Identification key loaches in het Netherlands

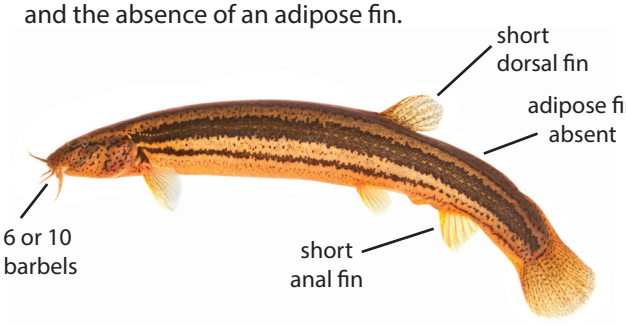
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In the Netherlands, three native species of loaches occur: the European weather fish, the spined loach, and the stone loach. In addition, the non-native North Asian mud loach has established itself in Limburg, and the hybrid spined loach, a cross between the West European spined loach and its eastern European counterparts, is widely distributed. Finally, this identification key includes loach species from Asia that occur in the international aquarium trade and have the potential to establish themselves in the wild.

Use identification key:
A: first see the generic characteristics (right) to establish if it is a loach.
B: count the number of barbels. Species with 6 barbels are listed first, species with 10 barbels are on the backside of this identification key.
C: then compare the different species with the described characteristics.

Generic characteristics

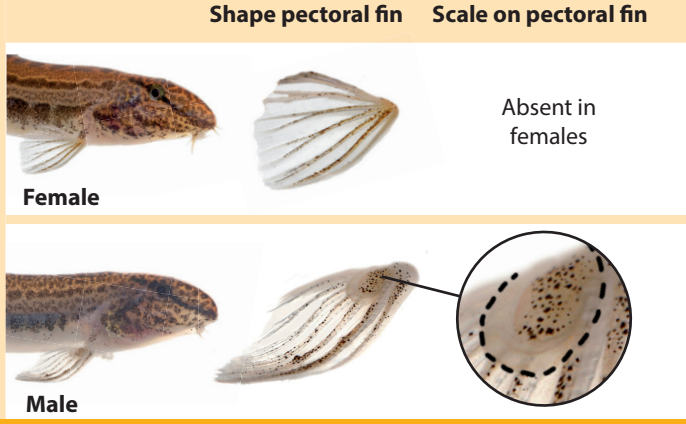
True loaches and stone loaches can be distinguished from other native species based their elongated body and a combination of the following characteristics: 6 or more barbels, a short anal and dorsal fin, and the absence of an adipose fin.



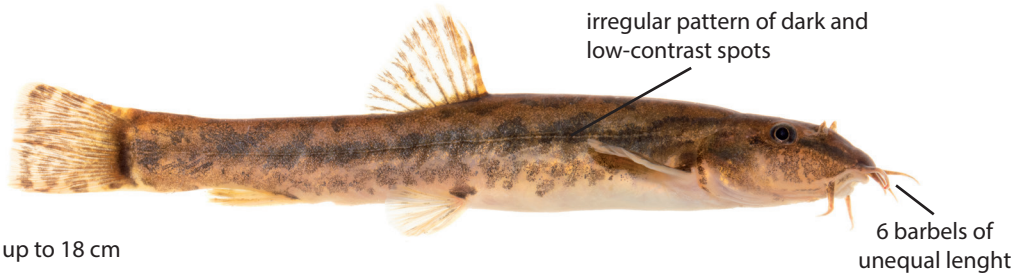
Male or female?

Distinction can be made based on the shape of the pectoral fin, which is pointed in males and rounder in females. In male loaches, the 2nd ray of the pectoral fin is also thickened, and some species have a thickened scale (lamina circularis) on top of the pectoral fin. This scale is present in males of the spined loach and loach species from Asia (see backside).

See the photos on the right for the shape of the pectoral fin and the thickened scale of the spined loach for illustration.



