Biology of bullet tuna *Auxis rochei* caught in Toyama Prefecture and catches in Japanese coastal areas of the Sea of Japan

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Bullet tuna *Auxis rochei*, which is primarily caught in the Pacific coastal area of Japan, exceptionally is caught in large amounts in Toyama Prefecture, but the catches have decreased in recent years. It is difficult to investigate the cause of the decline in catches off Toyama, since studies of *A. rochei* in the Sea of Japan are scarce and fragmented. Thus, in this study, the biology of *A. rochei* in the Sea of Japan was investigated using samples caught off Toyama. Additionally, the migration pattern was also inferred from commercial catches from several prefectures along the Japan Sea coast. In Toyama Prefecture, *A. rochei* in the size classes of 30-35cm FL were caught in summer, and then recruitment of the age 0 group with the mode of 22cm FL occurred in autumn. *Auxis rochei* caught off Toyama Prefecture in summer were mature, suggesting that the coastal area of Toyama is one of the spawning areas of *A. rochei* in the Sea of Japan. Data of commercial catches in some prefectures showed both a northward migration in summer and southward migration in autumn in the Sea of Japan. It seemed that *A. rochei* migrate into Toyama Bay or from the Noto Peninsula to the southwestern Sea of Japan during the southward migration in autumn.

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