FISHING FOR SMELT, OSMERUS EPERLANUS (Linnaeus, 1758)
A traditional food fish – possible cuisine in post-modern Sweden?

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For the rural population in Sweden, fishing in lakes and rivers was of great importance until recently. Many fish species served as food or animal fodder, or were used to make glue and other useful products. But the receding of lakes in the nineteenth century, and the expansion of hydropower and worsening of water pollution in the twentieth, contributed to the decline of inland fisheries. At the same time, marine fish became more competitive on the Swedish food market. In some regions, however, certain freshwater species continued to be caught for household consumption well into the twentieth century. One such species was the smelt (Osmerus eperlanus), which fifty years ago was still of economic importance. Nowadays, however, smelt is only caught in very low volumes; its role is therefore insignificant. In neighbouring countries, however – such as Estonia, Lithuania, and Russia – it is still being exploited commercially. In Germany, where water quality has improved in rivers and restaurants have shown increasing interest in smelt, a successful revival for the fish as a regional and seasonal food can be seen. Smelt fishing has dimensions which are not only culinary, but social and cultural as well. Traditional ways of food preparation can be transformed into modern haute cuisine. Smelt fishing has the potential to develop commercially in Sweden also.

Key words: Aquatic resources, ethnobiology, food for future, freshwater fish, human geography, local fishery, traditional knowledge

INTRODUCTION

Selma Lagerlöf, a famous Swedish author, was the first woman to win the Nobel Prize in literature (in 1909). She was born and raised at Mårbacka Manor, in the province of Värmland in western Sweden. In her memoirs from 1922, she wrote about her father’s
great fondness for smelt, Osmerus eperlanus (Linnaeus, 1758). This fish could only be caught for a few weeks in the spring – during which time, however, it could be taken in very large quantities. A fisherman in the vicinity of Mårbacka came personally to the manor with the first catch of the year, and sold it directly to the estate’s kitchen. He knew well that he was bringing a welcome commodity. The presentation of the catch was almost a ceremony. Elsewhere in Värmland in the late 1800s, smelt was regarded as a poor man’s meal; the master of Mårbacka, however, enjoyed the tasty fish. The author’s father was more than content with the fish, and the other residents of the manor also appreciated the first catches. The entire household – both servants and the family’s womenfolk – were mobilized to clean and prepare the smelt. It was served deep-fried. Day after day, the fisherman came back with more fish for the devoted master of the manor. This continued throughout the whole spawning season. Morning, noon, and night, smelt was served at Mårbacka.

Smelt has, however, a highly distinctive smell. It lingered in the room and clung to the clothes, to the growing irritation of the denizens as the days passed. Their appreciation of the fish – both its taste and its odour – was quelled. Eventually, all of the manor’s residents (its master excepted) grew weary of the daily preparation of the smelt, and of its unvarying consumption. After a few weeks, both the household’s servants and its womenfolk were in a state of revolt. To put an end to the constant consumption of the now despised fish, they started serving it boiled rather than fried, on the grounds that no butter was left in the house in which to roast it. Boiled smelt, it bears stressing, was considered disgusting. The father of the family took the hint, and the monotonous diet ceased for the year; other dishes were prepared instead (Lagerlöf, 1922).

Lagerlöf’s account gives an interesting insight into a once-common use of resources. It built on local knowledge of fish stocks – knowledge gathered over years during which residents had observed the behaviour of different species in the immediate environment. Smelt-fishing was an important local phenomenon. The European smelt is an interesting species, and it can be caught in large quantities; but the individual fish are small. Smelt-fishing in Sweden is largely limited to the area where Lagerlöf lived, and it is only for household consumption. Smelt is also caught sparingly in a few other locales in central Sweden. It is a very underutilized resource – but it could have a future.

The aim of this article is to provide an overview of historical and contemporary uses of smelt in Sweden and in neighbouring countries. We will also describe attempts to increase interest in the fish in modern cuisine.

