

A Taxonomic Revision of the Family Bagridae (Pisces, Siluriformes) from Korea

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The morphological characters of the family Bagridae living in the river systems flowing into the south and western seas of Korea were reviewed and a taxonomic revision was made. The family Bagridae was classified into two genera: *Pseudobagrus* and *Leiocassis*. Species corresponding to genus *Pseudobagrus* were *P. fulvidraco*, *P. koreanus* Uchida, sp. nov., *P. brevicorpus*, and genus *Leiocassis* were *L. nitidus*, *L. ussuriensis*, and *L. longirostris*. Among them *Pseudobagrus koreanus* Uchida, sp. nov. and *P. brevicorpus* are endemic species of Korea.

As the intergeneric taxonomic characters, the outstanding morphological differences between genera *Pseudobagrus* and *Leiocassis* were distinguished in following characters; the serrated structure of pectoral spine, the length of barbels, the number of pectoral fin rays, the structure of cranial lateral line system and the fused state of 3-4 hypurals.

Pelteobagrus fulvidraco and *Coreobagrus brevicorpus* recorded previously in Korea were classified as *Pseudobagrus fulvidraco* and *P. brevicorpus*, respectively. *Pelteobagrus nitidus* and *Pseudobagrus ussuriensis* are also changed to genus *Leiocassis*. The characters of interspecific classification belonging to genera *Pseudobagrus* and *Leiocassis* were the shape of caudal fin, the form of body, the length of body, the number of anal fin ray and the number of gill rakers. *Pseudobagrus* sp. was named into *Pseudobagrus koreanus* Uchida, sp. nov..

Introduction

Family Bagridae living in Korea has been classified into 5 genera and 7 species (Uchida, 1939). Mori(1952) described into 5 genera and 9 species, adding 2 species in the description of Uchida(1939). Chyung(1954, 1977) reported that Korean Bagrid fishes are 5 genera and 9 species according to the description of Uchida(1939) and Mori(1952); *Pelteobagrus fulvidraco*, *Pseudobagrus emerginatus*, *Pseudobagrus* sp., *Pseudobagrus vachelli*, *Coreobagrus brevicorpus*, *Leiocassis dumerilli*, *Liobagrus andersoni*, *Liobagrus mediadiposalis*. Choi(1980) and Jeon(1980) reported that family Bagridae of Korea was composed of 5 genera and 8 species adding *Pseudobagrus vachelli* to Uchida(1939). In that time they transferred *Pelteobagrus fulvidraco* to *Pseudobagrus fulvidraco*. Kim et al.(1981) transferred *Pseudobagrus fulvidraco* to *Pelteobagrus fulvidraco*, and *Pseudobagrus vachelli* into *Pelteobagrus nitidus*. Son(1987) classified *Liobagrus andersoni* and *L. mediadiposalis* into family Amblycipitidae. As a results, family Bagridae of Korea was

classified into 4 genera and 6 species; *Pelteobagrus fulvidraco*, *Pelteobagrus nitidus*, *Pseudobagrus* sp., *Pseudobagrus ussuriensis*, *Coreobagrus brevicorpus* and *Leiocassis longirostris*.

In the taxonomic studies of family Bagridae, Uchida(1939), Jayaram(1968) and Kim *et al.* (1981) thought the shape of the caudal fin and the form of body, as important taxonomic characters between genera, while Berg(1949) considered the length of barbels and the structure of pectoral spine, and Nichols(1943) emphasized the size of eye and the length of adipose fin. But Taylor(1969) reported that the caudal fin of Bagrid fishes had forms of various type according to the each species, Miyadi *et al.*(1983) also emphasized that the shape of caudal fin is unreasonable key in the intergeneric criterion of family Bagridae. Lee and Kim(1988) reported that *Pelteobagrus fulvidraco* and *P. nitidus* of family Bagridae recorded previously were classified into *Pseudobagrus fulvidraco* and *Leiocassis nitidus*, respectively, based on the osteological and exomorphological characters except the shape of caudal fin and used the standard length as the standard of the intergeneric classification, previously.

Lee(1988) reported that family Bagridae from Korea was divided into 2 genera and 6 species -*Pseudobagrus fulvidraco*, *Pseudobagrus* sp., *Pseudobagrus brevicorpus* *Leiocassis nitidus*, *L. ussuriensis* and *L. longirostris*- based on the osteological and exomorphological characters.

Our aim in this paper is to review the five species and to name *Pseudobagrus* sp. and to provide a key to genera and species of family Bagridae from Korea, based on the morphological characters.

Materials and Method

All specimens examined were collected in southwestern rivers and reservoirs of Korea from May 1981 to December 1987(Fig. 1). A total of 323 specimens were examined and 110 specimens among them were cleared using clear and staining method(Taylor, 1967; Dingerkus and Uhler, 1977).

All scientific name of specimens, standard length, individual number, localities, rivers and date are represented in the description of each species. The 1/20 mm dial caliper was used for measurement of specimens as shown in Fig. 2. Meristic counts through the cleared specimens were made for the number of fin ray, of gill raker, of branchiostegal ray, of vertebrae, of ribs and of teeth etc..

Genus *Pseudobagrus* Bleeker, 1860

Pseudobagrus Bleeker, Act. Soc. Indo-Neerl., 8, 1860, p.60 (type: *Bagrus surantiacus* T.& S.); Atlas Ichth., II, 1862, p.9; Tijdscher. Dierk., I (1962), 1863, p.95(type: *P. aurantiacus*) -Günther, Cat. of the Fishes in the British Museum, V, p. 84, 1864(China, Japan and Cochinchina)-Oshima, Ann. Carneg. Mus., XII, p. 178, 1919(Formosa)-Nichols & Po-pe, Bull. Amer. Mus. Nat. Hist., LIV, p. 331, 1927 (Hainan Island).

