Japanese Journal of Ichthyology
Vol. 29, No. 1 1982

魚類学雑誌
29巻1号 1982年

Rare Boxfishes, *Kentrocapros flavofasciatus* and *K. rosapinto*, with Notes on Their Relationships

Keiichi Matsuura and Takeshi Yamakawa

(Received November 12, 1981)

Abstract Two very rare boxfishes, *Kentrocapros flavofasciatus* and *K. rosapinto*, are redescribed on the basis of specimens collected from the western Pacific and south-western Indian Oceans. They are easily distinguished from the only other congener, *K. aculeatus*, by having no spines on the carapace. *Kentrocapros flavofasciatus* differs from *K. rosapinto* by the location of the gill opening: in the former the gill opening is below the posterior half of the eye, while in the latter it is restricted below the posterior edge of the eye. The monotypic genus *Aracanostracion* is regarded as a junior synonym of *Kentrocapros* on the basis of the comparisons of the external and osteological characters among these three species.

The boxfish *Kentrocapros flavofasciatus* (Kamohara, 1938) is a very rare species until recently known only from two specimens (Kamohara, 1938, 1961). It was originally described as *Aracana flavofasciata* on the basis of a single specimen obtained from off Kochi, Japan (Kamohara, 1938). However, it is clearly different from typical *Aracana* members in having no spines on the carapace, and rather resembles *Kentrocapros* in having six ridges on the carapace. This led Matsubara (1955: 1006) to transfer the species from *Aracana* to *Kentrocapros*, although he recognized that the type-species of *Kentrocapros*, *K. aculeatus* (Houttuyn), differs from *K. flavofasciatus* by having a large spine on the dorsolateral ridge and several spines on the lateral ridge. He stated that there were no known aracanid genera to which the species could be reasonably allocated, and he placed it provisionally in *Kentrocapros*. The holotype of *K. flavofasciatus* was destroyed by a war-caused fire in 1945 (Kamohara, 1961), but he had the good fortune to obtain a second specimen, which was collected in Ehime Prefecture, Japan, in 1954. He designated it as the neotype and reported it under the name of *K. flavofasciatus* following Matsubara (1955).

The other rare boxfish, which should have been placed in *Kentrocapros*, was described by Smith (1949) as a distinct genus and species under the name of *Aracanostracion rosapinto*. This species until recently has been known from only the holotype which was collected from Delagoa Bay in South Africa. Smith (1949) made comments on the relationship between this species and *K. aculeatus*, but did not mention *K. flavofasciatus*. On the other hand, when Matsubara (1955) discussed the systematic position of *K. flavofasciatus*, he should have referred to Smith's (1949) paper but failed to cite it. These mutual mistakes brought confusion into the classification and nomenclature of these two rare boxfishes. This influenced some Chinese ichthyologists mistakenly to regard *K. flavofasciatus* as *K. rosapinto* (their *Aracanostracion rosapinto*) (Anonymous, 1962: 1054～1056). In his monograph of tetraodontiform fishes, Tyler (1980: 195) tentatively considered *Aracanostracion* as a junior synonym of *Kentrocapros*, though he did not examine the holotype of *A. rosapinto*.

Recently we had the opportunity to examine additional specimens of both of these rare boxfishes obtained from the Indian and Pacific Oceans. In the present paper we redescribe them in detail and synonymize *Aracanostracion* with *Kentrocapros* on the basis of external and osteological characters among the three species, *K. aculeatus*, *K. flavofasciatus* and *K. rosapinto*.

Methods

Measurements were made in accordance with the manner of Hubbs and Lagler (1958) except for the following: head length (HL), from the tip of the snout to the upper end of the gill opening; body depth, the vertical measurement from the ventral edge of the ventrolateral ridge to the

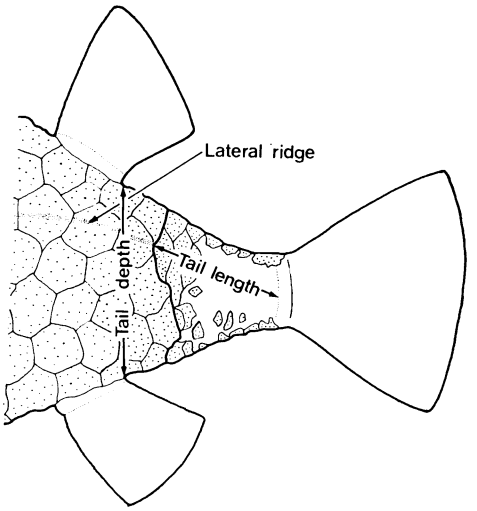

Fig. 1. Diagram showing the method for measurements of the tail depth and tail length.

uppermost portion of the carapace at the level of the pectoral fin base; body width, the distance between the left and right dorsolatreral ridges at the level of the pectoral fin base; gill opening length, the distance between the upper and lower ends of the gill opening; eye to gill opening, from the upper end of the gill opening to the nearest point of the orbit; eye diameter, the greatest width of the orbit, not of the eye itself; interorbital width, the least bony interorbital width, measured at the anterior edges of the orbits; caudal peduncle length, from the posterior edge of the structural base of the last anal ray to the mid caudal fin base; caudal fin length, from the mid caudal fin base to the tip of the longest ray; tail length, from the posterior edge of the lateral ridge of the carapace to the mid caudal fin base; tail depth, the vertical distance between the posterior edges of the structural bases of the last dorsal and anal rays (Fig. 1).

Fin ray counts were taken as the total number of elements, regardless of whether the rays are branched or unbranched. In boxfishes it is difficult to clearly divide the vertebral column into abdominal and caudal sections by the relation between the first pterygiophore of the anal fin and the vertebrae, because boxfishes have an unusual orientation of the pterygiophores of the anal fin (Tyler, 1963; see below). The division also cannot be made by the postion of the first vertebra with a complete haemal arch, or haemal arch and spine, since the development of haemal arches is variable within and between species in boxfishes. Thus, Tyler (1963) defined the first caudal vertebra as the element to which the proximal end of the first basal pterygiophore of the anal fin that consistently lies entirely in the midline of the body is most closely associated. We follow this definition in the description of the vertebral column. One specimen each of *K. aculeatus* and *K. flavofasciatus* and three of *K. rosapinto* were cleared and stained with alizarin red for the osteological study. The nomenclature of bones and carapace ridges follows Tyler (1980).

