Prefecture, Japan, were investigated throughout a period of irrigation. *Misgurnus anguillicaudatus* and *Oryzias latipes* were collected in branch channels, being temporary water areas, just after the onset of irrigation in April, but were not found in those channels in May. *Cobitis minamorii tokaiensis* was observed in the temporary water areas three days later than the aforementioned two species, subsequently becoming the dominant species in the branch channels. The distribution of *C. minamorii tokaiensis* increased in the western branch channel, connected to the permanently water-filled main channel. Reasosns for the temporal differences in utilization of the branch channels by these fishes were not immediately obvious.

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Japanese Journal of Ichthyology

Vol. 60, No. 2, pp. 171−176

Factors affecting the shape and volume of ripe eggs of the exotic bitterling, *Acheilognathus macropterus* (Cyprinidae, Acheilognathinae)

Tomiji Hagiwara

Abstract The factors affecting the shape and volume of ripe eggs of the bitterling, *Acheilognathus macropterus*, an exotic introduction to Lake Kasumigaura, Japan, were investigated throughout the spawning periods in 2009 and 2010. The shape and long axis to short axis ratio (L/S) were stable, regardless of female parent size, whereas the volume depended upon the latter. Shape and L/S may reflect phylogenic traits, whereas egg volume may vary according to parental condition so as to maximize the number and survivability of offspring at the individual level.

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