Stone loach (*Barbatula barbatula*)



Characteristics

- 6 barbels of unequal length
- colour: dark to light brown with irregular pattern of dark and low-contrast spots
- body almost cylindrical with flattened head from the dorsal side

Spined loach (*Cobitis taenia*)



Characteristics

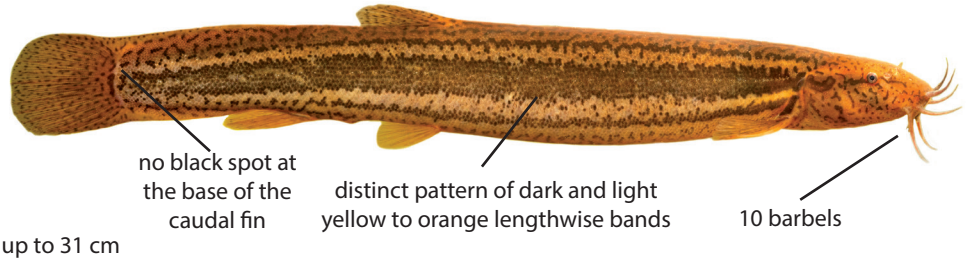
- 6 short barbels
- colour: grey to yellowish with regular pattern of dark and high-contrast spots
- body somewhat laterally compressed
- small extendable spine under the eye

Hybrid spined loach (hybride: *Cobitis taenia x elongatoides x tanaitica*)



The hybrid spined loach is a hybrid between different spined loach species (*Cobitis taenia* x *elongatoides* x *tanaitica*). They cannot be distinguished from the spined loach based on appearance, except in very large specimens. The spined loach does not grow larger than 11cm, while the hybrid spined loach can grow up to about 14cm in size. In addition, all hybrid spined loaches are female, which results in a very skewed sex ratio, with around 10 females to 1 male. Such a skewed sex ratio therefore indicates the presence of hybrid spined loaches.

European weather fish (*Misgurnus fossilis*)

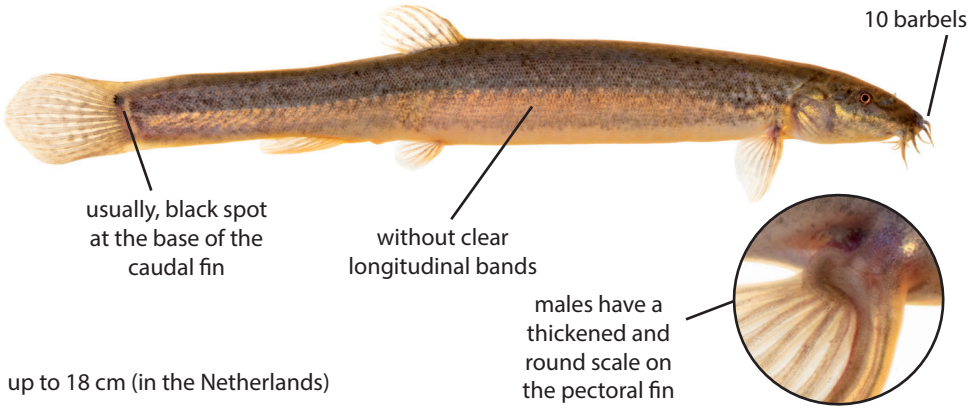


up to 31 cm

Characteristics

- 10 barbels
- colour: distinct pattern of dark and light yellow to orange lengthwise bands on the flanks.
- no black spot at base of the caudal fin
- males have no thickened scale on the pectoral fin

North Asian mud loach (*Misgurnus bipartitus*)



up to 18 cm (in the Netherlands)