The following institutional abbreviations are used: BSKU, Department of Biology, Faculty of Sciences, Kochi University; HUMZ, Laboratory of Marine Zoology, Faculty of Fisheries, Hokkaido University; KSHS, Kochi Senior High School; NSMT-P, Department of Zoology, National Science Museum (Nat. Hist.), Tokyo; PIZA, Peking Institute of Zoology, Academia Sinica; ZUMT, Department of Zoology, University Museum, University of Tokyo.

Materials

Kentrocapros aculeatus, 26 specimens, 26.5～124.0 mm SL (standard length). Japan: ZUMT 34064, Onahama, Fukushima Prefecture, date unknown; HUMZ 38770, 38797, Hayakawa, Kanagawa Prefecture, 12 May 1973; ZUMT 20604, 20685, 20826, Misaki, Kanagawa Prefecture, date unknown; ZUMT 48690, 48828, off Hayama, Sagami Bay, 1～4 February 1956; HUMZ 40517～40522, Shige, Izu Peninsula, August 1975; HUMZ 51870, Sea of Enshu-nada, 250 m deep, 13 March 1976; ZUMT 18529, Shizuoka Prefecture, 8 December 1928; HUMZ 38783, 38804, 38808, Mimase, Kochi Prefecture, 1956; HUMZ 49556; off Kochi, 180 m deep, 18 November 1975; ZUMT 17971, Ariake Bay, date unknown; ZUMT 27071, Nagasaki Prefecture, 8 June 1911; ZUMT 31966, off Nagasaki, date unknown; HUMZ 52809, Sado I., Sea of Japan, 25 March 1976; ZUMT uncatalogued specimen, detailed data unknown. East China Sea: HUMZ 33729, 30°09′～31°30′ N, 124°13′～127°53′E, 6～11 April 1968; ZUMT 52107, 52126, detailed locality unknown, 2 May 1960.

Kentrocapros flavofasciatus, 6 specimens, 93.2～128.3 mm SL. Japan: BSKU 3692 (Neotype),

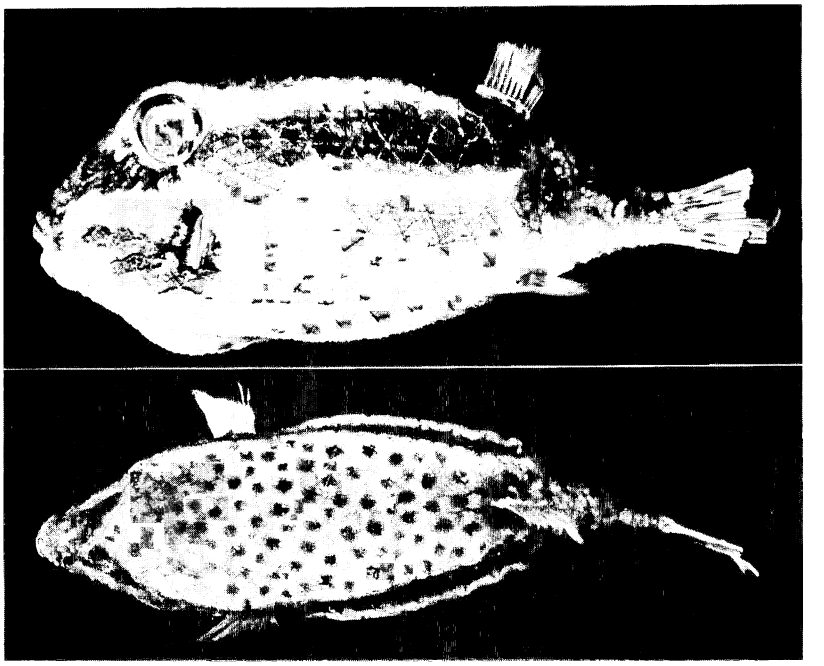

Fig. 2. Neotype of *Kentrocapros flavofasciatus*, 124.2 mm SL, Ehime Prefecture, Japan, BSKU 3692: top, lateral view; bottom, dorsal view. Photo by T. Yamakawa.

Ōshima, Ehime Prefecture, 29 June 1954; KSHS 15087, 15541, off Amami-ōshima I., Kagoshima Prefecture, 29 June 1972. East China Sea: NSMT-P 20992, 26°30′~27°00′N, 123°30′~124°00′E, 100~120 m deep, date unknown. South China Sea: PIZA 36794, Qinglang Harbour, Hainan I. (19°35′N, 110°48′E), 13 January 1956; PIZA 43155, Zhapo, Guangdong Province, China (21°35′N, 111°50′E), 31 January 1956.

Kentrocapros rosapinto, 17 specimens, 70.3~130.5 mm SL. Indian Ocean: HUMZ 72326, 11°04′S, 62°01′E, 187 m deep, 31 August 1977; HUMZ 72354~72358, 11°10′S, 62°08′E, 191 m deep, 31 August 1977; HUMZ 72376, 11°16′S, 61°02′E, 148 m deep, 5 September 1977; HUMZ 72328, 11°34′S, 61°19′E, 206 m deep, 30 August 1977; HUMZ 73692~73696, 10°59′S, 61°02′E, 126 m deep, 5 September 1977; HUMZ 74061~74062, 11°21′S, 61°18′E, 128 m deep, 30 August 1977; HUMZ 74295~74296, 11°08′S, 61°02′E, 125 m deep, 5 September 1977.

Kentrocapros flavofasciatus (Kamohara, 1938)
(Japanese name: Kisuji-itomaki)
(Figs. 2, 3)

Aracana flavofasciata Kamohara, 1938: 44, fig. 23.

Kentrocapros flavofasciatus: Matsubara, 1955: 1006; Kamohara, 1961: 6.

Aracanostracion rosapinto: Anonymous, 1962: 1054, fig. 814.

