

## Threatened fishes of the world: *Pseudoscaphirhynchus* spp. (*Acipenseridae*)

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### *Pseudoscaphirhynchus kaufmanni* (Bogdanov, 1874)

**Common names:** Large Amu-Dar shovelnose sturgeon (E), Grand nez-pelle de l'Amou daria (F), Bolshoi Amudarinskii Lzhelopatonos (R), Sumrai or Beltkumys (Karakalpakian), Elan Luiryk or Tuchkan Kuiryk (Uzbek and Turkmen).

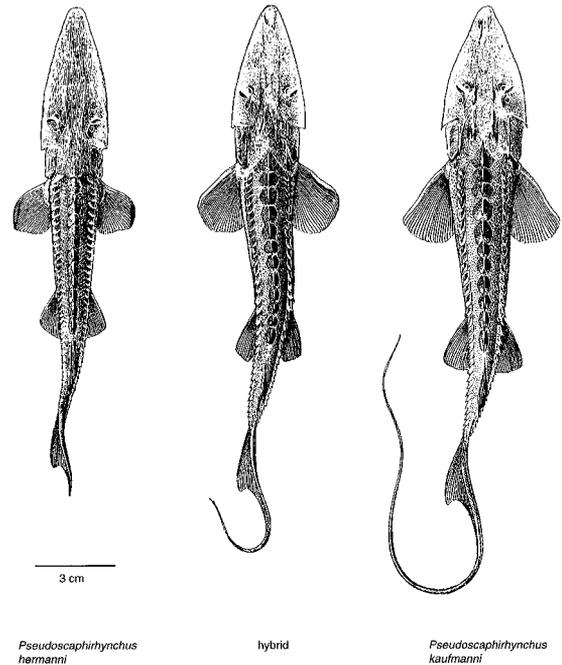
**Conservation status:** Endangered (Uzbek SSR Red Data Book 1983, USSR Red Data Book 1984, Turkmen SSR Red Data Book 1985, 1996 IUCN Red List).

**Identification:** D 25–37, A 15–24 rays, 10–15 dorsal scutes, 28–40 lateral scutes, and 5–11 ventral scutes. Very unusual appearance. Body is fusiform, the fore part rather thick. Head ends in a broad spade-like snout. There are 2–4 backward pointing spines on the tip of the rostrum. Two similar spines are located on the upper side of the head in front of very small eyes. The snout is flattened on its upper surface and completely flat on the lower surface, where there are two pairs of barbels. Head shields are visible. The upper lip of the transverse mouth is divided in the middle, the lower lip is broader than the upper and is also slightly divided. Regularly distributed granulations lying between the scute rows. Below the dorsal fin base and above the anal fin base there are small flat scutes. All paired fins and the anal fin are rounded. Pectoral fins have a very strong and sharp first ray. The caudal is prolonged on its upper heterocercal lobe in a long filament. Historically, the maximal size of the fish was 75 cm and the 2 kg in weight. In the 1960s, the average size was 37 cm, and 241 g weight. Two forms were described in the 1960s: common and dwarf. Dwarf adults were smaller than the common ones and their dorsal, anal, and ventral fins were located closer to the tail than in common form. In the early 1990s, the dwarf form predominated in the population. Dorsum from grey to almost black, ventrum white. William E. Bemis modified the figures from originals published by Nikolskii (1938).

**Distribution:** Endemic to the Amu Darya River and its tributaries (Central Asia). Historically, *P. kaufmanni* was distributed along the river from the upper reaches (Pyandzh River) to the delta. Presently, there are two populations: in the Vakhsh River, and the middle reaches of the Amu Darya River. In the early 1990s, only a few individuals were recorded in the lower reaches of the Amu Darya River.

**Abundance:** No exact estimations. **Habitat and ecology:** *P. kaufmanni* live at a depth of 1.0–1.5 m in highly turbulent muddy water. Fish inhabit shallow-water parts of the river with fast current, sandy or stony-pebble grounds. Adults feed mainly on small fish, with insect larvae forming the rest of the diet. **Reproduction:** Takes place in late March–early May at a water temperature of 14–16 C. Males become mature at 5–7 years, and females, at 6–8 years. Intervals between spawning periods possibly last 4–5 years. Fecundity is 3127–36558 (common form) or 996–1910 (dwarfs).

**Hybridization:** Historically, easily hybridized with the other species of *Pseudoscaphirhynchus*, *P. hermanni*. **Threats:** Changes in the environment caused by the drying out of the Aral Sea. Presently, the Amu Darya River does not reach the Aral Sea. Dams and channels constructed in the 1970s–1980s affected the water regime of the river. Also, the level of water pollution in the river is very high. **Conservation action:** An international recovery project is planned by scientists of Karakalpakstan (a part of Uzbekistan), Turkmenistan, the United States, and, possibly, Russia.