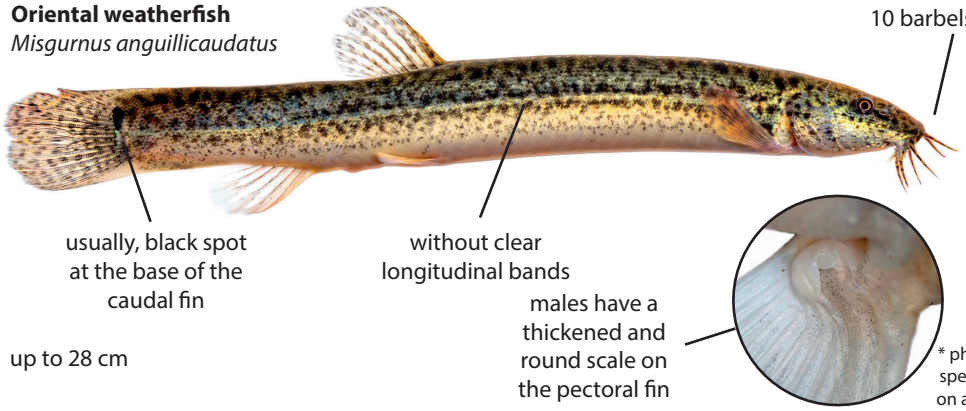
Characteristics

- 10 barbels
- colour: olive and uniformly coloured with a marbled to speckled pattern, without clear longitudinal bands
- usually, black spot at the base of the caudal fin
- males have a thickened and round scale on the pectoral fin
- **note:** cannot be distinguished from the Oriental weatherfish!

Andere soorten modderkruipers uit Azië

In the (international) aquarium trade, there are several other mud loach species from Asia that have the potential to establish themselves in the Netherlands. These species include *Misgurnus dabryanus* which has been known to survive for a decade in enclosed ponds in the Netherlands) and the Oriental weatherfish (*Misgurnus anguillicaudatus*). Additionally *Misgurnus mohoity* cannot be ruled out in the trade. These loaches from Asia are very difficult to distinguish from each other based on physical characteristics (including the North Asian mud loach). Below, the two most traded species are explained.

Oriental weatherfish
Misgurnus anguillicaudatus

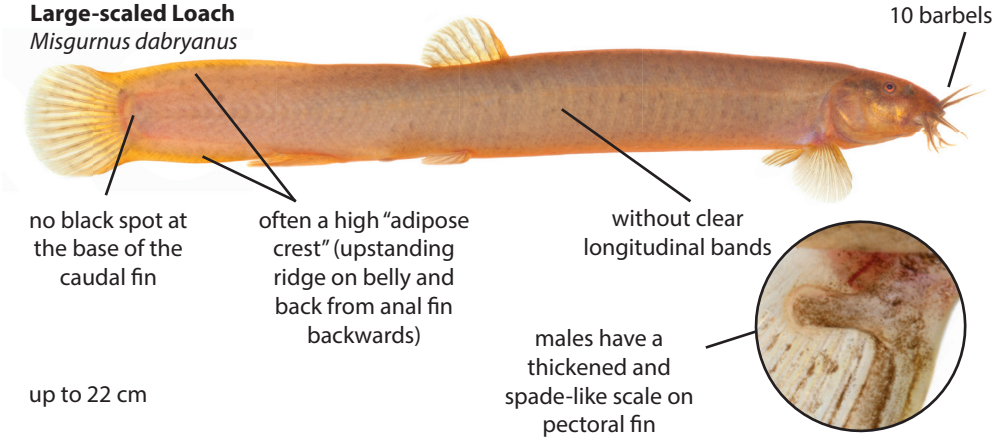


up to 28 cm

Characteristics

The Oriental weatherfish looks very similar to the North Asian mud loach. Loaches from Asia are also highly variable in colour and pattern. Therefore, based on external characteristics, it is not possible to distinguish them from the North Asian mud loach. Genetic analysis can provide clarity.

Large-scaled Loach
Misgurnus dabryanus



up to 22 cm

Characteristics

- 10 barbels
- colour: highly variable from olive to light orange, either solid or with a marbled or speckled pattern, without clear lengthwise stripes.
- no black spot at base of caudal fin
- often a high "adipose crest" (upstanding ridge on belly and back from anal fin backwards)
- males with thickened scale on pectoral fin (shape = spade-like)

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