Description. D. 9~11 (mostly 11); A. 10; P. 12; C. 10~11 (mostly 11); Vertebrae 9+9=18. Body depth 2.20~2.44, body width 3.59~4.41, head length 2.96~3.37, snout length 3.86~4.47, predorsal length 1.27~1.44, preanal length 1.28~1.40—all in SL.

Base of dorsal fin 2.98~3.31, base of anal fin 3.37~4.01, eye diameter 1.34~2.25, interorbital width 1.94~2.39, gill opening length 3.31~4.13, eye to gill opening 3.67~4.24, dorsal fin height 1.75~2.10, anal fin height 1.61~2.21, pectoral fin length 1.45~1.72, caudal fin length 1.39~1.54, caudal peduncle length 1.31~1.60, caudal peduncle depth 3.42~3.98, tail length 1.15~1.46, tail depth 1.20~1.54—all in HL.

Body covered with rigid carapace except for caudal peduncle, pectoral, dorsal and anal fin bases, and around anus. From anus a longitudinal naked fold running anteriorly to the level of pectoral fin base. Carapace with six ridges, namely lateral, dorsolateral and ventrolateral.

Fig. 3. Head of *Kentrocapros flavofasciatus*, 99.5 mm SL, East China Sea, NSMT-P 20992. Drawn by K. Matsuura.

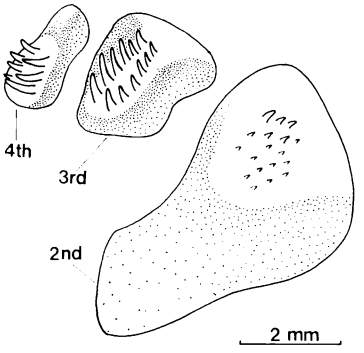

Fig. 4. Second to fourth left pharyngobranchials of *Kentrocapros flavofasciatus*. Drawn by K. Matsuura.

Lateral ridge originating at the region of the tip of pectoral fin and extending posteriorly to the end of carapace. Dorsolateral ridge starting at the region just in front of orbit and forming the supraorbital edge, and extending posteriorly to above middle of anal fin. Ventrolateral ridge beginning below nostrils and running posteriorly to the end of carapace.

Most plates on dorsal and lateral regions of carapace hexagonal and sutured to one another. Each plate with a central bony tubercle from which six (usually) low crests radiate out to about the middle of each straight edge of the hexagonal plate. Plates on snout and ventral part of carapace variously shaped and rather movably articulated with one another. Many small and closely articulated plates encircling the anterior part of caudal peduncle. Groups of these plates extending posteriorly along the dorsal and ventral parts of caudal peduncle to the origin of caudal fin. Very small isolated plates scattered on the lateral part of caudal peduncle.

Dorsal part of carapace slightly concave. Lateral part of carapace between dorsolateral and lateral ridges concave, and below lateral ridge rather flat or slightly concave. Ventral part of carapace almost flat except for a naked longitudinal fold which is somewhat convex. Dorsal profile of snout straight in male and slightly concave in female. Mouth slightly inferior and small. Lips fleshy and plicate. Eight small incisiform or bluntly pointed teeth in a single row in each jaw. Two nostrils close together just in front of eye. Eye large, located in posterodorsal portion of head. Interorbital space concave. Gill opening small, slightly oblique, below posterior half of eye; anterior end of gill opening below center of eye. Dorsal and anal fins slightly rounded; the first ray in both fins unbranched. Origin of dorsal fin slightly anterior to that of anal fin. Pectoral fin slightly rounded; the upper two rays unbranched; the uppermost ray very short, about one-fifth or one-sixth the length of the second ray. Caudal fin truncate or slightly rounded; the uppermost and lowermost rays unbranched.

Color of specimens in alcohol: In male body brownish yellow with many small rounded dark brown spots on the dorsal parts of carapace and caudal peduncle. These spots also scattered on the lateral part of carapace along the dorsolateral and lateral ridges, but clearly less in number than those in female. Two broad longitudinal yellow bands on the carapace; the upper originating at the region just in front of nostrils and running posteriorly along the dorsolateral ridge to the dorsal part of caudal fin base; the lower extending from the corner of mouth along lateral ridge to the posterior part of dorsal fin base where it connects with the upper band. Between these two yellow bands, a broad longitudinal dark brown band extending from the region in front of nostrils to the level of posterior end of dorsal fin base, and running posteriorly

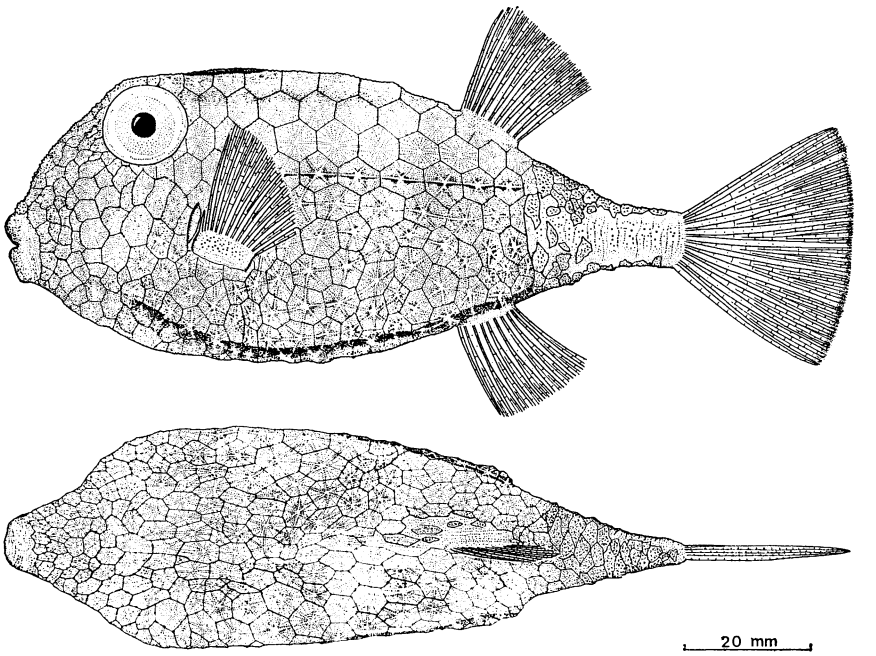

Fig. 5. Male of *Kentrocapros rosapinto*, 108.7 mm SL, south-western Indian Ocean, HUMZ 72376: top, lateral view; bottom, ventral view. Drawn by K. Matsuura.

to the caudal fin base. This dark brown band connecting with the opposite one in front of nostrils, and continuing anteriorly on the dorsal edge of snout to mouth. Another dark brown band passing from the corner of mouth through the lower part of gill opening to the pectoral fin base. Lips brown. Teeth reddish brown. All fins yellow or yellowish brown.

