

KEY TO THE GOBIES OF THE BRITISH ISLES

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GOBIID GROUPS

- 1a.** Body translucent/transparent, pigmented mostly along median fin bases and on head; first dorsal fin not more than 5 rays; males with enlarged canine teeth;; vertebrae 27-31; dorsal pterygiophore sequence beginning (3)122; nektonic : **Transparent Gobies (Aphiines)**
- b.** Body more or less opaque, mostly pigmented; first dorsal fin with 6 or 7 rays; males without enlarged canines; benthic or demersal : **2**
- 2a.** Caudal fin lanceolate; numerous yellow spots; first dorsal rays elongate; scales large, 28-29; long-based second dorsal and anal fins (13-14 branched rays); no head canals; vertebrae 27 , dorsal pterygiophore sequence beginning (3)2211; offshore : **Lesueurigobius**
- b.** Caudal fin rounded; coloration without distinct yellow spots; head canals present (except *Lebetus*); vertebrae usually at least 28: **3**
- 3a.** Larger species, to 90-240 mm, free pectoral rays present or absent; anterior nostril usually with a process; coloration darker in males but never with vertical bars; no row of papillae around lower border of the eye; cheek transverse rows well-developed, 4 before horizontal row *b*, 2 above and 2 below row *b*; vertebrae 28 , dorsal pterygiophore sequence beginning (3)2211 : **Gobius-group (Gobiines)**
- b.** Smaller species, to 90 mm, no free pectoral rays or process from anterior nostril; predorsal scales only in *P. minutus*; male coloration darker with vertical bars; papillae row *a* around lower border of eye; cheek transverse rows variable between species, sometimes as single papillae; vertebrae more than 28 (except in *Lebetus*); dorsal pterygiophore sequence beginning (3)1221 : **Sand-gobies (Pomatoschistines)**

KEY TO SPECIES

A. *Gobius*-group (Gobiines)

Seven larger species, to 90-240 mm, free pectoral rays present or absent; anterior nostril usually with a process from rim; coloration darker in males but never with vertical bars; no row of papillae around lower border of the eye; cheek transverse rows well-developed, 4 before horizontal row b, 2 above and 2 below; vertebrae 28; dorsal pterygiophore sequence beginning (3)2211

- 1a. Body marbled to reticulate patterning, often dark ; first dorsal fin with or without dark spot; nape with scales; upper pectoral fin rays with free upper pectoral rays; anterior nostril with at least small process on rim : **2 (*Gobius species*)**
- b. Head and body with orange spots; first dorsal with with large proximal dark spot at rear; no free pectoral rays or processes from nostril rim; 130mm; sublittoral, rock crevices :
Leopard-spotted Goby (*Thorogobius ephippiatus*)
- 2a. First dorsal fin triangular in outline, with elongate rays, and upper anterior spot; lateral scales 32-41; 150cm; inshore on sand or mud, in sea grass beds and estuaries : **Black Goby (*G niger*)**
- b First dorsal fin rounded in outline, fin rays not elongate : **3**
- 3a. Reddish brown with darker blotches, lips and cheeks with red stripes and papillae rows dark; pelvic anterior membrane shallow; scales on cheek; lateral scales 52-58; 180mm; sublittoral (Lough Hyne area, S. Ireland) : **Red-mouthed Goby (*G cruentatus*)**
- b. Basic colouration variable but head without reddish stripes; cheek naked : **4**
- 4a. Pelvic disc anterior membrane with anterior lateral lobes; pepper and salt coloration, with blotches below lateral midline; lateral scales 59-67; 270mm; high brackish shore pools (SW England) :
Giant Goby (*G cobitis*)
- b. Pelvic membrane with small or inconspicuous lobes; lateral scales fewer than 60; <180mm : **5**
- 5a. Body mottled dark; first dorsal with pale to orange band along upper edge; anterior nostril with branched process; free pectoral rays well developed; lateral scales 46-59; 120mm; intertidal, under stones and in pools on lower shore, and sublittoral : **Rock Goby (*G paganellus*)**
- b. Colouration fawn, lateral dark blotches; pectoral free rays little developed; anterior nostril with single lappet; lateral scales 35-45 : **6**
- 6a. Coloration fawn-golden, with golden dots and mottling, and five midline blotches below second dorsal fin; base of pectoral fin with upper dark mark deeper than long and edged white; 90mm; intertidal at ELWST and sublittoral, under stones on muddy sand (SW England and W Ireland) :
Couch's Goby (*G couchi*)
- b. Coloration paler fawn; four longer lateral blotches below second dorsal fin; base of pectoral fin with upper dark mark longer than deep; 20mm; offshore, on soft grounds (W English Channel) :
Steven's Goby (*G gateveni*)

B. Sand-gobies (Pomatoschistines)

Nine (to be 11?) smaller species, to 80 mm, no free pectoral rays or process from anterior nostril; predorsal scales only in *P. minutus*; coloration in males darker with vertical bars; a row of papillae around the lower border of the eye; cheek transverse rows of variable development between species, sometimes represented by single papillae; vertebrae more than 28 (except some *Lebetus*); dorsal pterygiophore sequence beginning (3)1221.