THE GLOBAL MARINE CRISIS AND THE DEMAND FOR FISH

Fishing is a relatively small industry in Sweden nowadays. Even so, Swedish fishermen – of whom 1,300 were active in 2014 – haul in a landing value of 1.6 billion Swedish crowns (2014) each year. The most important species are sprat (Sprattus sprattus), herring (Clupea harengus), cod (Gadus morhua), mackerel (Scomber scombrus), and shrimp (Pandalus borealis). Sweden has a long coastline rich in fish along the Skagerrak, the Kattegat, and the Baltic Sea. Its fishing fleet takes in pelagic and demersal species with trawls; and flatfish, lumpsucker (Cyclopterus lumpus), mackerel, spiny dogfish (Squalus acanthias), and shellfish with portable traps, fyke nets, and various other kinds of net. In the case of herring and sprat, a large part of
the catch is turned into fish meal, which then serves as salmon-feed in aquatic fish farms. Some freshwater fishing is also found in the largest Swedish lakes – Vänern, Vättern, Hjälmaren, Mälaren, and Storsjön in Jämtland – where national rules regulate it and a license is required. A total of 236 people have a license to conduct freshwater fishing in Sweden on a commercial basis. Some of this catch is exported. Fish consumption in Sweden is wholly dominated by marine fish and farmed salmon (Jordbruksverket, 2015).

Global marine fisheries are currently facing a crisis, mostly due to the over-exploitation of stocks. The ecological collapse of several fish populations is thus imminent. Over 30% of the world’s fish stocks are either over-exploited or depleted (European Commission 2009). The WWF, other NGOs, and environmental-protection agencies advise us against consuming deep-sea species, as well as various gadid species from overfished stocks. Current practices of food production, such as the nourishing of predatory fish species (especially salmonids in aquaculture), are unlikely to be sustainable over the long term. Other fish, such as pangasius catfish, are also produced under conditions unconducive to sustainability. If we are to make meaningful progress toward sustainable food production, we must increase our understanding of the potential use of other fish species – perhaps those that have been important historically, but which are not exploited commercially at present (Olsén & Svanberg, 2016).

Health experts and nutritionists call strongly for the consumption of more fish. There is a general consensus that fish provide good and healthy food, although consumers in our part of the world eat it significantly less often than health authorities recommend (2–3 times per week) (Brugård Konde et al., 2015). If sustainable use is to be furthered even as a greater consumption of fish is encouraged, small-scale coastal fishing may offer a viable option (Lindgren et al., 2013). The species found in rivers and lakes, however, are another good source of fish resources. An abundance of freshwater fish is available in comparatively clean waters. Locally caught freshwater fish offer the contemporary market an interesting and perhaps viable source of food. Fishing in lakes and rivers is often small-scale, and it offers economic opportunities for holders of fishing rights. A wide range of taxa that are overlooked currently could play a key role in food production and consumption in the future. Wild freshwater fish are also renowned for being a tasty and nutritious food (Lindell & Svanberg, 2014).

A FISH WITH A CHARACTERISTIC SCENT

The European smelt, Osmerus operlanus (Linnaeus, 1758), of the Osmeridae family, is a small elongated silvery fish, 10–30 cm long. It is a pelagic species foraging on plankton. It lives along the Atlantic coasts of Europe, from the Baltic Sea in the north to the Bay of Biscay in the south (Fig 1). There is also a population in the White Sea. Landlocked populations – relics from the Baltic Ice Sea– are found in lakes in some parts of Denmark (Flyndersø), Norway (Mjøsen), Sweden (Vänern, Vättern, Mälaren, Hjälmaren, Ivösjön, and Oppmannasjön), Finland, Estonia (Lake Peipsi), Latvia (Lake Liepāja), and Russia (Onega, Ladoga, Ilmen). The freshwater variety is bluish on the back; the marine form is bluish green, with a pale abdomen and a silver stripe on its side (Nellbring, 1989; Kottelat & Freyhof, 2007). Fig. 2
Spawning takes place from late February until early May. Upriver migration begins in March or April, when temperatures rise above 4–6°C (Celsius) and the weather is stormy and rainy. Spawning migration only reaches the lower part of rivers. In the course of this reproductive migratory journey, smelt are caught by fishermen throughout northern and western Europe: for instance in the Seine, the Thames, the Wadden Sea, the Elbe, Göta älv, Finnish rivers, the Neva River, and the Curonian Lagoon and the Gulf of Finland in the Baltic Sea (Hutchinsson, 1983; Nellbring, 1989; McAllister, 1984).