In female body brownish yellow without yellow or dark brown bands. Many small rounded dark brown spots scattered on the dorsal parts of carapace and caudal peduncle. Lateral parts of carapace above lateral ridge also with many dark brown spots.

Osteological notes: The skeleton is very similar to that of *K. rosapinto*, except that the small teeth on third and fourth pharyngobranchials are arranged in two rows (Fig. 4), while in *K. rosapinto* these teeth form a single row on those bones.

Distribution. Pacific coasts of southern part of Japan, the East China Sea, and the South China Sea. This species has been collected by bottom trawlers from the East China Sea in 80～120 m deep (Dr. Katayama, personal communication).

Kentrocapros rosapinto (Smith, 1949)
(Figs. 5, 6)

Aracanostracion rosapinto Smith, 1949; 354, fig. 1.

Kentrocapros rosapinto: Tyler, 1980: 195.

Description. D. 10～11; A. 10～11 (mostly 10); P. 12～13 (mostly 12); C. 10～11 (mostly 11); Vertebrae 9+9=18. Body depth 2.22～2.86, body width 3.30～4.11, head length 2.61～3.21, snout length 3.78～4.61, predorsal length 1.29～1.43, preanal length 1.30～1.45—all in SL.

Base of dorsal fin 3.11～4.17, base of anal fin 3.22～4.18, eye diameter 2.08～2.47, interorbital width 2.11～2.80, gill opening length 3.47～5.59, eye to gill opening 3.29～4.42, dorsal fin height 1.75～2.09, anal fin height 1.74～2.38, pectoral fin length 1.39～1.76, caudal fin length 1.22～1.56, caudal peduncle length 1.08～1.97, caudal peduncle depth 3.35～5.19, tail length 1.22～1.83, tail depth 1.29～1.89—all in HL.

External characters of this species very closely similar to those of *K. flavofasciatus* but different from it in the following: body slightly elongate, body depth less than that of *K. flavofasciatus* (Fig. 7); gill opening almost vertical or very

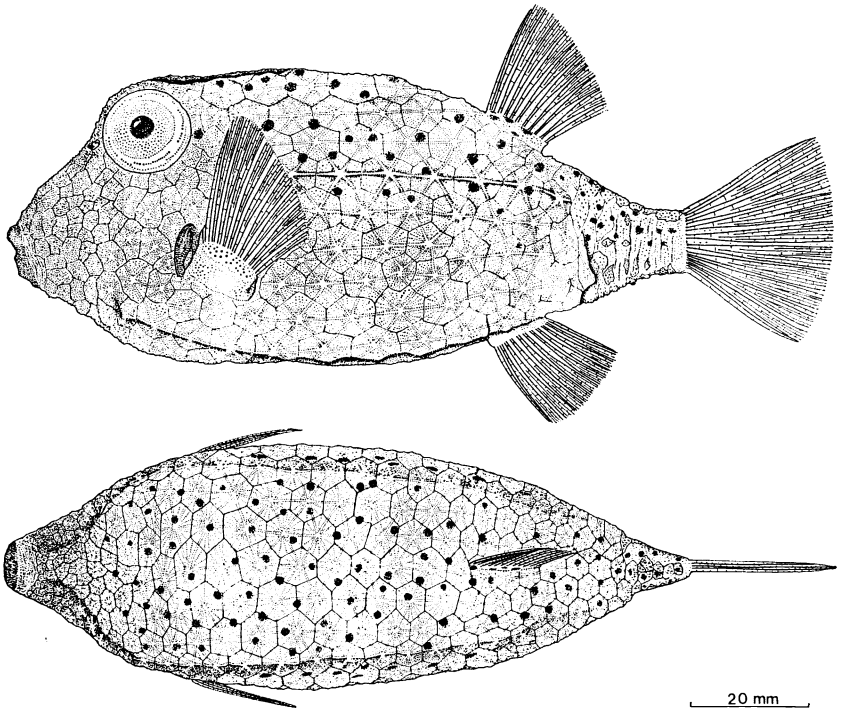

Fig. 6. Female of *Kentrocapros rosapinto*, 107.7 mm SL, south-western Indian Ocean, HUMZ 74026: top, lateral view; bottom, dorsal view. Drawn by K. Matsuura.

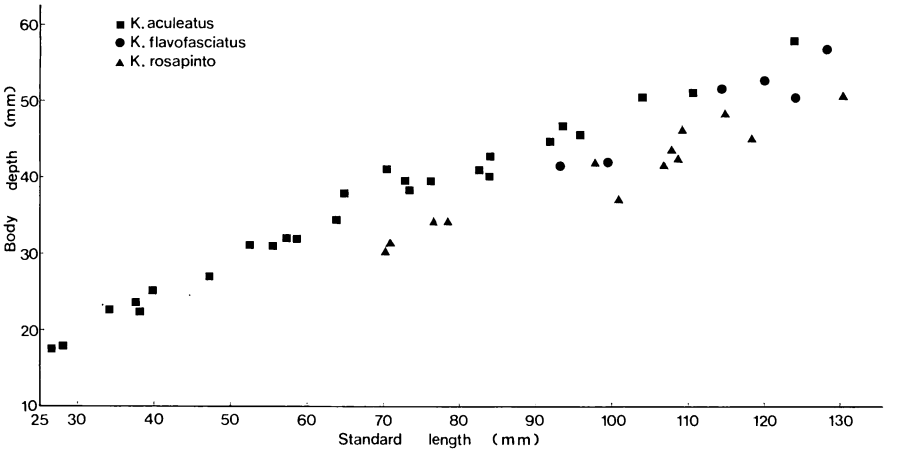

Fig. 7. Relationship of body depth and standard length in the three species of *Kentrocapros*.

slightly oblique, below the posterior edge of eye; tubercles on the plates of snout and anteroventral part of carapace not so rough as in *K. flavofasciatus*; dorsal profile of snout convex in male and concave or straight in female.