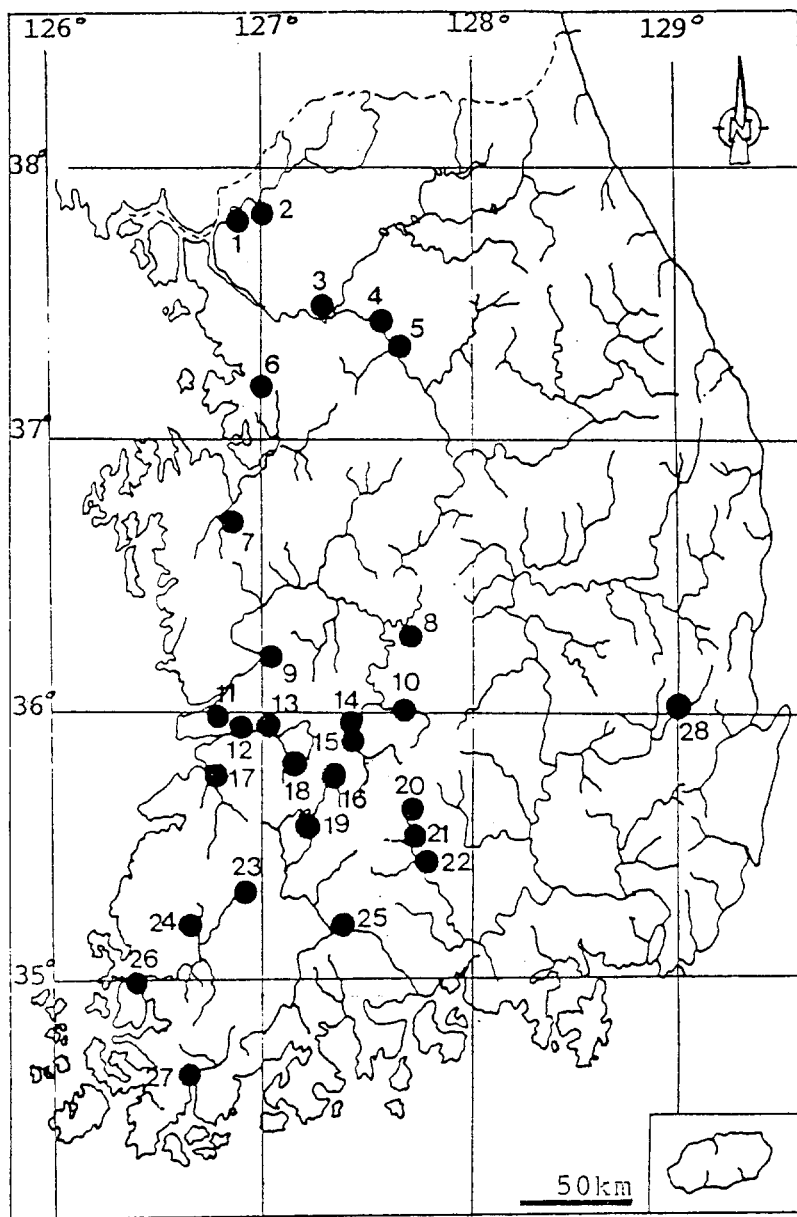


Fig. 1. Map showing the collection site of the family Bagridae from Korea.

1. Munsan; 2. Papyōng; 3. Wabu; 4. Yangpōng; 5. Yōju; 6. Kunpo; 7. Yesan; 8. Hoebuk;
9. Kanggyōng; 10. Muju; 11. Misōng; 12. Mokchōn; 13. Samrye; 14. Sangjōn; 15. Chinan;
16. Maryōng; 17. Paeksan; 18. Palbok; 19. Hyangkyo; 20. Sudong; 21. Chigok; 22.
- Sangchong; 23. Tamyang; 24. Songjōng; 25. Kurye; 26. Mongtan; 27. Kangjin; 28. Imgo.

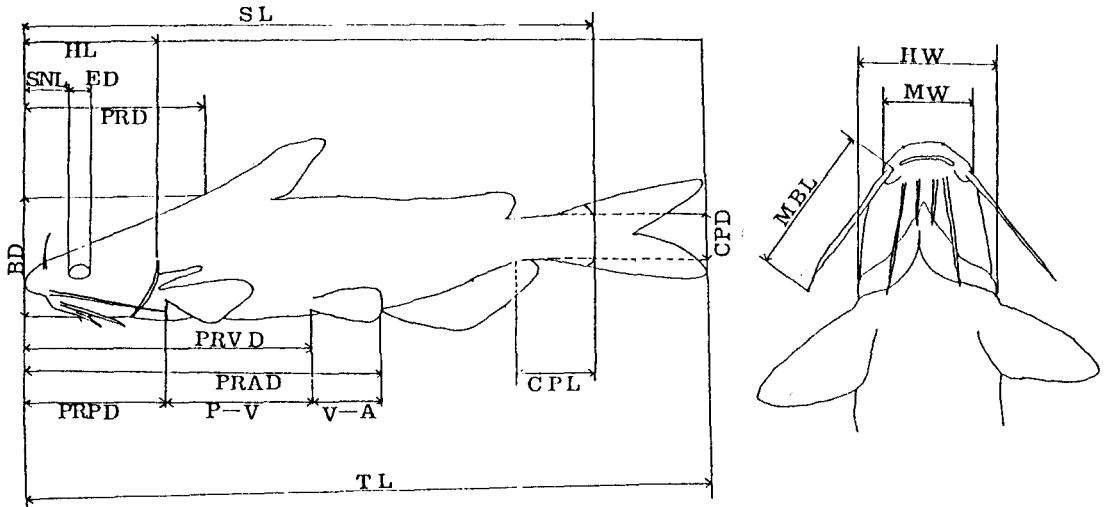


Fig. 2. Diagram showing the method of measuring body of the bagrid fish.

TL, Total length; SL, Standard length; ED, Eye diameter; SNL, Snout length; BD, Body depth; CPL, Caudal peduncle length; CPD, Caudal peduncle depth; HW, Head width; MW, Mouth width; MBL, Mandibular barbel length; PRD, Predorsal distance; PRPD, Prepectoral distance; PRAD, Preanal distance; PRVD, Preventral distance; P-V, Distance between pectoral and ventral; V-A, Distance between ventral and anal.

Pelteobagrus Bleeker, Ned.Tijd.Dierk., II, 1865, p.9 (type: *P.valvarius*=*fulvidraco*)-Uchida, Bull. Fisheries Exp. Sta. Government-General of Tyosen, 6, 1939-Jayaram, Museum Zoologium Bogoriense, Bogor. Indonesia, 27, part 2-3, 1968, pp. 287-386-Kim, Lee and Choo, Ann. Rep. Biol. Res. 2, 1981(Korea).

Fulvidraco Jordan and Fowler, Proc. U.S. Nat. Mus., XXVI, 1903, p. 904 (*ransonneti*+*fulvidraco*).
Horabagrus Jayaram, Bull. Nat. Inst. Sci. India, No.7, 1955, p.261(type: *Pseudobagrus brachysoma* Gthr., Orthotypic).

Dorsal fin short, with two spine(first very small but second garge and strong). Adipose fin short. The end of rostrum was rounded and broaded, mouth placed in end of rostrum, four pair barbels thick and long, maxillary barbels very long, usually reaching the pectoral origin(Fig.3). Outside and inside of pectoral spine all serrated, outsid small but inside large, and pectoral fin with most 7 rays(occasionally 6), 3-4 hypurals fused(Lee, 1988), the sensory pores directly opened in the cranial lateral line system(Fig.4), anal fin with 15-25 rays, caudal fin truncated or deeply forked. Anterior nostrils elongated slightly as a tubule, and it's end see some or not in ventral views.

Pseudobagrus fulvidraco (Richardson), 1845

Korean name : Dong-ja-Gae (Fig. 5)

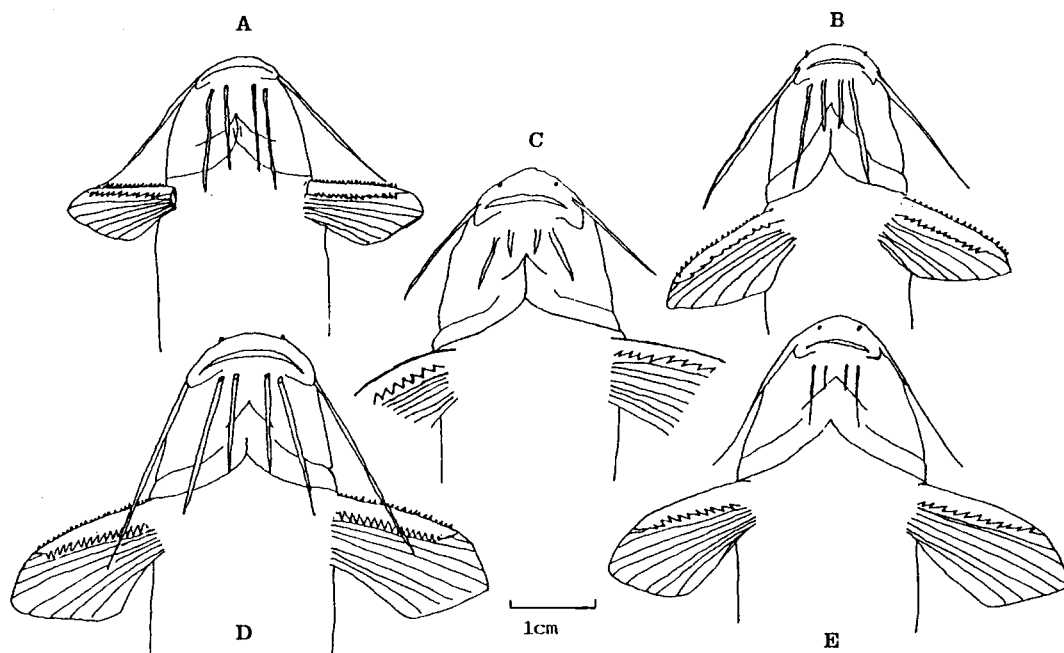


Fig. 3. Ventral views of head part and pectoral portion of bagrid fishes.