The scientific name for smelt, *Osmerus*, is derived from the ancient Greek ὀσμήρης (odorous). This refers to the characteristic scent of the fish, which recalls that of freshly cut cucumbers. The smelt is famous for its intense and
distinctive odour. As a rule, people either like it or despise it (Storå, 2004). Several local names allude to its special odour. It was known in Denmark in earlier times as *maltfisk* (malt fish), or as *agurkfisk* (cucumber fish); in southern Norway, locals referred to it as *væggelusfisk* (bedbug fish, since they found its smell similar to that of bedbugs). It was known in Germany as *Stinckfisch* ’stinkfish’ (Svanberg, 2000).

It is a striking thing that human beings, despite their weak sense of smell, should react so strongly nonetheless. The aversion here would seem in fact to be culturally acquired, and amenable to change over time. The taste of the fish, on the other hand, calls to mind the flavour of violets. Cucumbers and violets, apparently, can be combined. In former times in Sweden, smelt was caught in large quantities during the spawning season, and sold in the town square in many cities (Svanberg, 2000). This caused an unbearable odour to spread throughout the streets and squares. Many authors have described the cucumber-type scent as revolting. Interestingly, however, the inhabitants of Värmland tend to regard it as pleasant, and indeed as evidence of the fish’s palatability (Storå, 2004; Svanberg, 2014).

In northwestern Europe today, smelt is commonly overlooked as a food fish. Notwithstanding this, the species has a long history as a food fish in the Baltic Sea region and in adjacent areas of northern Europe. In Germany, Russia, and Estonia, for instance, there is still a demand for it. There are also attempts in several countries to increase interest in its use. It thus possesses a strong potential to develop into a regional specialty.

We hope our research will help to enhance general understanding of traditional local knowledge of fish in northern Europe, of the uses of fish in that region, and of the importance of fish in pre-industrial and contemporary society. Our research field, sometimes known as aquatic ethnobiology or ethnoichtyology (a branch of ethnobiology), deals with the relationship between human beings and freshwater biota and ecosystems (García-Quijano & Pitchon, 2010; Edlund, 2010; Ståhlberg & Svanberg, 2011). In this article, we provide a broad overview of the historical role of smelt as a food fish in the Baltic Sea region. We discuss its decline as a food fish, its contemporary uses (based on fieldwork data), and the attempts now being made to promote its future consumption (among other things with the help of smelt festivals). Can smelt be revived as a food fish in Sweden and in adjacent countries?

**HISTORICAL USES OF SMELT IN NORTHERN EUROPE**

When it is spawning in rivers, smelt can be caught very easily using simple gear (buckets, nets, traps, etc.). Smelt shoals can be very thick. In fact the fish can be harvested by hand in large quantities, a method still practiced by Swedish children in the early twentieth century. Boys in western Värmland could apparently catch up to 25 kg in this way (Jansson, 1954). Due to its great abundance while spawning, anadromous smelt has played an important economic role in northern Europe since time immemorial. Smelt fishing is very ancient. It is known to have been practiced in northern Europe as early as the Mesolithic (Boethius, 2016).

Archaeozoological evidence points to the use of smelt since prehistoric times. Several written reports tell, moreover, of the economic importance of smelt fishing in Europe’s northern regions since the Middle Ages. In the southern Baltic area, for instance, smelt is mentioned in *Ratzerburger Urkunde* from 1274 (Seehase, 1935). A *kydadlo*, a type of
fishing gear for smelt, is known from 1373; it is also mentioned in 1357, but without reference to smelt (Cios, 2007). It was probably a small net, since the word *kidadol* was still in use at the beginning of the twentieth century among Kashubians living near Danzig/Gdańsk (Chmielewski, 1960; Moszyński, 1962; Kłodnicki, 1992). In Sweden and Finland, smelt fishing is attested since the late Middle Ages. In the city of Stockholm, smelt was caught both for local consumption and for export. In Uskela parish, Turku and Pori Province, baskets for smelt-trapping are mentioned as early as c. 1450 (Bernström, 1965).