Color of defrosted specimens: In male body brownish grey with many small rounded dark brown spots on the dorsal parts of carapace and caudal peduncle. A broad longitudinal silver band commencing from the region in front of nostrils, passing through the lower edge of orbit and continuing on the lateral part of carapace between dorsolateral and lateral ridges to caudal fin base. This silver band connecting with the opposite one at the region anterior to nostrils, and reaching to dorsal edge of mouth. Another

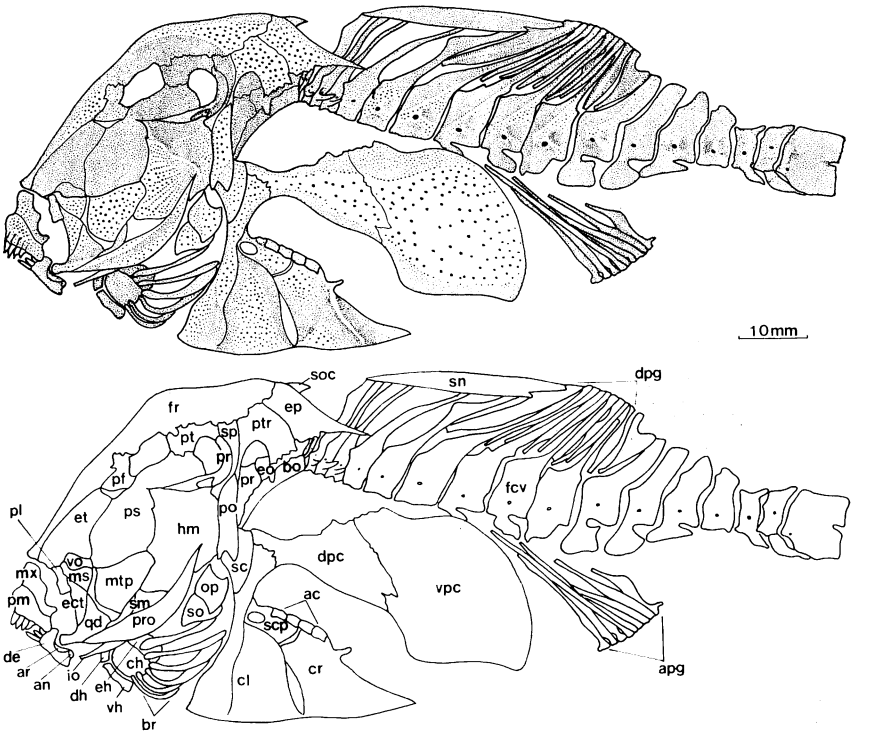

Fig. 8. Entire skeleton of *Kentrocapros rosapinto*, 115.4 mm SL, HUMZ 73692: ac, actinosts; an, angular; ar, articular; apg, pterygiophores of anal fin; bo, basioccipital; br, branchiostegal rays; ch, ceratohyal; cl, cleithrum; cr, coracoid; de, dentary; dh, dorsal hypohyal; dpc, dorsal postcleithrum; dpg, pterygiophores of dorsal fin; ect, ectopterygoid; eh, epihyal; eo, exoccipital; ep, epiotic; et, ethmoid; fcv, first caudal vertebra; fr, frontal; hm, hyomandibular; io, interoperculum; ms, mesopterygoid; mtp, metapterygoid; mx, maxillary; op, operculum; pf, prefrontal; pl, palatine; pm, premaxillary; po, posttemporal; pr, prootic; pro, preoperculum; ps, parasphenoid; pt, pterosphenoid; ptr, pterotic; sc, supracleithrum; scp, scapula; sm, symplectic; sn, supraneural; so, suboperculum; soc, supraoccipital; sp, sphenotic; vh, ventral hypohyal; vo, vomer; vpc, ventral postcleithrum. Drawn by K. Matsuura.

broad longitudinal silver band running from the corner of mouth to pectoral fin base. Dorsal, anal and pectoral fins yellow. Caudal fin also yellow with narrow dark brown margin posteriorly. Lips dark brown. Teeth reddish brown.

In female body yellowish grey with many small rounded dark brown spots on the dorsal parts of carapace and caudal peduncle. The lateral part of carapace above the lower edge of pectoral fin base with many small rounded dark brown spots. All fins yellow without dark markings. Lips brown.

Osteological notes: Fig. 8 shows the entire skeleton, Fig. 9 the skull, Fig. 10 the pterygiophores of anal fin, hyoid apparatus, lower jaw, and branchial arches. In the pterygiophores of anal fin, the last three elements lie in the midline of the body, while the other elements diverge to the right or to the left from their ventral ends, which are present in the midline of the body.

The first and second abdominal vertebrae are fused to one another and anchylosed to the basioccipital and exoccipital. The first haemal arch and spine are found on the ninth (last) abdominal vertebra. The haemal spine on the penultimate caudal vertebra is autogenous to the centrum, and the other haemal spines are fused to their centra.

