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## NOTES ON GARFISH IN THE BALTIC

(Sammanfattning: Om horngäddan/näbbgäddan i Östersjön)

By

**Gunnar Otterlind**

May 1985

## NOTES ON GARFISH IN THE BALTIC

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### Summary

A review is given of Swedish observations on the occurrence of the garfish in Öresund (the Sound) and the Baltic. This fish species is a common yearly immigrant in May. It becomes a by-catch mainly in pound-nets for eel and other fish, primarily up to Västervik and Öland, and sparsely northwards to the southern Bothnian Sea. Spawning or fish ready to spawn have been noted along the coasts up to Öregrundsgrepen in the latter area and at Öland and Gotland.

The garfish emigrates again to the Kattegat - adult as well as young fish - chiefly from late August to October, but the Sound may be passed as late as November. In September-October and sometimes in November, records of garfish occur throughout the Baltic proper (S. Åland Sea) during line-fishing for salmon. In January-March no records have been made in the Baltic and the Sound.

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Disregarding some minor amendments this contribution is identical with a paper read at the Council Meeting of the International Council for the Exploration of the Sea, October, 1984, C.M. 1984/J:15.

Cover photo shows garfish catch in a pound-net at Klagshamn in the southern Öresund, May, 1966. Photo: Lennart Kellerman.

Sammanfattning:Om horngäddan/näbbgäddan i Östersjön

En översikt ges rörande horngäddans (näbbgäddans) förekomst i svenska fiskevatten i Öresund och Östersjön. Arten är en regelbunden och vanlig immigrant under maj månad. Den erhålles som bifångst huvudsakligen i bottengarn för ål och annan fisk, i första hand upp till Västervik och Öland, sparsammare norrut till södra Bottenhavet.

Lekande fisk eller sådan som var lekfärdig har noterats längs kusten upp till Öregrundsgrepen samt kring Öland och Gotland.

Horngäddorna - både gammal och ung fisk - vandrar ut igen via Öresund till Kattegatt, huvudsakligen från slutet av augusti till oktober, ibland så sent som i november. I september-oktober (november) kan de ännu erhållas på laxlinor över hela egentliga Östersjön (S Ålands hav). Under perioden januari-mars har inte några fynd gjorts vare sig i Östersjön eller i Öresund.

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Omslagsbilden visar fångst av horngädda i vårbottengarn vid Klagshamn i maj 1966. Foto: Lennart Kellerman.

## Introduction

At the meeting of the Baltic Fish Committee of the International Council for the Exploration of the Sea in October, 1983, the occurrence of the garfish (Belone belone) in the Baltic was discussed in connection with a very interesting and valuable paper by B. Draganik and J. Kuczyński: "Garfish from the Puck Bay" (C.M. 1983/J:3). It was maintained, for example, that this species occurs in the area during the wintertime and may have a local stock in the Baltic. For this reason the following compilation has been made of the appearances of garfish in Swedish waters. The principal evidence comes from reports by fishermen, as the species has not been an object of special investigations.

## Occurrence in Swedish waters

The garfish receives little attention from fishing in Sweden to-day, and it is caught mainly as a by-catch. On the west coast, such catches are made during net-fishing for mackerel at the end of April and in May, and in pound-nets or similar gear for eel and other fish. In Skälderviken, medium-size garfish can be found in such nets throughout the summer.

In Öresund (the Sound) and the Baltic it is chiefly in pound-nets that garfish are caught. However, special nets for this species are still occasionally used on the coast of Skåne (Scania). Catches with seine-nets ("kilnot") were made in Öresund until the beginning of the 1950s, in shallow waters with sandbars, such as the Lundåkra Bay, where spawning occurs.

At the south coast of Skåne, the garfish appears during May, some individuals may arrive in April. Northeastern Skåne, near Åhus, has most garfish at the end of May and in early June - about a month later than does Öresund - the maximum yield being 8-10 tonnes. In the Blekinge archipelago, by-catches of garfish occur in May with seine-hauling for herring, sometimes in large-meshed herring nets (total catch: 2-3 tonnes annually). Here, pound-nets for silver-eel are set too late, in June and July.

On the east coast, it is mainly in Kalmar Sound, and the archipelago northwards up to Västervik, that garfish appear from mid-May to early June. The same is true of northern Öland, e.g. in Böda Bay, where several tonnes have been caught in pound-nets between May 15 and Midsummer. In some years the nets have had to be closed in order to limit the catch, which sometimes exceeds one tonne daily. Smaller catches are made in May and June with fyke nets in shallow waters also off southern Gotland (the fish weighing up to 1-1.5 kg in 1984).