A. *P. brevicorpus*; B. *Pseudobagrus koreanus*; C. *L. ussuriensis*; D. *P. fulvidraco*; E. *L. nitidus*.

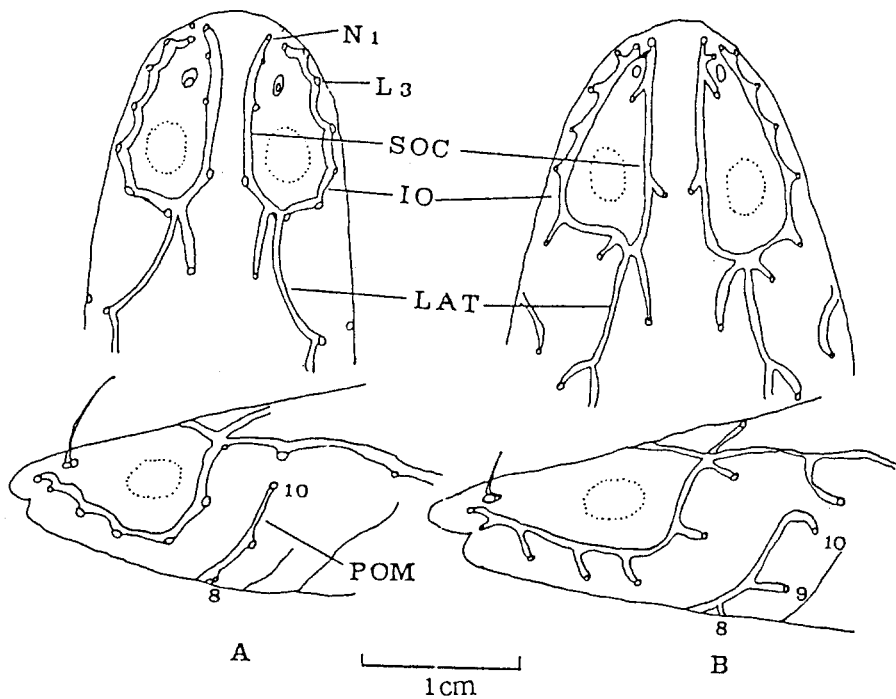


Fig. 4. Lateral line system of head part

A. genus *Pseudobagrus*

B. genus *Leiocassis*



Fig. 5. *Pseudobagrus fulvidraco*, SL. 130.3 mm

- Pimelodus fulvidraco* Richardson, REP. XV, Meet. Brit. Assoc., 1845, p. 286(Canton).
- Silurus calvarius* Basilewsky, Mem. Soc. Nat. Moscou, X, 1855, p. 241, table IX, figure 1(Gulf of Chihli basin).
- Bagrus calvarius* Dybovskii, Verh. Zool. Bot. Ges. Wein., XIX, p. 950, 1869 (River Onon); Izvestiya Sibirskogo ostelela Russkogo geo grafiches kogoobshchestva, VIII, 1877, No.1-2, p. 9(Lake Baitsa near the Soldatskaya Stanita in the Onon valley ; middle and lower Amur).
- Macrones (Pseudobagrus) fulvidraco* Günther, Ann. Mag. Nat. Hist., (4), XII, p. 244, 1873(Shanghai)-Kreyenberg & Pappenhein, S.B.Gee. Naturf. Fr. Berl., p. 107, 1908-Berg, Zool. Jb. Syst. Abt., XXXII, p.477, 1912 (River Amur).
- Pseudobagrus fulvidraco* Günther, Catalogue of the fishes in the British Museum, V, p. 85, 1864(China)-Sauvage and Thiersant, Ann.Sci.Nat. (6) I , p. 6, 1874(Sanghai)-Karoll, Termeszetr. Fuz., V, p. 178, 1882(Canton)-Günther, Ann. Mag. Nat. Hist.(6) IV, p. 219, 1889(Ichang)-Popta, Zool. Anz., XXXII, p. 250, 1908(Kaiser Canal)-Koller, Ann. Naturh.(Mus.)Hofmus. Wie., XLI, p. 27, 1927(Hong Kong, River Wutchi)-Berg, Ryby presnykh vod SSSR. II, p. 589, Strelkov, loc.cit., 1933(life history); Acad. Sci. U.S.S. R. Zool. Inst., 1949, p. 477, Fig. 65p.-Nichols, The freshwater fishes of China, IX, p. 40, 1943(An-hwei, Fu-Kein, Thugting Hu)-Berg, Academy of Sci. of the U.S.S.R. Zool. Ins., Vol. II, p. 477, Fig. 659, 1949.
- Macrones fulvidraco* Herzenstein & Warpachowski, Trud. So. Nat., XIII, p. 1887 (Rivers Darja, Lefu, Onon, Usuri)-Tchang & Shie, Sci. Quart. Nat. Univ. Peking, IV, No.3, p. 343, 1934 (Tang-Shan).
- Fulvidraco fulvidraco* Jordan & Seale, Proc. U.S. Nat. Mus., XXIX, p. 519, 1905 (Shanghai)-Jordan & Metz, Mam. Carneg. Mus., VI, p. 12, 1913 (Suigen)-Tanaka, Figures and descriptions of fishes of Japan, p. 659, pl.Cliii, 1927 (River Rakuto).
- Pelteobagrus fulvidraco* Rendhal, Ark. Zool., XXA, no.1, p. 164, 1928(Anhui. Kiang-su, Nanking, Soochow)-Wu, Bull. Mus. Hist. Nat. Paris, (2) III, p. 438, 1931(Tong-lu)-Kimura, J. Shanghai Sci. Inst., III, p. 105, 1935(Tsungming Island)-Here & Lin, Bull. Cheking Fish. Exp. St. III, p. 23, 1936(River Tsientang)-Mori, Hygo Univ. of Agr., Vol. 1, No.3(Biological Ser. No.1), p. 6, 1952-Jayaram, Mus. Zool. Bogoriense Bogor,

Indonesia, V.27, part 2-3, pp. 287-386, 1968-Uchida, Bull. Fish. Exp. Sta. Gov. Gen. of Tyosen, No. 6, p.19, 1939, pl. 2-Kim, Lee & Choo, Ann. Rep. of Biological Res., 1, Ist. of Bio. Rea. Jeonbuk Nat. Univ., p. 3, 1981-Jeon, Sang Myung Women's Univ., 14, pp. 83-115, 1984.

Pseudobagrus (Pelteobagrus) fulvidraco Miyadi, Kawanabe & Mizuno, Hoikusha pub. Co., p. 261, pl. 33, 1983.

Description : D. II, 6-7; A. 21-25; P. I, 7; Vert. 39-41; GR. 13-17; Rbs. 10-11. The rate of head length to the standard length, 28.8%(24.0-34.0%); body depth, 25.2(19.6-31.7); caudal peduncle length, 12.9(11.0-15.8); caudal peduncle depth, 9.6(8.1-12.3); head width, 22.3(20.0-25.7); mouth width, 14.3(12.2-16.5); predorsal distance, 39.5(35.3-47.0); prepectoral distance, 26.3(22.3-31.4); preventral distance, 53.7(49.0-60.0); preanal distance, 66.4(60.3-70.0); distance between pectoral and ventral fin, 29.8(26.7-34.8); distance between ventral and anal fin, 13.9(10.1-16.6); nasal barbels length, 14.3(10.4-20.7); maxillary barbels length, 31.3(17.2-39.8); outer mandibular barbels length, 23.7(18.2-26.3); inner mandibular barbels length, 15.0(10.9-18.3). In the rate to the head length, snout length, 33.8%(29.1-37.5%); eye diameter, 17.1(13.9-21.2); interorbital width, 41.9(35.4-51.4).

