

Supplementary material

Population genetics of *Pampus echinogaster* along the Pacific coastline of China: insights from the mitochondrial DNA control region and microsatellite molecular markers

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The migration routes of *P. echinogaster* was introduced based on the work of Jin *et al.* (2006).

Bohai Sea and Yellow Sea stock

The wintering (January–March) ground (see point 1 of Fig. 1 in the main paper) is located in 80–100-m-deep waters at 32°00′–34°00′N, to the east of 124°00′E. The temperature range is 10.0–17.0°C, and the salinity ranges from 33.0 to 34.6 PSU. Each spring, when the water temperature increases, the wintering population begins its spawning migration to offshore regions. One portion of the wintering population inhabiting the waters adjacent to Jeju Island swims to the south-western coast of North Korea for spawning. The other portion of the population swims towards the Dasha fishing ground following the Yellow Sea Warm Current in April; some fish continue to migrate northward to the northern Yellow Sea and the Bohai Sea for spawning, whereas others move towards the north-western waters. In mid-May, the main population enters the southern coast of Haizhou Bay in batches to spawn. The spawning ground mainly includes Haizhou Bay and the Lvsi fishing grounds. The Lvsi fishing ground is the largest spawning ground for *P. echinogaster* in China, and the population that spawns in this ground belongs to the Yellow Sea stock.

East China Sea stock

This stock has two wintering grounds: the open waters of the northern East China Sea and the open waters of Wenzhou and Taizhou.

The wintering ground in the open waters of the northern East China Sea (see point 2 of Fig. 1) is located at 29°00'–32°00'N, 125°30'–127°30'E. The water depth is 80–100 m, the temperature range is 11.0–18.0°C, and the salinity ranges from 34.0 to 34.8 PSU. In April, the wintering population generally begins migrating to the west and north-west (the Zhoushan and Yangtze River estuary fishing grounds) with the increasing force of the warm current. In May and June, these populations spawn in the shallow waters of the Yangtze River estuary and the Zhoushan fishing grounds. After spawning, the population disperses to feed and fatten. In autumn, as the water temperature gradually falls, the population moves towards deep waters for winter migration.

The wintering ground in the open waters of Wenzhou and Taizhou (see point 3 of Fig. 1) is located at 26°30'–28°30'N, 122°30'–125°30'E. The water depth is 80–100 m, the temperature range is 12.0–19.0°C, and the salinity range is 34.0–34.8 PSU. In May and June, the wintering population migrates towards the offshore waters of Zhejiang and Fujian for spawning. The spawning ground includes the offshore waters of Wenzhou and Taizhou as well as those of eastern Fujian. This population does not migrate beyond the Yangtze River estuary. At the end of spawning in July, the population disperses to feed and fatten. The feeding ground includes coastal and offshore waters. In autumn, with the decrease in water temperature, the population gradually migrates towards deep waters.

Although the East China Sea stock has two wintering grounds, there is generally no strict boundary between them. The 60–100-m-deep waters of the entire East China Sea form a wintering ground.

Reference

Jin, X., Zhao, X., and Meng, T. (2006). The resources dynamics of main fishery species. In 'Biological Resources and Environment of Bohai Sea and Yellow Sea'. (Eds X. Li.) pp. 204–215. (Science Press: Beijing, China.) [In Chinese].