Eel-fishermen on the east coast regard the garfish to some extent as a "plague". It is in low demand on the market there, and the sharp teeth of the fish may passively gnaw holes in the net when it is caught.

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Occurrences in springtime are more sporadic to the north of Västervik as well as around Gotland. But the garfish is seen as a regular, though not numerous, guest in the Öregrund area, at the south of the Bothnian Sea, on about the first of June - particularly since the introduction of pound-nets and similar gear there. In the same region, individual fish are caught also during July and August. Occasional catches during August and September in the central Bothnian Sea result from pelagic trawling and eel pound-nets. On the other hand, garfish are not observed farther north along the coast or in Norra Kvarken, where they have been recorded on the Finnish side.

It can be said in general that the garfish is best known from areas in which pound-nets are used during the spring for cod, herring, and eel. If the gears are first set out in late June or early July for silver-eel, as most commonly at the south coast and most of Öland, then the catches are insignificant. The shoals of garfish have already spawned or passed onward to the north. The catch also varies greatly with the water temperature and is largest in warm water. Northerly and northeasterly winds, with consequently low water temperatures, were presumably responsible for the unusually small catches at the Swedish south coast and off northern Öland during the spring of 1984, although bigger and older fish predominated in these.

### Spawning

As a rule, the garfish is ready to spawn immediately after reaching the Öresund and the Baltic in May and June. Smaller individuals are spawning later. This activity occurs in very shallow waters, both in the Öresund and along the south and east coasts. Large, mature fish are found regularly as far north as Öregrundsgrepen around the first of June, and occasionally off Vaddö in the Åland area, as at the beginning of July 1971 (with lengths of 60-65 cm).

The juveniles are well-known to eel-fishermen along the coast up to Västervik and on Öland. Small fry have probably also been observed in shallow waters of northeastern Gotland in August, but not farther north. These appear first in very shallow areas and subsequently in deeper water. Lengths are about 10 cm in August and, later in the autumn, about 20 cm. Such sizeable fry have even been seen out at sea by salmon fishermen between Gotland and the mainland in October, and off the south coast in November.

During the summer, the adult garfishes presumably roam in the open sea. However, catches of up to some hundreds of kilograms can be made temporarily at the south and east coasts, as in July and August with easterly winds. One to two years old fish sometimes are caught in pound-nets in August.

### Migrations

Most of the garfishes seem to leave the Baltic at the end of August and during the first half of September. Large catches, sometimes of several tonnes, have then been possible

both on the south coast of Skåne and in the Öresund. Exceptionally, up to one tonne has been caught in the southern part of the Sound as late as November. When tunny occurred in the Öresund, most recently at the beginning of the 1960s, they diligently hunted the garfish in September. Small young garfishes, said to be "as big as pencils", come later here in the autumn.

The adult fish in autumn is quite fat and usually does not bite the hook - which it gladly does in the springtime. In the latter period it is often fished with a casting-rod at Helsingborg and Helsingör in May, on its way into the Baltic. Individuals are commonly caught on salmon-hooks between September and October, sparsely in November, as far up as Gotska Sandön. The Aland Sea sometimes yield such catches in October. By-catches of garfish also occur with wide-meshed herring nets in the Öresund during October.

Observations in wintertime have not been made with certainty after November; they may occur at times in December, but never after the New Year. The majority of both old and juvenile garfishes probably leaves the Baltic early in autumn. This does not, of course, exclude the possibility that some may try to overwinter there, just as mackerel are occasionally found in the rather warmer deep water of the southern Baltic in winter. But the risk of their not surviving until spring is apparently great.

According to the literature, the main wintering area of garfish is in the waters to west of the British Isles. However, our knowledge of the migration routes is negligible and they require investigation. The garfish appears in the North Sea during March and April, reaching the west coast of Sweden in the latter part of April. It then spreads with obvious rapidity in the Baltic so as to reach the Öregrund area at the southern Bothnian Sea around the first of June. In the middle and end of May, it is usually most numerous at the south coast and, a week or so afterward, at northern Öland.

#### Swedish catch of garfish

At present, the annual Swedish catch in the Baltic and Öresund probably does not exceed about 50 tonnes. This does not include catches which are released from pound-nets on the east coast due to unsaleability. The highest total Swedish catch, in 1948, was 251 tonnes, of which more than half was taken in Kattegat-Skagerrak. Other maximum catches have been 33 tonnes on the south coast (1941) and 84 tonnes in the Öresund (1949). These quantities depend greatly on the number of pound-nets and, when it decreased during the 1960s, so did the catch of garfish. No detailed figures are available from the east coast, but the total landed annually seems now to reach about 5 tonnes, chiefly in Kalmar Sound and off northern Öland.