Standard length about 100-130 mm, body depth higher comparatively, head flat and the above straight, caudal fin deeply forked, maxillary barbels very long and reaching the pectoral origin or greatly passed over. The both side of pectoral spine finely serrated and it's very strong than dorsal one. Outer and inner mandibular barbels passed over the branchiostegal membrane. Mouth large and eye also, second dorsal spine very strong but less than pectoral spine. Serrations of pectoral spine were developed well from both side of it(Fig.3). Main background color yellowish, longitudinal regular dark band interrupted in some places, fin rays usually more or less darkish, lower side of the body show the bright yellow.

Distribution ; Imjin river(Munsan, Papyŭng, Hoengsŏng, Chŏngok), Han river(Haengju, Paltang, Yangju, Chŏngpyŏng, Hwachon, Yangpyŏng, Yŏju, Wŏnju, Chunchŏn), Ansŏng stream(Asan, Pyongtaek, Ansŏng), Sapkyo stream(Yesan), Wangsŏng reservoir, Kŭm river(Kanggyŏng, Nonsan, Puyŏ, Kongju, Poŭn, Daedŏk, Chŏngwon, Muju, Jinan), Manggyŏng river(Iri, Okku, Samnye, Chŏnju, Kunsan), Dongjin river(Puan, Paeksan, Chŏngup), Yŏngsan river(Muan, Hampyŏng, Changsŏng), Tamjin river(Kangjin), Sŏmjŏn river(Namwŏn, Imshil, Unam), Daedong river(Sŏngchŏn, Pyŏngyang).

Remark : According to the taxonomic method of Uchida(1939), Jayaram(1968) and Kim *et al.* (1981), *Pseudobagrus fulvidraco* living in Korea has classified into genus *Pelteobagrus* based on the shape of the caudal fin mainly, owing to the results many workers have described it as *Pelteobagrus fulvidraco* until now. Berg(1949), however, classified into genus *Pseudobagrus* based on the structure of pectoral spine and Nichols(1943) also, based on the size of eye and the length of adipose fin. Miyadi *et al.*(1983), however, reported that the shape of the caudal fin in family Bagridae is unreasonable as taxonomic criteria of intergeneric classification. Taylor (1969) also stated that the variation of caudal fin in catfishes are very severe following

species. Zu(1982) did not considered importantly the shape of caudal fin as intergeneric taxonomic characters. Lee and Kim(1988) reported that *Pelteobagrus fulvidraco* of family Bagridae recorded previously has to classify into *Pseudobagrus fulvidraco*, after Lee(1988) described *Pelteobagrus fulvidraco* into *Pseudobagrus fulvidraco* based on the osteological characters. In this studies, authors considered that the opinions of Berg(1949), Miyadi *et al.* (1983), Lee and Kim(1988) and Lee(1988) were finely reasonable rather than method of Uchida(1939) and Jayaram(1968) based on the shape of caudal fin and the form of body.

In conclusion family Bagridae from Korea was classified into genera *Pseudobagrus* and *Leiocassis*, and *Pelteobagrus fulvidraco* was transfered to genus *Pseudobagrus*.

Materials examined: standard length(SL) 89.7 mm, 1 individual, Shintaein-ûp, Dongjin river, Jul. 5, 1983; SL, 48.8-73.7 mm, 4 indiv., Kanggyông-ûp, Kûm river, Jul. 10, 1983(clearing and staining method, C&S: 4 indiv. ; SL., 154.2 mm, 1 indi., Gunpo-ûp, Wangsong reservoir, Apr. 21, 1984); SL., 50.3-119.6 mm, 7 indiv., Yangpyông-ûp, Namhan R., Jun. 20, 1984(C&S: 5 indiv.); SL., 45.1-92.7 mm, 5 indiv., Kanggyông-ûp, Kûm R., Jul. 1, 1984(C&S: 5 indiv.); SL., 64.1-103.0 mm, 2 indiv., Samnye-ûp, Manggyông R., Jul. 28, 1984; SL., 78.3-154.2 mm, 7 indiv., Misûng-ûp, Okku Re., Aug.10, 1984; SL., 82.0-138.3 mm, 3 indiv., Papyông-myôn, Imjin R., Aug. 11, 1984; SL., 74.4-144.5 mm, 12 indiv., Yangpyông-ûp, Namhan R., Aug. 12, 1984; SL., 58.4-118.8 mm, 21 indiv., Kanggyông-ûp Kûm R., Sep. 22, 1985; SL., 108.0-132.6 mm, 3 indiv., Papyông-myôn, Imjin R., Apr. 13, 1986; SL., 62.3 mm, 1 indiv., Paeksan-myôn, Dongjin R., May 20, 1986; SL., 90.7-130.0mm, 2 indiv., Sanmae-myon, Somjin R., Jul. 31, 1986; SL., 112.1-127.0 mm, 2 indiv., Kangjin-ûp, Tamjin R., Aug. 3, 1986; SL., 93.1-95.7 mm, 2 indiv., Wabu-ûp, Han R., Aug. 12, 1986; SL., 101.6 mm, 1 indiv., Hoebuk-myôn, Kûm R., May 21, 1987; SL., 115.2 mm, 1 indiv., Subuk-myôn, Yôngsan R., Jun. 20, 1987; SL., 58.2-79.3 mm, 3 indiv., Inju-myôn, Sapkyo R., Aug. 5, 1987; SL., 86.8 mm, 1 indiv., Muan-myôn, Yôngsan R., Aug. 20, 1987; SL., 22.3-39.0 mm, 11 indiv., Miryong Re., Oct. 27, 1987(C&S: 11 indiv.); SL., 80.8-147.3 mm, 20 indiv., Yangpyông-ûp, Namhan R., dec. 20, 1987; SL., 58.9-141.1 mm, 10 indiv., Munsan-ûp, Imjin R., Dec. 20, 1987(C&S: 5 indiv.).

Pseudobagrus koreanus Uchida, sp. nov.

Korean name: Noon-Dong-Ja-Gae(Fig. 6)

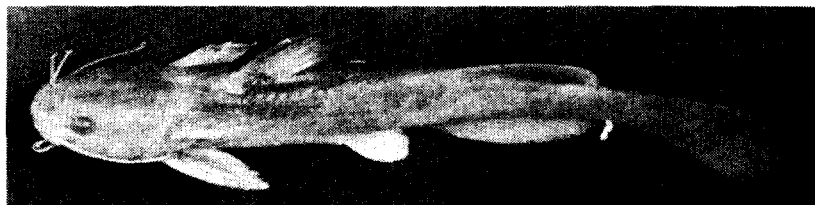


Fig. 6. *Pseudobagrus koreanus* SL. 144.5 mm

Pseudobagrus sp. Uchida, Bull. Fisheries Exp. Sta. Gov. of Tyosen, No.6, p.31, pl.4. 1939(type locality, Sômjin River)-Mori, Hyogo Univ. of Agr., 1, No. 3, p.61, 1952-Chyung, Dpet. of Commerce and Industry Republic of Korea, p.213, 1954; Ilji-sa, p.252, 1977-Kim, Lee & Choo, Ann. Rep. Biol. Res., vol. 2, 1981(Korea)-Choi, Jeon and Kim, Korean Inst. of Freshwater Biol., No. 6, p.26, 1982-Jeon, Sang Myung Women's Univ., 14, pp. 92, 97. pl.5, 1984.

Holotype: BKNU(Department of Biology, Kunsan National University) 1111, a male, 144.5 mm, SL, Namwôn-shi, Sômjin river, August 12, 1988.