1a. Pelvic anterior membrane present; caudal peduncle without broad pale band : 3

-b. Pelvic anterior membrane absent; caudal peduncle (end of anal fin base to origin of caudal fin) with sharply demarcated pale band; very small gobies, to 39mm, offshore, on coralline grounds :
2 (*Lebetus* species)

2a. Anal fin branched rays 7 or 8; second dorsal branched rays 9 or 10; vertebrae 27-29; 49 mm :

Diminutive Goby (*L. scorpioides*)

-b. Anal fin branched rays 5 or 6; second dorsal branched rays 7 or 9; vertebrae 25-26; 24 mm :

Guillet's Goby (*L. guilleti*)

3a. Head canals expanded, with numerous tiny pores; nape scaled; lateral scales 33-35; cheek rows a and c without transverse rows; 80 mm; coastal sand or muddy sand; POSSIBLE NEWCOMER FROM BISCAY:
Four-spotted Goby (*Deltentosteus quadrimaculatus*)

3b. Head canals narrow, without extra pores (few interorbital pores in some *Buenia*); no nape scales (except *P. minutus* with more than 50 lateral scales, etc.): 4

4a. Lateral scales 25-30; first dorsal fin with elongate second ray in males; coloration with coarse reticulation, flecked rusty-red, and large pale saddles opposite dark lateral blotches; no transverse cheek rows; first dorsal rays 6; 60 mm; offshore muddy sand and mud :

Jeffrey's Goby (*Buenia jeffreysi*)

-b. Lateral scales more than 30; first dorsal fin with rounded profile; at least one transverse cheek row (if inconspicuous, first dorsal rays 7) :

5.

5a. Reddish, first dorsal fin banded red but without spots; large dark spot at base of caudal spot in both sexes; males with large dark axillary spot behind pectoral fin base; eyes lateral; first dorsal fin 7 rays; 60 mm; midwater, inshore, over weed; 60mm :

Two-Spotted Goby (*Gobiusculus flavescens*)

-b. Basic coloration fawn, without large caudal or axillary spots; eyes dorsolateral; first dorsal

usually 6; bottom-living :

5 (*Pomatoschistus* species)

- 6a.** Slender; lateral scales 55-75; rear nape scaled; branchiostegal membrane free from rear half of isthmus; papillae row *a* under eye with several to many side rows; free edge of anterior transverse pelvic membrane fringed with minute papillae (villose) : **7.**
- b.** Lateral scales not more than 52; no nape scales before origin of first dorsal fin; branchiostegal membrane attached to entire isthmus; row *a* under eye with usually only one side row : **9.**
- 7a.** Body sandy, with rusty flecks; breeding males with distal dark spot on first dorsal, 4 dark bars across body; breast pale; pectoral rays 18-21; vertebrae 33 (32-34); 95 mm; inshore and estuarine:
Sand Goby (*P. minutus*)
- b.** Two nominal species, similar to Sand Goby, body paler but distinguishable most precisely by cheek papillae patterns; vertebral mode 32 : **8.**
- 8a.** Pectoral rays 18-21; more speckled than Sand Goby; 80 mm; inshore and estuarine:
Lozano's Goby (*P. lozanoi*)
- b.** Pectoral rays 17 (16-18); pale but adult male with dark breast and several vertical bars; 65 mm; offshore:
Norway Goby (*P. norvegicus*)
- 8a.** Dorsal fins with series of black spots and rosy bands; body with coarse reticulation, with large pale saddles opposite double spots on lateral midline; scales 34-43; vertebrae 30; 57 mm; inshore on gravel and sand:
Painted Goby (*P. pictus*)
- b.** Dorsal fins with dark diffuse banding, first dorsal with one rear spot; saddles small and not opposite double spots : **10.**
- 10a.** Pelvic anterior membrane with villose free edge; rear breast with scales; males with 3-4 distinct bars; dark spot on distal part of first dorsal fin; female with pronounced chin spot; lateral scales 40-46 (37-48); vertebrae 33 (31-34); inshore on sand; 65 mm; POSSIBLE NEWCOMER FROM BISCAY: :
Marbled Goby (*P. marmoratus*)
- b.** Pelvic anterior membrane crenate, without villi; breast without scales; adult male with several vertical dark bands, dark spot on proximal part of first dorsal fin and orange-tinged dark breast; female without conspicuous chin spot; lateral scales 39-52; vertebrae 31 (30-32); 64 mm; estuarine and brackish pools, and high shore pools in larger estuaries; : **Common Goby (*P. microps*)**

Caudal fin lanceolate; numerous yellow spots; first dorsal rays elongate; scales large, 28-29; long-based second dorsal and anal fins (13-14 branched rays); no head canals; vertebrae 27, dorsal pterygiophore sequence beginning (3)2211.

One offshore species; 100mm:

Fries Goby (*Lesueurigobius friesii*)

D. Transparent gobies (Aphiines).

Two small midwater species with larval features of translucent compressed body, pigmented if at all along mostly along fin bases and on head; lateral eyes, and reduced first dorsal fin, which has normally not more than five rays and may be absent; males have large canine teeth; dorsal pterygiophore sequence beginning 122.

1a. First dorsal fin 5 (4-very rarely 7); scales 19-25, easily lost; second dorsal fin 11-13 branched rays; vertebrae 27 (26-28); males 58mm, females 53mm: **Transparent Goby (*Aphia minuta*)**

-b. First dorsal fin 2-3 in males; female lacks first dorsal fin and teeth and has only rudimentary pelvic disc; scales absent; second dorsal fin branched rays 18-20; vertebrae 30 (29-31); males with curved lower jaw and large fangs, 47mm, females 39mm: **Crystal Goby (*Crystallogobius linearis*)**