The first pharyngobranchial has no teeth. Very small teeth are scattered on the second pharyngobranchial. The third and fourth pharyngobranchials have four or five small pointed teeth in a single row. It is not necessary to describe other osteological characters, because they are closely

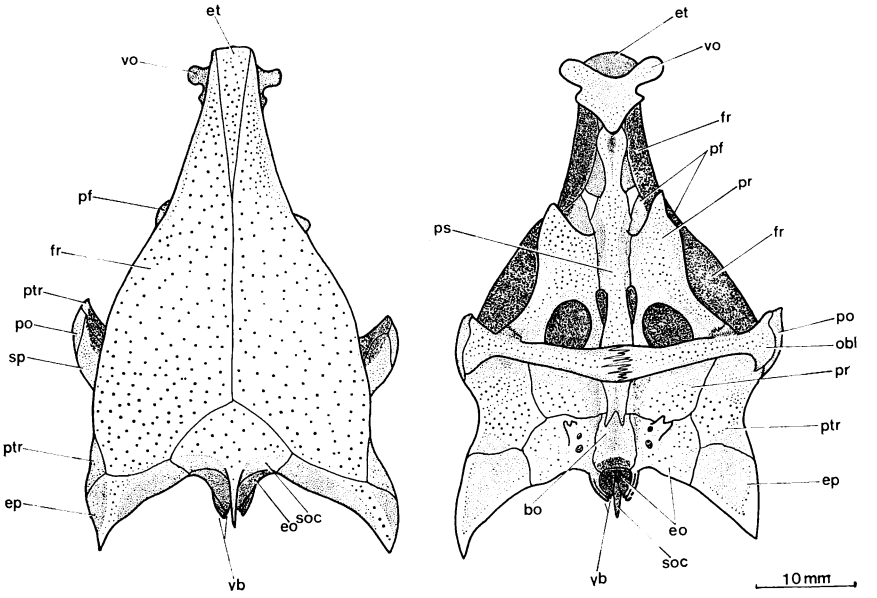

Fig. 9. Skull of *Kentrocapros rosapinto*: dorsal view (left); ventral view (right); obl, ossified Baudelot's ligament; vb, first and second abdominal vertebrae. Other abbreviations are as in Fig. 8. Drawn by K. Matsuura.

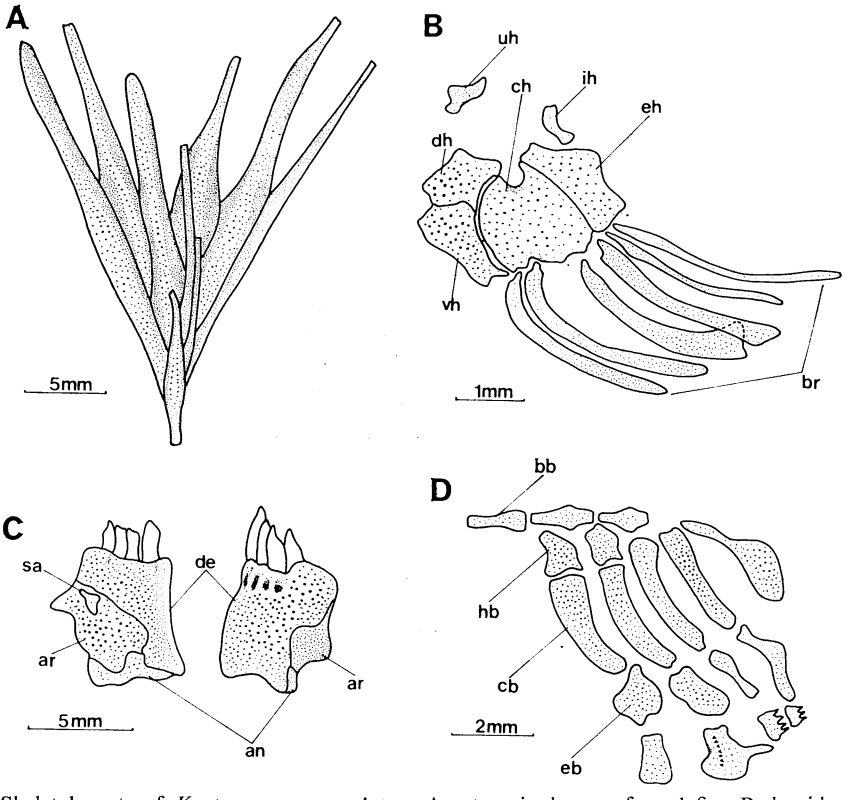

Fig. 10. Skeletal parts of *Kentrocapros rosapinto*: A, pterygiophores of anal fin; B, hyoid apparatus; C, lower jaw; D, gill arches; bb, basibranchials; cb, ceratobranchials; eb, epibranchials; hb, hypobranchials; sa, sesamoid articular; uh, urohyal. Other abbreviations are as in Fig. 8. Drawn by K. Matsuura.