Paratype: BKNU 1112-1128, 17 males, 98.2-145.0 mm SL, Namwôn-shi, Sômjin river, Aug. 12, 1988.

Cleared specimens were made of specimens collected in same date and site, and not holotype and paratype.

Diagnosis: Dorsal ray, II, 7; Pectoral rays, I, 6-7; lower body depth, slender body shape, lower caudal peduncle depth and long caudal peduncle length, mixillary barbels long, reaching to the pectoral origin but not passed over. caudal fin truncated. Anterior and posterior part of pectoral spine serrated.

Description: Dorsal rays II, 7(the first spine very small); anal rays 19-24; pectoral rays I, 6-7(most 7 rays); vertebrae 40-47(except weberian apparatus); gill rakers 8-14; ribs 10-11.

The rate of body measurement of holotype and paratype are as table 1.

Body shape relatively slender, tip of rostrum broadened and flated, mouth placed at anterior of rostrum. First spine of dorsal fin very small, second spine long and strong, pectoral spine serrated both side(outside and inside), outside of pectoral spine serrated with 18-29, inside with 10-18(Fig. 3). Mouth part has four pair barbels, maxillary barbels reaching at the pectoral origin but not passed over. Outer mandibular barbels reaching at the branchiostegal membrane(Fig. 3). The end of ventral fin did not reached to the anal origin, the end of caudal fin truncated, and middle of caudal fin some concaved, the sensory pores directly opened in the cranial lateral line system, 3-4 hypurals fused(Lee, 1988).

When specimens lived, main background color yellowish with irregular darkish patterns in both side of body. When they fixed in formalin solution, they show the darkbrown in body side, lower side of body bright.

Distribution: Imjin river(Munsan, Papyông, Chôrwon), Han river(Yangpyông, Yeju, Wôntong, Chungju, Hoengsông, Hongchôn), Kûm river(Chinan, Nonsan, Muju, Changsu, Kanggyông, Puyô, Okchôn, Yôngdong), Manggyông river(Chônju, Pongdong), Sômjin river(Kurye, Imshil, Koksông, Unam, Chinan), Samhwa Stream(Haenamdo).

Remark: Uchida(1939) reported that *Pseudobagrus* sp. was clearly distinguished from other species in characteristics of long barbels, the structure of the serrated pectoral spine and the number of anal fin rays, although it resembled *Pseudobagrus emerginatus* Sowerby(at present *Leiocassis ussuriensis*) and *Pseudobagrus vachelli*(at present *Leiocassis nitidus*), and uchida(1939) stressed to recheck genus *Pseudobagrus* of family Bagridae from Korea. Kim *et al.*(1981) and

Table 1. Proportional measurements of *Pseudobagrus koreanus* sp. nov.. Mean and standard deviation followed by range in parenthesis

Characters	Holotype	Paratype
sex	a male	17 males
Total length(mm)	168.7	114.7-170.5
Standard length(mm)	144.5	98.2-145.0
In % of standard length		
Head length	20.83	21.91±1.20(18.9-23.9)
Body depth	12.24	15.21±1.38(12.2-17.9)
Caudal peduncle length	6.85	7.67±0.44(6.9-8.3)
Caudal peduncle length	20.28	19.45±1.00(17.5-20.6)
Snout length	6.57	6.73±1.57(6.5-7.5)
Head width	15.36	15.69±2.53(15.3-17.7)
Mouth width	10.73	10.79±0.68(9.9-12.2)
Interorbital width	6.99	7.42±1.78(7.0-8.5)
Predorsal distance	29.41	30.29±1.66(28.1-33.9)
Prepectoral distance	19.52	19.12±0.95(17.7-20.9)
Preventral distance	45.95	46.74±1.61(44.4-50.5)
Preanal distance	56.82	57.83±1.58(56.3-62.3)
P-V distance	27.75	29.24±1.26(27.7-31.4)
V-A distance	10.93	11.36±0.67(10.4-12.2)
Nasal barbel length	8.72	9.16±0.89(7.7-11.0)
Maxillary barbel length	17.92	17.58±1.39(14.5-20.1)
Outer mandibular barbel length	13.15	12.71±1.15(10.5-14.3)
Inner mandibular barbel length	7.68	7.42±0.71(6.3-8.6)
In % of head length		
Body depth	58.80	69.49±5.55(57.9-76.3)
Snout length	31.56	32.42±2.20(29.7-39.7)
Eye diameter	16.28	15.42±1.96(13.1±19.4)
Interorbital width	33.55	35.86±2.07(33.5-42.3)
Head width	73.75	74.42±3.58(69.9-85.9)
Mouth width	51.50	49.27±2.93(45.2-55.6)
Nasal barbel length	41.86	40.75±4.19(33.7-51.1)
Maxillary barbel length	86.04	79.74±6.45(69.8-93.2)
Outer mandibular barbel length	63.12	57.94±3.94(54.8-63.2)
Inner mandibular barbel length	36.88	51.96±7.64(29.3-38.0)

Lee(1988) emphasised that *Pseudobagrus* sp. from Korea has to name as a distinct species. Authors describe *Pseudobagrus* sp. as *Pseudobagrus koreanus* Uchida, sp. nov.

Etymology: The specific name, *koreanus*, made selection from the geographical designation of Korea, because this species was distributed widely in Korea although at first this was collected in Sômjin river of Korea by Keitaro Uchida, Japanese ichthyologist, in 1939, and this is endemic species of Korea.

***Pseudobagrus brevicorpus* (Mori), 1936**

Korea name: Kkochi-dong-ja-gae(Fig. 7)



Fig. 7. *Pseudobagrus brevicorpus*, SL. 84.7 mm

Coreobagrus brevicorpus Mori, Zool. Mag., XLVIII, p. 672, 1936(Type locality, R. Rakuto at Ei-
-yo, Korea)-Uchida, Bull. Fisheries Exp. Sta. Gov. Gen. of Tyosen, No.6, p. 39, pl. 5,
1939-Mori, Memoirs of the Hyogo Univ. of Agr., 1, No.3, p. 61, 1952-Chyung, Dept. of
Commerce and industry Republic of Korea, p. 164, 1954-Jayaram, Mus. Zool. Bogo.
Bogor, Indonesia, 27, part 2-3, p. 344, 1968-Chyung, Il-ji-sa, p. 227, 1977-Kim, Lee &
Choo, Ann. Rep. Biol. Res., Vol. 2, 1981-Jeon, Sang Myung Women's Univ., Vol. 14,
1984.

Description : Dorsal rays, II, 7(the first spine is very small); anal rays, 15-20; pectoral fin, I,
6-7(mostly 7); gill rakers, 10-13; vertebrae, 35-39(except weberian apparatus); ribs, 7-9.

The rate of head length to the standard length, 27.9%(22.1-30.7%); body depth, 24.5(17.3-29.
6); caudal peduncle length, 14.7(10.1-17.5); caudal peduncle depth, 11.1(8.1-12.6); head width,
23.0(20.0-25.4); mouth width, 15.0(12.4-20.3); predorsal distance, 37.8(33.8-43.0); prepectoral
distance, 24.9(20.1-27.9); preventral distance, 53.4(45.3-57.9); preanal distance, 65.2(61.3-70.7);
distance between pectoral and ventral fin, 32.0(26.7-36.5); distance between ventral and anal
fin, 12.4(10.0-16.9); length of nasal barbels, 13.7(10.1-20.90); length of maxillary barbels, 25.2(17.
9-31.5); length of outer mandibular barbels, 19.6(14.4-26.4); length of inner mandibular barbels,
14.2(10.7-18.6).

The rate of snout length to the head length, 33.2%(30.1-42.1%); eye diameter, 19.8(16.6-24.2);
width of interorbital, 39.8(30.8-45.0).

