



Examination Information

i d e n t i f i c a t i o n q u a l i f i c a t i o n s

NAME OF UNIT: **FRESHWATER FISHES**
REFERENCE NUMBER: **Z071**
COST OF EXAMINATION: **£ 250.00**

SYNOPSIS:

The aim of this examination is to test the application of skills in identifying British fishes from a variety of riverine and lacustrine freshwater habitats. Fishes found in low salinity estuarine habitats will also be included. The level of difficulty has been matched to the quality standards required for identifying biological material in environmental impact assessments, habitat evaluations or other ecological surveys.

Candidates will be expected to demonstrate proficiency in identifying freshwater fishes to genus or species level as required. The following major groups are covered by this Unit: **Petromyzonidae, Cyprinidae, Cobitidae, Ictaluridae, Anguillidae, Esocidae, Salmonidae, Percidae, Gasterosteidae, Cottidae, Centrarchidae, Pleuronectidae, Siluridae**. A full list of the fresh and brackish water species is given in the attached Appendix. Both adult and juvenile stages will be included. Most of the examination material will be in the form of preserved specimens (entire, or as isolated parts such as scales), but may also include photographs and line drawings.

A time element has also been taken into account so that the examination is a realistic test of efficiency of practical work as well as accuracy of identification. Unless otherwise indicated, there is no restriction on the use of keys, handbooks or other identification manuals.

Candidates will also be expected to demonstrate an understanding of relevant morphological terms, especially those that are used as diagnostic or key characters; familiarity with identification manuals, checklists and other relevant publications; and a basic working knowledge of zoological nomenclature as it relates to the correct use of taxonomic names.

CANDIDATE GROUPS:

Biologists and ecologists working for the Environment Agency, Scottish Environmental Protection Agency, or Water Companies, or elsewhere in the water industry; freshwater ecologists, environmentalists and taxonomists engaged in assessing, monitoring or evaluating freshwater habitats; also experienced amateurs.

EXAMINATION FORMAT:

The examination comprises a practical test lasting about two and a half hours, and a short multiple-choice written paper of about half an hour - total duration 3 hours.

The main practical test will be in two parts: the first lasting about half an hour will involve the identification of 10 to 15 specimens to species level 'by eye' and without reference to keys. The second part will comprise identification of about 20 specimens to species level or other taxonomic group as required, for which full use of keys will be essential. The material may include common

hybrids, and possibly one or more marine or exotic species. In the case of exotics or marine species it will be sufficient to simply state 'exotic' or 'not freshwater'. Dissected parts, exhibiting diagnostic features, may also form part of the examination. In giving answers, Latin names should be used rather than common or vernacular names.

The written paper will consist of 5-10 multiple-choice questions on morphology and terminology (based on photographs or line drawings), and on the correct use of scientific names.

EQUIPMENT:

Binocular microscopes and lamps will be provided, as will standard items such as hand lenses, forceps, mounted needles and scalpels.

Candidates will be expected to bring their own identification keys, handbooks, and other identification guides; although single copies of relevant key works will be provided. Reference collections will not be available, nor can they be brought into the examination by candidates. Any problems over the availability of equipment and literature should be referred to the Museum well in advance of the examination date.

MARKING:

The pass mark for the examination is 90 per cent. Candidates achieving the pass mark will receive the full IdQ Certificate. As well as being informed in writing of the result, each candidate will also be given the actual percentage mark achieved.

To encourage training in freshwater fish identification and the progressive acquisition of skills, candidates who fail to achieve the 90 per cent pass mark but who reach the intermediate standard of 70 per cent will be awarded an Intermediate Certificate.

VENUE:

The examination will be held at the Natural History Museum, South Kensington, London

BOOKING INFORMATION:

For details on how to book and download an application form go to www.nhm.ac.uk/science/idq or contact idq@nhm.ac.uk, telephone (020) 7942 5816 or fax (020) 7942 5841.

REFERENCE LIST:

Knowledge of the following keys will generally be essential for successful completion of the examination, but in some cases candidates may prefer to use alternatives. The list is intended as a guide only.

Muus, B.J. & Dahlstrom, P. 1971. *The freshwater fishes of Britain and Europe*. Collins, London & Glasgow.

Wheeler, A.C. 1969. *The fishes of the British Isles and North-West Europe*. Macmillan, London.

Wheeler, A.C. 1978. *Key to the fishes of northern Europe*. Fredk Warne, London.

APPENDIX: List of Genera covered by IdQ

Petromyzonidae

Lampetra fluviatilis
(Linnaeus)
Lampetra planeri (Bloch)

Cyprinidae

Abramis bjoerkna
(Linnaeus)
Abramis brama
(Linnaeus)
Alburnus alburnus
(Linnaeus)
Barbus barbus (Linnaeus)
Carassius auratus
(Linnaeus)
Carassius carassius
(Linnaeus)
Cyprinus carpio Linnaeus
Gobio gobio (Linnaeus)
Leucaspis delineatus
(Heckel)
Leuciscus cephalus
(Linnaeus)
Leuciscus idus (Linnaeus)
Leuciscus leuciscus
(Linnaeus)
Phoxinus phoxinus
(Linnaeus)
Rutilus erythrophthalmus
(Linnaeus)
Rutilus rutilus (Linnaeus)
Rhodeus sericeus (Pallas)
Tinca tinca (Linnaeus)
some cyprinid hybrids

Cobitidae

Barbatula barbatula
(Linnaeus)
Cobitis taenia Linnaeus

Ictaluridae

Ameiurus melas
(Rafinesque)
Ictalurus nebulosus (Le
Sueur)

Anguillidae

Anguilla anguilla
(Linnaeus)

Esocidae

Esox lucius Linnaeus

Salmonidae

Coregonus albula
(Linnaeus)
Coregonus autumnalis
(Pallas)
Coregonus lavaretus
(Linnaeus)
Oncorhynchus mykiss
(Walbaum)
Osmerus eperlanus
(Linnaeus)
Salmo salar Linnaeus
Salmo trutta Linnaeus
Salvelinus alpinus
(Linnaeus)
Salvelinus fontinalis
(Mitchill)
Thymallus thymallus
(Linnaeus)

Percidae

Gymnocephalus cernua
(Linnaeus)
Perca fluviatilis Linnaeus
Stizostedion lucioperca
(Linnaeus)

Centrarchidae

Lepomis gibbosus
(Linnaeus)
Micropterus salmoides
(Lacépède)

Gasterosteidae

Gasterosteus aculeatus
Linnaeus
Pungitius pungitius
(Linnaeus)

Cottidae

Cottus gobio Linnaeus

Pleuronectidae

Pleuronectes flesus
Linnaeus

Siluridae

Silurus glanis Linnaeus