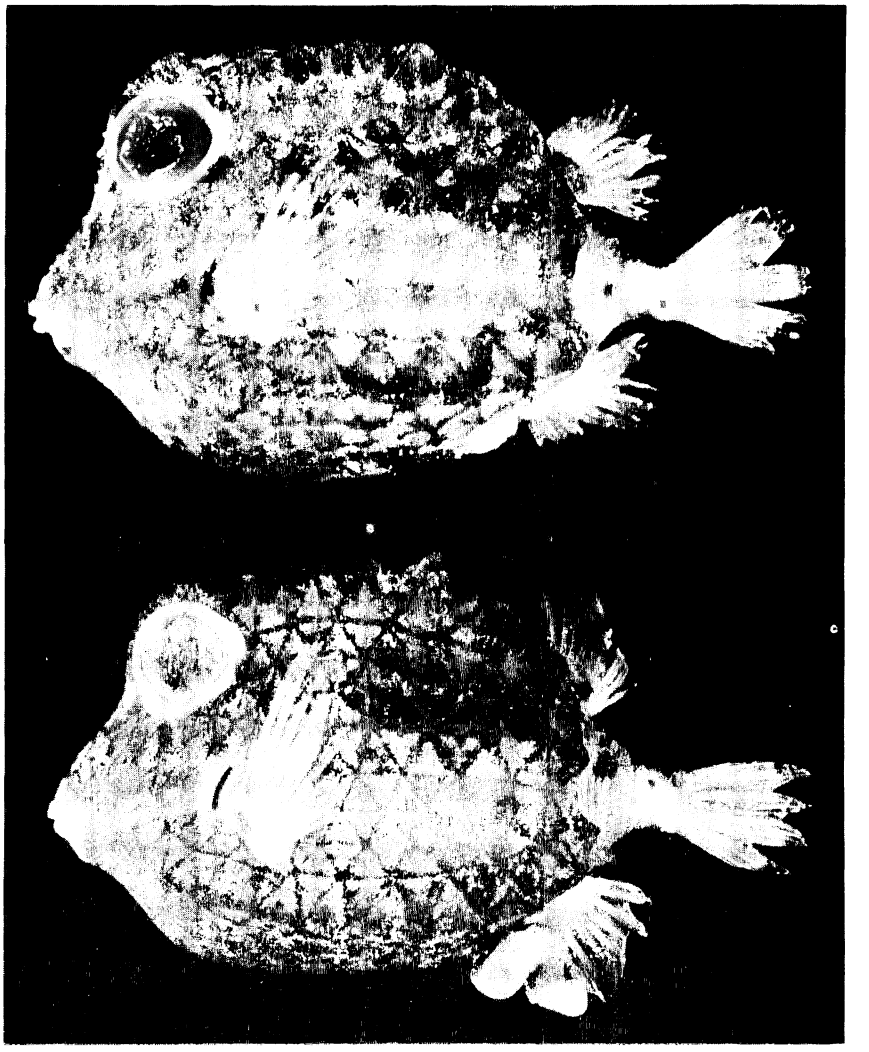

Fig. 11. Young specimens of *Kentrocapros aculeatus*: top, ZUMT 48690, 38.2 mm SL; bottom, ZUMT 52126, 37.8 mm SL. Note variation of spination on carapace. Photo by K. Matsuura.

similar to those of *K. aculeatus* which have been described and figured in detail by Tyler (1980).

Distribution. Mascarene Ridge, lying between the Seychelles and Mauritius in the southwestern Indian Ocean and Delagoa Bay in South Africa, inhabiting 125 ~ 206 m deep.

Discussion

Smith (1949) described the following characters as the diagnosis of the monotypic genus *Aracanostracion*: body rigid, carapace six-angled, with dorsolateral, lateral, and ventrolateral ridges on each side; carapace not closed as a unit behind dorsal and anal fins, but with articulating, though clearly separate, plates bridging the posterior lateral flanges of the carapace dorsally and ventrally behind dorsal and anal fins; numerous plates, both single and coalesced, on the caudal peduncle; no spines on any part of carapace; no dorsal or ventral body ridge.

However, these characters are also found in the type-species of *Kentrocapros*, *K. aculeatus*, except for the spines on the carapace. In *K. aculeatus* the dorsolateral and ventrolateral ridges have a large spine between the eye and the end of the carapace. Several small spines are also present on the lateral ridges. These spines

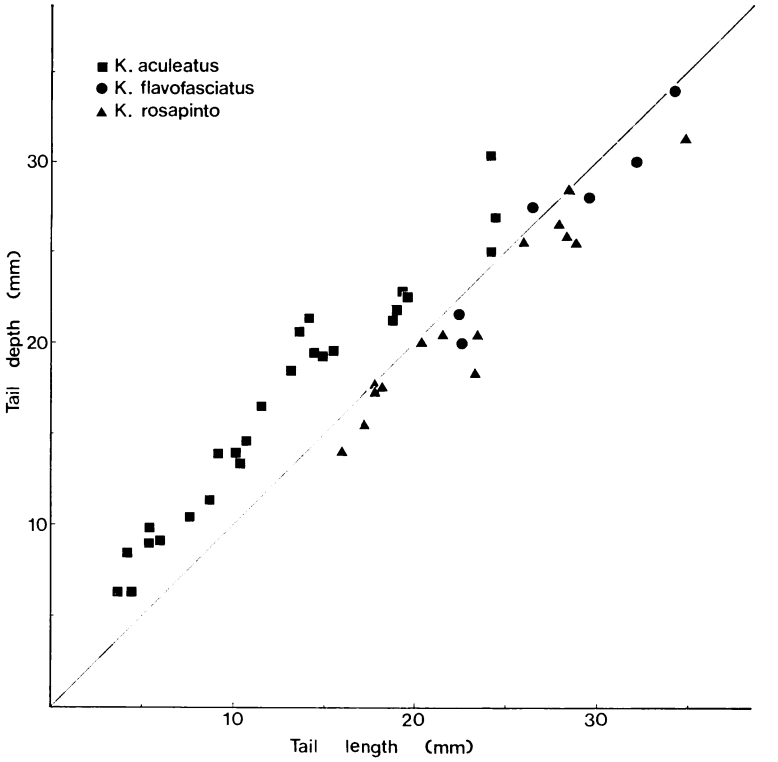

Fig. 12. Relationship of tail depth and tail length in the three species of *Kentrocapros*.

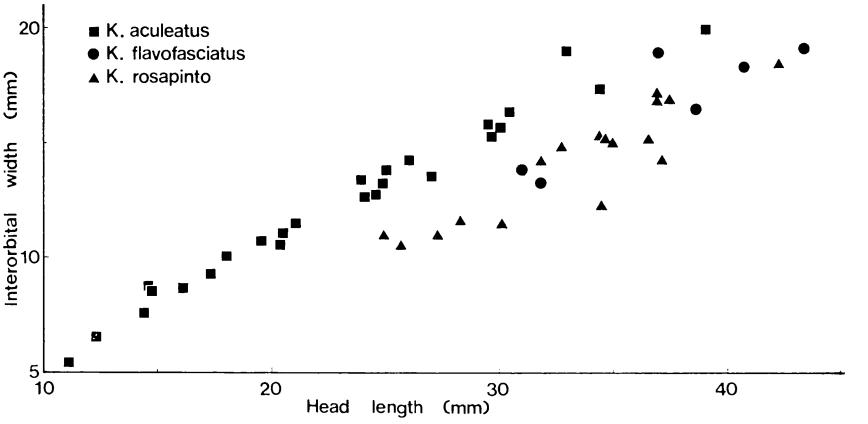

Fig. 13. Relationship of interorbital width and head length in the three species of *Kentrocapros*.

are always found in large and adult specimens. However, in young specimens they frequently are not developed (Fig. 11). This shows that the degree of spination on the carapace varies within the species. Thus, by the difference of the spination on the carapace *Aracanostracion* cannot be separated at generic level from *Kentrocapros*. In addition to these similarities, the osteological characters confirm that *Aracanostracion* is very closely related to *Kentrocapros*. Therefore, it is concluded that *Aracanostracion* is a junior synonym of *Kentrocapros*. By the

same reasons as stated for *K. rosapinto*, *Aracana flavofasciata* should be allocated to *Kentrocapros*.