This species differ from *P. koreanus* sp. nov. in the length of body, longer barbels, shorter
caudal peduncle length, higher caudal peduncle depth and the number of anal fin rays, although
P. brevicorpus is much resemble *P. koreanus* sp. nov. in form. Standard length shorter, tip of
rostrum broadened and rounded, mouth placed at tip of rostrum, four pair barbels long and thick,
maxillary barbels reached enoughly at the origin of pectoral or passed over it. Outer and inner
mandibular barbels also over the branchiostegal membrane(Fig. 3). Pectoral spine serrated in
both side(anterior and posterior), serration structure of anterior border is small but posterior
large. The shape of caudal fin is slightly round and truncated, and the middle of caudal fin some
concaved. The sensory pores direct opened in the cranial lateral line system, 3-4 hypurals
fused(Fig. 4) (Lee, 1988).

When fixed in formalin the side of body show dark brownness, the regular white patterns
appear above opecular and behind fin and adipose fin, the lower side of body is bright.

Distribution; Naktong river(Yôngchôn, Sôngju, Miryang, Taegu, Ponghwa, Changnyông, Hamyang).

Remark; Mori(1936) reported that this species was named as new genus and species, *Coreobagrus brevicorpus*, because *C. brevicorpus* differ from other species in the characters of the small number of anal fin ray, the short standard length and large eye. Uchida(1939) described that *C. brevicorpus* has the serrated structure anterior and posterior pectoral spine later then. Okada and Kubota(1957) reported that genus *Coreobagrus* also is living in Japan. Jayaram(1968) named as *C. okada* from japan based on the body depth. Miyadi *et al.*(1983) classified genus *Coreobagrus* into subgenus *Coreobagrus* of genus *Pseudobagrus*. According to the taxonomic method of Lee(1988) and Berg(1949), authors transfered *Coreobagrus brevicorpus* to *Pseudobagrus brevicorpus*, because this species was in accord with the characters of genus *Pseudobagrus* in the characteristics of the structure of the pectoral spine, the length of barbels, the structure of cranial lateral line system and the fused state of 3-4 hypurals(Lee, 1988).

Materials examined; SL., 77.9 mm, 1 indiv., Saengcho-myôn, Naktong R., Jun. 24, 1985; SL., 45.7-84.9 mm, 10 indiv., Imgo-myôn, Naktong R., Jun. 3, 1984; SL., 47.5-73.4 mm, 5 indiv., Sodong-myôn, Naktong R., Jun. 9, 1985(C&S: 3 indiv.); S., 45.6-49.2 mm, 5 indiv., Yurim-myôn, Naktong R., Jun. 30, 1985; SL., 46.0-62.3 mm, 10 indiv., Chigok-myôn, Naktong R., May 27, 1985(C&S: 3 indiv.); SL., 50.8-74.0 mm, 5 indiv., Sudong-myôn, Naktong R., Jul. 20, 1985(C&S: 4 indiv.); SL., 72.3 mm, 1 indiv., Imgo-myôn, Naktong R., Jun. 21, 1986; SL., 63.3-79.3 mm, 2 indiv., Imgo-myôn, Naktong R., Aug. 13, 1986; SL., 46.9 mm, 1 indiv., Imgo-myôn, Naktong R., Jun. 6, 1987; SL., 38.2-105.4 mm, 15 I ndiv., Sudong-myôn, Naktong R., Oct. 3, 1987(C&S; 7 indiv.).

Genus *Leiocassis* Bleeker, 1858

Leiocassis Bleeker, Ichth. Arch. Ind. Prodrom., 1, 1858, pp.59, 139(type: *Bagrus poecilopterus* Cuvier & Valenciennes, by original description)-Nichols, American Mus. Natural Hist., IX, 1943, p.42.

Liocassis Günther, Cat. Fish., V, 1864, p.86-Regan, Ann. Mag. Nat. Hist., (8), X I, 1913, pp.547-554-Berg, Acad. Sci. USSR. Zool. Inst., II, 1949, p.481.

Rhinobagrus Bleeker, Ned. Tij. Dierk., II, 1846, p.7(type: *Bagrus dumerili* Bleeker, by original description).

Nasocasis Nichols, Ibid., No. 185, 1925, p.1(subgenus; thpe: *longirostris* = *dumerili*).

The end of rostrum pointed anteriorly(upper jaw projecting byond the lower). Four pair barbels short and slender, maxillary barbels not reached pectoral origin(Fig. 3). Outside of pectoral spine smooth, only inside serrated(Fig. 3). Pectoral fin rays 7-9(most 8-9), 3-4 hypurals separated(see Lee, 1988), anal fin rays 21-28(varied according to the species), caudal fin deeply forked or truncated. Cranial lateral line system have the extened tubular canals(Fig.4), mouth small comparatively.

Leiocassis nitidus(Sauvage & Thiersant), 1874

Korean name: Mil-ja-Gae(Fig. 8)

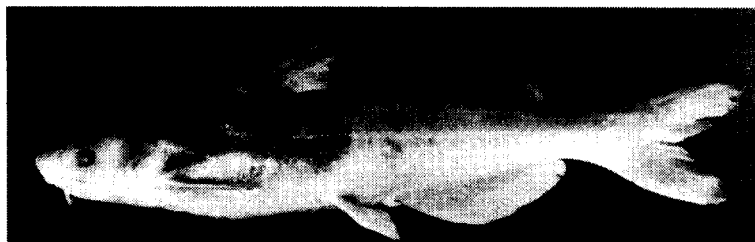


Fig. 8. *Leiocassis nitidus*, SL. 140.7 mm

Pseudobagrus nitidus Sauvage & Thiersant, Ann. Sci. Nat., (6) I p.5, 1874(type locality, Yangtze -Kiang)-Wu, Bull. Mus. Nat. Paris, (2) III, p.438, 1931(Tong-lu)-Herre & Lin, Bull. Chekiand Fish. Exp. Sta., II, No. 7, p.24, 1936(river Tsien Tong)-Nichols, The freshwater fishes of China, IX, p.41, 273, 1943(Tungting Hu, River Min).

Pelteobagrus nitidus Jayaram, Mus. Zool. Bogo. Bogor, Indonesia, 27, part 2-3, pp.287-386, 1986 -Kim, Lee & Choo, Ann. Rep. Biol. Res., 2, 1981-choi, Jeon & Kim, Korean Inst. of Freshwater Biol., No.6, pp.vi, 25, 1982-Jeon, Sang Myung women's Univ., vol. 14, p. 95, pl.2,3, 1984.

Description : D. II, 7; A. 24-28; P. I, (7)8-9; GR. 9-14; Vert. 40-43; Rbs. 9-11.

The rate of head length to the standard length, 24.8%(23.4-28.6%); body depth, 22.7(21.1-29.6); caudal peduncle length, 16.0(13.9-18.1); caudal peduncle depth, 7.9(6.9-8.9); head width, 20.0(18.4-21.2); mouth width, 10.3(9.5-11.9); predorsal distance, 36.2(31.5-41.8); prepectoral distance, 23.2(18.6-27.4); preventral distance, 47.9(45.6-57.4); preanal distance, 59.6(55.7-64.7); distance between pectoral and ventral, 28.8(22.2-34.5); distance between ventral and anal, 11.5(7.6-14.1); length of nasal barbels, 5.6(4.0-7.0); length of maxillary barbels, 20.0(15.7-22.8); length of outer mandibular barbels, 10.2(8.3-12.1); length of inner mandibular barbels, 6.4(5.0-7.7). The rate of length to the head length, 35.7(31.2-39.0); eye diameter, 16.0(13.7-18.8); interorbital width, 43.2(37.3-49.6).