*Pseudoscaphirhynchus hermanni*

hybrid

*Pseudoscaphirhynchus kaufmanni*

*Pseudoscaphirhynchus hermanni* (Kessler, 1877)

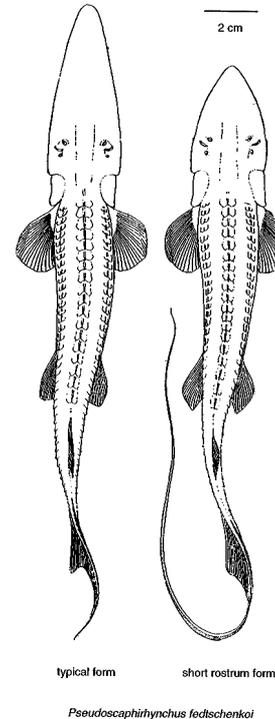
**Common names:** Small Amu-Dar shovelnose sturgeon (E), Petit nez-pelle de l'Amou daria (F), Malyi Amudarinskii Lzhelopatonos (R).

**Conservation status:** Critically endangered (1996 IUCN Red List), Endangered (UzbekSSR Red Data Book 1983, USSR Red Data Book 1984, Turkmen SSR Red Data Book 1985).

**Identification:** D 27–35, A 15–21 rays, 10–13 dorsal scutes, 30–38 lateral scutes, and 6–10 ventral scutes. Morphologically it is similar to *P. kaufmanni*, but smaller (20.7–27.0 cm). Its snout is longer than that of *P. kaufmanni*. This species does not have a long caudal filament. The snout is shovel-shaped and the rostrum is more rounded than in *P. kaufmanni*. There are no spines on the snout. The snout grows longer with age. Pectoral fins have a fold which curls dorsally. Scutes are not armored with spines or the spines are very short. Each dorsal and lateral scute covers almost half of the following one. There are granules between the rows of scutes. As in *P. kaufmanni*, there are 3–4 flat scutes between anal and ventral fins. Eyes are extremely small. Two outer barbels are 2–3 times longer than the inner ones. Dorsum deep brown, ventrum white.

**Distribution:** Endemic to the Amu Darya River (middle and lower reaches). **Abundance:** Historically rare; in April 1996 three specimens were caught for the first time in the last 15 years.

**Habitat and ecology:** Practically unknown. Adults are benthophagous feeding mostly on midge larvae. **Reproduction:** Unknown. **Hybridization:** Historically, easily hybridized with *P. kaufmanni*. **Threats:** Changes in environment caused by the drying out of the Aral Sea, construction of dams and channels which affected the water regime in the Amu Darya River, and a very high level of water pollution in the river. **Conservation action:** None. During the carrying out the recovery plan for *P. kaufmanni*, it will be possible to make the estimation of the status of *P. hermanni*.



*Pseudoscaphirhynchus fedtschenkoi* (Kessler, 1872)

**Common names:** Syr-Dar shovelnose sturgeon (E), Nez-pelle du Syr daria (F), Syrdarinskii Lzhelopatonos (R).

**Conservation status:** Critically endangered (1996 IUCN Red List), Endangered (KazakhSSR Red Data Book 1978, USSR Red Data Book 1983).

**Identification:** D 30–34, A 19–20 rays, 15–22 dorsal scutes, 38–46 lateral scutes, and 6–11 ventral scutes. It is small: with the caudal filament, up to 36 cm; without the filament, 20.7–27.0 cm. It has more dorsal scutes and a longer snout than the two Amu Darya species, *P. kaufmanni* and *P. hermanni*. The pectoral fins have a fold similar to that in *P. hermanni*. There are no spines on the head. The size and shape of the snout varies considerably. Historically, there were three morphs: (1) a common morph with a long rostrum without a long caudal filament; (2) morpha *brevirostris* Berg with a short snout and a long caudal filament; (3) morpha *intermedia* Berg with a middle-sized snout and a filament.

**Distribution:** Endemic of the Syr Darya River, middle and lower reaches (Central Asia). **Abundance:** No reports since the 1960s; practically extinct. **Habitat and ecology:** Unknown. Adults were benthophagous feeding mostly on midge larvae. **Reproduction:** Spawning during late April. **Threats:** Changes in the environment caused by the drying out of the Aral Sea. The Syr Darya River, as the Amu Darya River, does not reach the Aral Sea now. **Conservation action:** None.

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