The three species of *Kentrocapros* form a close assemblage, but they are distinguishable from one another by the combination of several external and osteological characters. *Kentrocapros aculeatus* is easily separated from the other two species by following characters: the spines on the carapace greatly developed at least in adults; the body deeper than that of the other two species (Fig. 7); the tail depth always larger than the tail length (Fig. 12); the interorbital space wide, its width 1.71～2.06, whereas 2.11～2.80 in *K. flavofasciatus* and *K. rosapinto* (Fig. 13).

Kentrocapros flavofasciatus is very closely similar to *K. rosapinto*. However, the former is separable from the latter by the difference in the position of the gill opening. In *K. flavofasciatus* the gill opening s placed below the posterior half of the eye, and the anterior end of the gill opening reaches below the center of the eye, whereas in *K. rosapinto* the gill opening is restricted below the posterior edge of the eye.

Key to the three species of *Kentrocapros*

1a. Carapace with spines at least in adults. Tail depth always greater than tail length. Interorbital space wide, its width 1.71～2.06 in head length. Body deep, its depth 1.50～2.25 in standard length..... .....*K. aculeatus*

1b. Carapace without spines. Tail depth almost always less than or equal to tail length. Interorbital space rather narrow, its width 2.11～2.80 in head length. Body not so deep, its depth 2.20～2.86 in standard length.....2

2a. Gill opening slightly oblique, located below posterior half of eye; anterior end of gill opening reaching below center of eye .....*K. flavofasciatus*

2b. Gill opening almost vertical or very slightly oblique, located below posterior edge of eye; anterior end of gill opening not reaching below center of eye.....*K. rosapinto*

Acknowledgments

We wish to thank Dr. James C. Tyler of the Division of Environmental Biology, National Science Foundation, for critically reading the manuscript. We are also indebted to Dr. Masao Katayama and Mr. Eiichi Fujii for providing the information about and a specimen of *K. flavofasciatus*. Mr. Kazuo Sakamoto of Hokkaido University kindly measured the specimens of *K. rosapinto*.

For the loan of specimens under their care, we express our thanks to following persons: Dr. Kunio Amaoka, Laboratory of Marine Zoology, Faculty of Fisheries, Hokkaido University; Dr. Osamu Okamura, Department of Biology, Faculty of Sciences, Kochi Universtiy; Dr. Pao-shan Cheng, Peking Institute of Zoology, Academia Sinica; Drs. Tokiharu Abe and Yoshiaki Tominaga, Department of Zoology, University Museum, University of Tokyo.

We extend our heartfelt gratitude to Mrs. Yoko Matsuura for translating the anonymous Chinese paper on boxfishes.

Literature cited

Anonymous. 1962. Order Tetraodontiformes. In: Fishes of the South China Sea. Scientific Publ. Agency, Peking, xxxvii+1184 pp., 860 figs. (pp. 1015～1111). (In Chinese).

Hubbs, C. L. and K. F. Lagler. 1958. Fishes of the Great Lakes region. Bull. Cranbrook Inst. Sci., 26: 1～213, figs. 1～289. pls. 1～44.

Kamohara, T. 1938. On the offshore bottom-fishes of Prov. Tosa, Shikoku, Japan. Maruzen Co., Tokyo, 86 pp., 43 figs.

Kamohara, T. 1961. Notes on the type specimens of fishes in my laboratory. Rep. Usa Mar. Biol. St., 8 (2): 1～9, pls. 1～7.

Matsubara, K. 1955. Fish morphology and hierarchy. Ishizaki-shoten, Tokyo, xi+v+1605+xiii pp., 536 figs., 135 pls.

Smith, J. L. B. 1949. A new aracanid fish from South Africa. Ann. Mag. Nat. Hist., (12) 2: 354～359, fig. 1.

Tyler, J. C. 1963. The apparent reduction in number of precaudal vertebrae in trunkfishes (Ostraciontoidea, Plectognathi). Acad. Nat. Sci. Phila., 115 (7): 153～190, figs. 1～13.

Tyler, J. C. 1980. Osteology, phylogeny, and higher classification of the fishes of the order Plectognathi (Tetraodontiformes). NOAA Tech. Rep., NMFS Circ., 434: i～xi+1～422, figs. 1～326.

(KM: Department of Zoology, National Science Museum (Nat. Hist.), 3-23-1 Hyakunin-cho, Shinjuku-ku, Tokyo 160, Japan; TY: Kochi Senior High School, 100 Kitabata-cho, Kochi 780, Japan)

イトマキフグ科の稀種キスジイトマキと *Kentrocapros rosapinto* の再検討

松浦啓一・山川　武

キスジイトマキと *Kentrocapros rosapinto* は，イトマキフグ科の稀種で，これまでに前者は四国周辺から2個体，後者は南アフリカから1個体が報告されているのみである．標本数が，きわめて少なかったこともあって，両種の分類学的位置は，不明確なままであった．

キスジイトマキの原記載において Kamohara (1938) は，本種を *Aracana* 属に置いた．その後，松原 (1955) は，体甲に棘を欠くことから，暫定的にイトマキフグ属に含めた．一方，Smith (1949) は，*Aracanostracion* 属を設け南アフリカ沖から *A. rosapinto* を記載した．

今回，日本近海，東シナ海，南シナ海から採集されたキスジイトマキ6個体，インド洋南西部から得られた *K. rosapinto* 17 個体の標本を調べ，イトマキフグと外部形態および骨学的特徴を比較検討することができた．その結果，両種ともイトマキフグに非常に近縁で，イトマキフグ属に含めるべきことが判明した．

キスジイトマキと *K. rosapinto* は，酷似するが，前者では鰓孔が眼の後半部下方に位置し，後者では眼の後縁下にあることで識別できる．

(松浦: 160　東京都新宿区百人町 3–23–1　国立科学博物館分館動物研究部; 山川: 780　高知市北端町 100 高知高等学校)