This species is very similar to *P. fulvidraco* in the exomorphological characters, but barbels are short and slender, pectoral spine serrated only in inside, maxillary barbels did not passed over pectoral origin, outer and inner mandibular barbels do not pass over the branchiostegal membrane. Swimbladder more flat, posterior end pointed, the around of posterior chamber protrude small globular prominence, body depth heigher, caudal fin forked like *P. fulvidraco*.

Main background color yellowish, regular longitudinal dark band on the side of body is similar to *P. fulvidraco*, but brighter than *P. fulvidraco*.

Distribution ; Imji river(Munsan, Papyŏng), Kŭm river(Kanggyŏng, Puyŏ, Kongju), Yŏngsa-ŋg river(Muan).

Remark; Jayaram(1986) reported that *L. nitidus* is living only in China, but Kim *et al.*(1981) confirmed to be living in Kûm river(Kanggyong). Kim *et al.*(1986) recorded that *L. nitidus* also founded in Yôngsang river. Mori(1936, 1952) stated that *Pseudobagrus vachelli*(at present *L. nitidus*) was distributed in Korea. Chyung(1977) described it as *Pseudobagrus vachelli* according to the description of Mori(1952), but Kim *et al.*(1981) transfered *Pseudobagrus vachelli* to *Pelteobagrus nitidus*, because *Pelteobagrus nitidus* had largely difference in the number of anal fin ray, the number of gill raker and the length of maxillary barbels when compared with *Pseudobagrus vachelli* in China(Nichols, 1943; Zu, 1982; Cheng and Zheng, 1987).

Lee and Kim(1988) emphasised that *Pelteobagrus nitidus* has to classify into genus *Leiocassis*. Lee(1988) also classified *Pelteobagrus nitidus* into genus *Leiocassis* based on the osteological characters. When authors rechecked up on the characters of *Pelteobagrus nitidus* in Korea, the structure of pectoral spine, the length of barbels, the structure of cranial lateral line system and the fused state of 3-4 hypurals were on accord with the characters of genus *Leiocassis*. So *Pelteobagrus nitidus* recorded previously is classified into genus *Leiocassis*.

Materials examined; SL., 88.4-89.2 mm, 2 indiv., Kanggyông-ûp, Kûm R., Jul. 1, 1984(C&S: 2 indiv.); SL., 128.3 mm, 1 indiv., Kanggyông-ûp, Kûm R., Jul.28, 1984; SL., 104.4-122.8 mm, 2 indiv., Kanggyông-ûp, Kûm R., Aug. 17, 1984(C&S: 2 indiv.); SL., 88.4-140.7 mm, 5 indiv., Munsan-ûp, Imjin R., May 5, 1985(C&S: 4 indiv.); SL., 115.5-121.1 mm, 3 indiv., Kanggyông-ûp, Kûm R., Sep. 22, 1985; SL, 106.7-112.5 mm, 2 indiv., Papyông-myôn, Imjin R., Jul. 8, 1985; SL., 91.4-123.6 mm, 10 indiv., Mongtanmyôn, Yôngsan R., Aug. 15, 1985; SL., 82.4-131.5 mm, 14 indiv., Papyông-myôn, Imjin R., Apr. 13, 1986(C&S: 6 indiv.); SL., 105.9-153.4 mm, 27 indiv., Munsan-ûp, Imjin R., Dec. 20, 1987(C&S: 3 indiv.).

Leiocassis ussuriensis (Dybowski), 1872

Korean name: Dae-Nong-Gaeng-i(Fig. 9)



Fig. 9. *Leiocassis ussuriensis*, SL. 136.1 mm

Bagrus ussuriensis Dybowski, Verh. Zool. Bot. Ges. Wien, XXII, p.210, 1872(type locality, River Ussuri).

Macrones (Leiocassis) ussuriensis Berg, Zool. Jb. Syst. XXXII, p.477, 1912(River Amur).

Pseudobagrus ussuriensis Mori & Uchida, J. Chosen Nat. Hist. Soc., No.19, p.6, 1934(Korea)-

- Mori, Memoirs of the Hyogo Univ. of Agr., vol. 1, No. 3, p.61, 1952-Jay-aram, Mus. Zool. Bogo., Bogor., Indonesia, vol. 27, part 2-3, p.336, 1968-Kim, Lee & Choo, Ann. Rep. Biol. Res., vol. 2, 1981(Korea)-Choi, Jeon & Kim, Kor. Inst. Freshwater Biol., No.6, pp.vi, 26, 1982(Korea)-Jeon, Sang Myung Women's Univ., vol. 14, 1984(Korea).
Pseudobagrus emarginatus Sowerby(not Regan), Proc. U.S. nat. Mus., L, p.1, 1921(type locality, River Yalu)-Uchida, Bull. Fisheries Exp. Sta. Gov. Tyosen(Korea), No.6, p.25, 1930-Chyung, Dept. of Commerce and Industry Republic of Korea, p.160, 1954, Ilji-sa, p.224, pl.145, 1977.
Liocassis ussuriensis Berg, Acad. Sci. U.S.S.R. Zool. Inst., 1949, pp.481-483, Fig. 661.
Leiocassis ussuriensis Nichols, The freshwater fishes of China, IX, p.49, 1943(Tungting Hu, Shan-si, Hu-nan).

Description : D. II, 7; A. 20-24; P. I, (7)8-9; GR. 11-15; Vert. 46-48; Rbs. 11-12.

The rate of head length to the standard length, 24.1%(19.5-26.3%); body depth, 18.3(15.0-20.9); caudal peduncle length, 18.1(16.4-20.9); caudal peduncle depth, 7.0(5.9-8.4); head width, 16.8(12.7-19.3); mouth width, 11.1(8.6-12.4); predorsal distance, 33.1(27.7-37.8); prepectoral distance, 21.3(19.8-24.0); preventral distance, 48.1(41.9-53.2); preanal distance, 62.1(56.9-69.1); distance between pectoral and ventral, 29.3(24.8-33.6); distance between ventral and anal, 13.3(11.5-15.8); nasal baebels length, 7.1(5.3-8.5); inner mandibular barbels length, 4.2(3.0-5.0). The rate of snout length to the head length, 35.4(30.4-38.2); eye diameter, 13.3(10.5-18.5); inter orbital width, 37.3(32.6-41.5)

This species is longer than *L. nitidus*, lower body depth, end of rostrum has slightly prominence, small mouth, small eye, 4 pair barbels are very short. Maxillary barbels are not reached at the pectoral origin. Mandibular barbels are greatly reduced. Anterior border of pectoral spine smooth but posterior serrated largely. The shape of caudal fin truncated, and concate slightly at the middle. Swimbladder is longer and surface is smooth, 3-4 hypurals separated(Lee, 1988). When specimen are living, color of body is dark yellowish brown. Stock specimens in formalin represent dark brown.

Distribution : Imjin river(Munsan, Papyông), Han river(Paldang, Yangsu, Yangju, Yangpyông, Yeju, Wonju, Hoengsông), Kûm river(Kanggyông, Puyô, Nonsan, Kongju, Chungwôn, Okchôn, Muju, Chinan), Daedong river(Sôngchôn, Pyôngyang), Abrok river(Hyangro river).

Remark : Mori and Uchida(1934), Mori(1936) reported that *Pseudobagrus ussuriensis* distributed in Korea, after aht Uchida(1939) refered to be resemble *P. emerginatus*. Mori(1952) described as *P. emerginatus*, not *P. ussuriensis*. Chyung(1961, 1977), Choi(1972, 1973), Choi and Kim(1975), Choi *et al.*(1977) and Jeon(1980) followed description of Mori(1952). But Jayaram(1968) reported that *P. emerginatus* is synonym of *P. ussuriensis* based on the shape of caudal fin. After that Kim *et al.*(1981) reported that *P. ussuriensis* also is living in Korea.

