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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 21047-2026

Replacing GB/T 21047-2007

Red drum

眼斑拟石首鱼

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 21047-2007 "Eye-spotted Sciaenia". Compared with GB/T 21047-2007, the only changes are structural adjustments and editing. Aside from the sexual alterations, the main technical changes are as follows:

- a) The "Category" has been changed (see 4.2, 3.2 in the 2007 edition);
- b) The formula relating fork length (weight) to growth time and the measured values of body length and weight for different age groups have been removed (see section 5.2 of the 2007 edition);
- c) The measurable and countable traits have been modified (see

5.1.2 and 5.1.3, and

4.1.3 in the 2007 edition);

d) The formula for the relationship between body length and weight has been modified (see 6.1,

5.3 in the 2007 edition);

e) The "age of sexual maturity" has been changed (see 6.2.1,

6.1 in the 2007 version);

f) "Sexual maturity and body length" has been removed (see

1 Scope

GB/T 21047-2026 is the Chinese national standard covering red drum as a farmed fish - an American species now widely grown in Chinese cage culture, with its grades, its condition and the freshness requirements. It replaces GB/T 21047-2007 and has been in force since 1 September 2026. It was issued on 27 February 2026 and has been in force since 1 September 2026, replacing GB/T 21047-2007. The document is under the responsibility of the Ministry of Agriculture and Rural Affairs. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

The characteristics, growth and reproduction properties, cytogenetic properties, molecular genetic properties, and judgment rules are described, along with the corresponding detection methods. This document applies to the germplasm identification and testing of the spotted totoaba.

4.1 Scientific name

4.2 Classification Phylum Chordata, Subphylum Vertebrata, Class Osteichthyes, Order Perciformes (Perciformes), family Sciaenidae, subfamily Sciaenopinae, genus Sciaenops.

5.1 External Form

5.1.1 Appearance The fish has a spindle-shaped, laterally compressed body with a slightly convex back and a medium-sized head. The mouth is subanterior or subinferior, with a relatively large mouth cleft and small, sharp, closely spaced teeth. There are two pairs of nostrils; the first pair is short and tubular or round and smaller, while the second pair is oval and slightly larger. The eyes are positioned superiorly and laterally, with the posterior margin level with the end of the mouth, and are of medium size. Size, located on both sides of the head. Positive tail, with one or more black spots at the base of the caudal peduncle or

on the side of the body. The appearance of the spotted totoaba is shown in Figure 1.

5.1.3 Countable traits

5.1.3.1 Fin-type Dorsal fin. D. IX~X, I-21~26. Pectoral fins. P.15~18. Pelvic fin formula. V.I-5. Anal fin fin formula. A.I~II-8~9. Caudal fin formula. C.17.

5.1.3.2 Scale-like 5~6 7~10-A51

5.1.3.3 Number of gill rakers There are 21 to 25 gill rakers on the outer side of the first gill arch on the left.

5.2 Internal Structure

5.2.1 Vertebrae 25 pieces.

5.2.2 Swim Bladder It is long and bag-shaped, with a short angular tube protruding outward from both sides of the front part. The inner wall of the swim bladder is smooth and without septa, and it has one chamber.

6 Growth and Reproduction Characteristics

6.1 Growth The relationship between body length and weight of the eye-spotted croaker (2.10cm~55.17cm) is shown in equation (1).

6.2 Reproduction

6.2.1 Age of sexual maturity The female fish is 4 years old, and the male fish is 2 years old.

6.2.2 Smallest biological size The male harpoon is 51.10cm long and weighs 2350.00g; the female harpoon is 59.80cm long and weighs 3430.00g.

6.2.3 Breeding season Spawning season is generally from September to November, with spawning water temperatures ranging from 23°C to 28°C.

6.2.4 Spawning type Batch-laying type.

6.2.5 Fecundity Absolute fertility. 5.0×10^4 eggs to 3.5×10^6 eggs.

6.2.6 Properties of the egg The eggs are buoyant, spherical, and

0.86 mm to

1.08 mm in diameter.

7 Cytogenetic characteristics

7.1 Number of chromosomes Somatic cell chromosome number. $2n=48$.

7.2 Karyotype The karyotype formula is $2n=48t$, and the number of arms $NF=$

48. The chromosome karyotype is shown in Figure 2.

8. Molecular genetic characteristics The base sequence of the mitochondrial COI gene fragment (652 bp). CCTCTACCTA GTTTTCGGTG CATGAGCCGG AATAGTAGGC ACAGCCTTAA GCCTTCTAAT 60 CCGAGCAGAA CTAAGTCAGC CCGGTGCACT CCTCGGAGAT GACCAAATTT ATAACGTAAT 120 TGTTACGGCG CATGCCTTCG TTATAATTTT CTTTATAGTA ATGCCCCATTA TGATTGGAGG 180 TTTCGGGAAC TGACTCGTAC CCTAATGAT TGGAGCCCCC GACATGGCAT TCCCCCGAAT 240 AAATAATATG AGCTTCTGGC TTCTTCCCCC ATCTTTCCTT CTTCTCCTTA CCTCCTCAGG 300 TGTAGAGGCA GGGGCCGGAA CAGGATGAAC AGTTTACCCT CCACTCGCCG GAAACCTTGC 360 ACACGCAGGA GCTTCCGTCTG ACTTAGCCAT CTTTTCCTC CACCTCGCGG GTGTTTCATC 420 AATTCTGGGG GCCATTAAT TTATCACAAC AATCATTAAC ATAAAACCCCCGCTATTTC 480 CCAGTATCAG ACACCTTTTAT TTGTATGAGC TGTATTAATT ACAGCCGTTC TTCTACTTCT 540 ATCCCTCCCT GTCTTAGCTG CCGGCATTAC AATACTCCTG ACAGACCGCA ACCTCAATAC 600 AACCTTCTTC GACCCAGCAGGAGGGGGAGA CCCGATCCTC TACCAACATC TG 652 Intraspecific K2P (Kimura2-parameter) genetic distance should be less than 2%.

9 Detection Methods

9.1 Sampling Perform in accordance with the provisions of GB/T 18654.2.

9.2 Main Morphological and Structural Characteristics

9.2.1 External Form Perform according to the method in GB/T 18654.3.

9.2.2 Internal Structure After dissecting the fish, visual observation and counting were performed.

9.3 Growth and Reproduction Characteristics

9.3.1 Growth Body length and weight were measured according to GB/T 18654.3, and the relationship between body length and weight was performed according to GB/T 18654.4.

9.3.2 Age The procedure was performed according to GB/T 18654.4, and the material being identified was otoliths.

9.3.3 Reproduction

9.3.3.1 Age of sexual maturity Adult fish that have reached sexual maturity for the first time are examined under a microscope for their gonads. After determining their age according to the provisions of 9.3.2, sex chromosomes of female and male fish are obtained separately.