

# Crucian Carp Field Identification Guide

This identification guide has been compiled by the Environment Agency, in collaboration with the Angling Trust and the National Crucian Conservation Project group.

## Introduction.

The crucian carp, *Carassius carassius* (Figure 1.) lives in still waters, from very small farm and woodland ponds, where it is commonly found in stunted populations, to moderate sized gravel pits and mature estate lakes, where it can attain weights of four pounds and above. Increasingly, crucian carp populations are threatened by direct competition and hybridisation with feral goldfish *Carassius auratus* and carp *Cyprinus carpio*, with loss of suitable habitat contributing.

The body shape of the crucian carp varies greatly between sites, so much so, that two morphologies have been recognised, a deep bodied form and a shallow bodied (or stunted) form (Figure 2). Body shape is dependent on factors such as habitat, food availability or even the presence of predators. Due to the difficulties of identification between the crucian carp and the feral goldfish (Table 1.), and hybrids of the two, assessment of the present distribution of crucian carp is very difficult (Table 2.). Much of the work presented has been adapted from previous work by A. Wheeler and P. Bolton.

## How to recognise a crucian carp

Figure 1. General morphological features of a crucian carp (left hand image shows the convex dorsal fin).

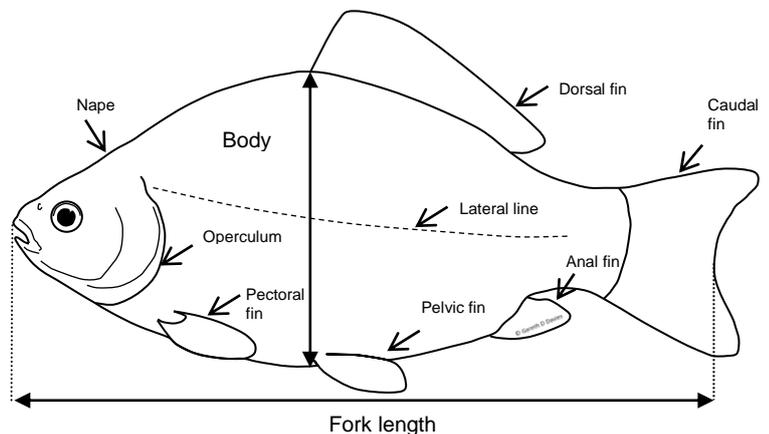
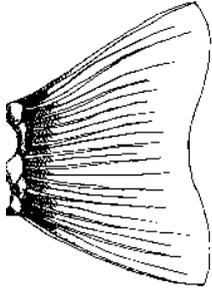
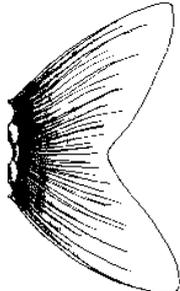
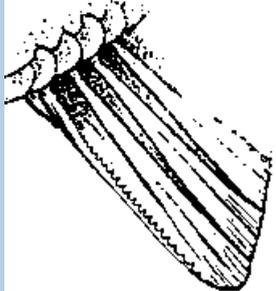
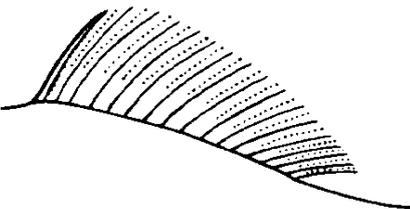
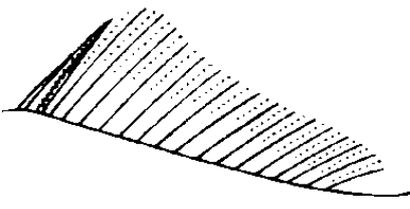
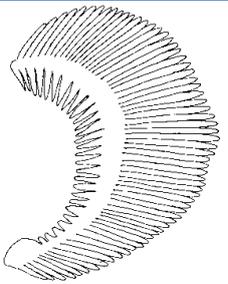
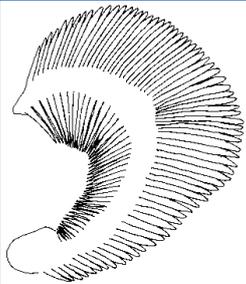


Figure 2. Examples of the two body shapes, typically displayed by crucian carp, the slender, shallow bodied morph (left hand side) and the high-backed, deep bodied morph (right hand side).



**Table 1. Common identification features used to differentiate between crucian carp (*Carassius carassius*) feral goldfish (*Carassius auratus*) & carp (*Cyprinus carpio*).**

Crucian carp		Feral goldfish	
	Blunt caudal fin		Deeply forked caudal fin
	1st major anal fin spine lightly serrated		1st major anal fin spine strongly serrated
	Convex dorsal fin shape, 1 <sup>st</sup> major fin spine lightly serrated		Concave dorsal fin shape, 1 <sup>st</sup> major fin spine strongly serrated
	Short gill rakers (21 – 32)		Long gill rakers (35 – 43)

Crucian carp	Feral goldfish	Common carp	Crucian carp x common carp hybrid
			
Barbules absent	Barbules absent	4 Barbules present	Barbules present (2 or 4) but reduced in size

**Table 2. Common external and internal identification features of crucian carp, goldfish, common carp and carp hybrids.**

		Crucian carp	Feral goldfish	Common carp	Crucian carp x Goldfish hybrid	Crucian carp x Common carp
<b>EXTERNAL FEATURES</b>						
<b>Lateral line</b>	<b>Scale count</b>	32 – 34	27 – 29	33 - 49	29 - 32	34 - 36
	<b>Description</b>	Often interrupted/ fragmented, sometimes fades towards tail	Continuous, often strong (rarely broken)	Continuous, may be fragmented (mirror carp) or absent (leather carp)	Generally continuous, often strong (sometimes fragmented)	Sometimes present, can be interrupted or complete
<b>Dorsal fin shape</b>		Convex	Straight/ slightly concave	Concave anteriorly with long fin base	Straight or convex (can vary)	Often intermediate of the two
<b>Colour</b>	<b>Pelvic fin</b>	Orange, often with dark tips	Usually pale, occasionally brown/ black	Usually dusky with red tinge	Variable: Dependent on parentage and environment	
	<b>Dorsal area</b>	Green/ brown	Brown	Bronze/ brown	Variable: Dependent on parentage and environment	
	<b>Flanks</b>	Golden bronze	Golden brown	Bronze	Variable: Dependent on parentage and environment	
	<b>Ventral area</b>	Golden yellow/ orange	Silvery gold	Cream/ yellow	Variable: Dependent on parentage and environment	
<b>Body depth</b>		Laterally compressed	Generally rotund	Generally rotund	Intermediate	
<b>Caudal fin shape</b>		Blunt with shallow fork	Deeply forked (lobes sometimes elongate)	Deeply forked	Forked (lobes sometimes elongate)	Forked
<b>Anal fin spine</b>		Lightly serrated	Strongly serrated	Strongly serrated	Strong/ moderately serrated	Intermediate
<b>Dorsal fin spine</b>		Lightly serrated	Strongly serrated	Strongly serrated	Variable: Dependent on parentage	
<b>Barbules</b>		Absent	Absent	4 in total (2 in corner of mouth, 2 on top lip)	Absent	Present, very reduced in size and number (2 or 4)
<b>INTERNAL FEATURES</b>						
<b>No. Of rakers on 1<sup>st</sup> gill arch</b>		21 – 31	35 – 43	32 – 44	38 – 43	26 – 32
<b>Gill raker length</b>		Short	Long	-	Intermediate	Intermediate