Materials examined ; SL., 177.1-177.7 mm, 2 indiv., Yangpyôngûp, Namhan R., Jun. 12, 1984 ; SL., 159.3-198.2 mm, 4 indiv., Papyông-myôn, Imjin R., Aug.11, 1984 ; SL., 163.0-185.2 mm, 3 indiv., Yangpyông-ûp, Namhan R., Aug. 12, 1984 ; SL., 80.9-126.6mm, 4 indiv., Yangpyông-ûp,

Namhan R., Apr. 5, 1985(C&S: 4 indiv.); SL., 91.4-144.9 mm, 9 indiv., Yangpyông-ûp, Namhan R., Jul. 2, 1985(C&S: 4 indiv.); SL., 55.3-108.5 mm, 7 indiv., Yangpyông-ûp, Namhan R., Aug. 20, 1986; SL., 157.7-318.3 mm, 7 indiv., Sangjôn-myôn, Kûm R., Aug. 10, 1987; SL., 102.7-132.9 mm, 15 indiv., Yangpyông-ûp, Namhan R., Apr. 13, 1986; SL., 101.5-139.0 mm, 3 indiv., Sangjôn-myôn, Kûm R., Oct. 2, 1987; SL., 109.2-183.6 mm, 14 indiv., Yoju-ûp, Namhan R., Dec. 20, 1987(C&S: 6 indiv.); SL., 157.5 mm, 1 indiv., Papyông-myôn, Imjin R., Dec. 20, 1987.

Leiocassis longirostris Günther, 1864.

Korean name: Jong-e

Leiocassis longirostris Günther, Catalogue of the fishes in the British Mus., V, p.87, 1864(Type locality, north China, by subsequent correction)-Sauvage & Thiersant, Ann. Sci. Nat., (6) I, p.7, 1874(Shanghai)-Jordan & Sean, Proc. U.S. Nat. Mus., XXIX, p.519, 1905(Chuna, probably Hongking)-Jordan & Metz, Mem. Carneg. Mus., VI, p.12, 1913(River Han)-Evenman & Shaw, Proc. Calif. Acad. Sci., XVI, p.110, 1927(Nanking)-Mori, Jap. J. Zool., II, p.70, 1928(Tainan, Hwang-ho)-Miao, Contr. Biol. Lab. Sci. Soc. China, X, p.220, 1934(Southern Kiang-su)-Tchang & Shin, Contr. Biol. Dept. Sci. Inst. W. China, V, p.9, 1934(Kialin Kiang)-Jayaram, Mus. Zool. Bogo., Bogor, Indonesia, vol. 27, part 2-3, pp.287-386, 1968-Kim, Lee & Choo, Ann. Rep. Biol. Res., vol. 2, 1981-choi, Jeon & Kim, Kor. Inst. Freshwater Biol., no. 6, p.26, 1982-Jeon, Sang Myung Women's Univ., vol. 14. 1934(Korea).

Macrones(*Liocassis*) *longirostris* Günther, Ann. Mag. Nat. Hist., (4), XII, p.245, 1872(Shanghai)-Peters, Mber. Akad. Wiss. Wien., XV, p.924, 1880(Ningpo).

Leiocassis dumerili Mori & Uchida, J. Chosen. Hist. Soc., no. 19, p.6, 1934(Korea)-Kimura, J. Shanghai Sci. Inst., I, p.173, 1934(Chingkiang, Chungking, Ichang, Fu-shan, Suifu)-Kimura, I. Shanghai Sci. Inst., III, p.106, 1935(Yangtze Kiang)-Herre & Lin, J. Shanghai Sci. Inst., II, no. 7, p.14, 1936(River Tsien Tang)-Uchida Bull. Fisheries Exp. Sta. Gov. Tyosen, No.6, p.35, pl.4, 1939-Chyung, Dept. of Commerce and Industry Republic of Korea, p.163, 1954: Ilji-sa, p.226, 1977.

Leiocassis(*Rhinobagrus*) *dumerili* Rendahl, Ark. Zool., XXA, p.68, 1928(Kiangsu)-Wu, Sinensia I, no.6, p.81, 1930(Chung King)-Wu, Rept. Marine Biol. Ass. China, no.3, p.99, 1934(Foochow).

Leiocassis(*Nassocassis*) *longirostris* Nichols, Bull. Amer. Mus. Nat. Hist., LV III, p.7, 1928(Ningpo, probably Hong Kong, Tungting Hu).

Leiocassis(*Rhinobagrus*) *longirostris* Nichols, Natural Hist. Central Asia, Amer. Mus. Natural Hist., IX, p.43, 1943(River Min, Tungting Hu).

Description: Body proportions and counts, measured by Uchida(1939), are following: D. I, 7; p. I, 9; A. 16-17; Vert. 36; GR. 16. In standard length, body depth. 3.9 to 4.9; head length, 3.1to 3.6; predorsal distance, 2.3 to 2.6; preanal distance, 1.5 to 1.6. Head width to head length, 1.2 to

1.6; snout length, 2.6 to 2.9; eye diameter, 1.1 to 1.9; interorbital width, 2.6 to 3.0; length of dorsal spine, 1.4 to 1.9; length of pectoral spine, 1.8 to 2.1.

Eye very small, covered with thin skin, 4 pair barbels very short, long rostrum. Pectoral with strong spine serrated inside but outside smooth. Supraoccipital process longed, caudal fin forked, lateral line system complete. Body was colored by graybrownish.

Remark : This species has described into *Leiocassis dumerili* until now, this was because Nichols(1943) recognized the description of Bleeker(1864), but Rendal(1928) and Regan(1908), according to being published in February 1864 by Günther, described into *L. longirostris* due to be established before than April 1864 by Bleeker. Authors also described into *L. longirostris* according to the description of Regan(1908) and Rendahl(1928). In this studies, the description about *L. longirostris* followed Uchida(1939) because this specimens could not collect in Korea today.

Distribution : Han river, Kûm river(Today are not able to find in Korea).

Materials examined: specimens have not.

Key to genera and species of the family Bagridae from Korea

- 1a. Pectoral spine serrate in the both side, long and thick barbels, directly open the sensory pores in the cranial lateral line system, pectoral fin 7(occasionally 6) and 3-4 hypurals fusedGenus *Pseudobagrus*...2
- 1b. Pectoral spine serrated only inside, short or slender barbels, cranial lateral line system have the extend tubular canals, pectoral fin 8-9(occasionally 7) and 3-4 hypurals separatedGenus *Leiocassis*...4
- 2a. Caudal fin forked*P. fulvidraco*(Richardson)
- 2b. Caudal fin truncated3
- 3a. Anal fin 19-24, vertebrae 44-47, the body type delicated*P. koreanus* Uchida sp. nov.
- 3b. Anal fin 15-20, vertebrae 35-39, standard length short*P. brevicorpus*(Mori)
- 4a. Caudal fin forked5
- 4b. Caudal fin truncated*L. ussuriensis*(Dybowski)
- 5a. Anal fin 24-28, gill raker 9-14*L. nitidus*(Sauvage & Thiersant)
- 5b. Anal fin 16-17, gill rakers about 16*L. longirostris* Günther

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우리나라 서남해안으로 유입되고 있는 하천 및 각 수계에 서식하는 동자개과 어류를 재검토한 결과 모두 2속 6종 즉 *Pseudobajgus fulvidraco*, *Pseudobagrus koreanus* sp. nov., *P. brevicorpus*, *Leiocassis nitidus*, *L. ussuriensis*, *L. longirostris* 등으로 분류되었다. 이 중에서 *P. koreanus* sp. nov. 와 *P. brevicorpus*는 한국특산 어종이다. 지금까지 *Pseudobagrus* sp. 로 기재해온 눈동자개는 독립종으로 하여 *Pseudobagrus koreanus* Uchida로 명명하였다.