From the early modern period to the early 1900s, smelt fishing was important in northern Europe. Stephan von Schonefeld, a physician from Hamburg, describes the smelt in his *Ichtyologia* (1624). He refers to it by its German names: *Stindt* and *Stinckfisch*. Around the time of the equinox, he explains, smelt was caught in considerable quantities in the waters near Hamburg (Schonefeld, 1624). Smelt fishing was long important in northern Germany. According to Waga (1858), smelt caught at the mouth of the River Elbe were dried in the sun, salted, put into small barrels, and then sent from Hamburg to Poland – where they were served at ‘good tables’. Aside from being caught in the Elbe, anadromous smelt were taken from the River Weser, as well as from certain lake populations (Ehrenbaum, 1894). Water pollution led to a decline in river fishing, but the quality of Elbe water has improved in recent years, and today the smelt has returned – as has smelt fishing. Today, it is the most abundant fish species in the lower Elbe (Rebaschus, 2014).

In Hamburg, there is a hill above the river called Stintfang. The city of Lüneburg, along the River Ilmenau, contains a square popular with tourists known as Stintmarkt: that is, ‘Smelt Market’. In later times – until very recently – smelt was of little commercial importance, as it was found in polluted waters and only in small numbers; thus there was little demand for it. With ever cleaner rivers today, however, it is again being caught in substantial volumes. Nowadays restaurants in Hamburg, Geesthacht, and other resort towns in the lower Elbe basin offer this fish as a seasonal culinary specialty. Typical accompaniments include potato salad and apple sauce (Rebaschus, 2014).

Despite its small size, smelt played a big economic role in Poland. It was included on the city’s price list in 1619 in Warsaw, where dry smelt was sold by volume – a quarter. In 1628, local fishermen plying their trade on a lake near Skulsk were obliged to give their landlord two barrels of the fish. In 1616, the fishermen had to pay a tax, consisting of a barrel of dried smelt, for the right to use a small seine net. Smelt was thus well-known in regions where the fish was present, and it was considered a delicacy. Reports from Pomerania tell of the fish, in the vicinity of Lake Rośno. A *Stinthamen* (i.e. a landing-net for *smelt*) is mentioned in 1568 in the Masurian Lake District (Białuński, 2000). In the lakes near Augustów, the fish was caught in such great quantities that it formed one of the main food items of the common people (Cios, 2007). Sklodowski (1861) too states that smelt was a common food among poor folk. Tykel (1858) notes that, although smelt was consumed by poor Jews in the towns, the best smelt reached the rich. The latter prepared the fish, especially when fresh, by frying it in butter. The common people made soup from it, and they would eat the whole fish – head and all – without cleaning it. The smelt is known as *stynka* in Polish, obviously a loan and adaption from German (Leder, 1968).

Smelt from estuaries was also important. In the Vistula Firth, the fish was caught for local consumption. At certain times – mainly the end of winter – it was the main food consumed by the poor. In the city of Elbląg in the sixteenth century, it was served
in a hospital (Klonder, 1988). It was also given to pigs, and used as fertilizer in the fields (Nadmorski, 1882).

In Denmark, smelt was traditionally caught in large quantities around the Limfjord (Rasmussen & Carl, 2012). It was usually served fried, but it could also be dried for later consumption. A report from the Thy district in northern Jutland in the early nineteenth century, indicates it was considered a delicacy, and that it was served cooked, fried, or smoked (Brøndegaard, 1985). In Norway, it was caught in some lakes in the south of the country (Mjøsa and Lake Tyri); nowadays, it has no importance at all (Svanberg, 2000).

Smelt fishing has always been important in Finland. In the era of the Grand Duchy of Finland (the nineteenth century), smelt was caught in great quantities with gill-nets and other kinds of net. Fisheries were located around Lake Näsijärvi in the Pirkanmaa region, in Kaivanto channel in Tavastland, and in other parts of the country. According to nineteenth-century accounts, the fish was mostly eaten by poor people, as well as by Russians living in the Grand Duchy of Finland. Finnish-speaking peddlers – known as norsfinnar (‘smelt Finns’) – roamed the countryside in the spring selling the fish (Storå, 2004).

In Russia too, smelt has a long tradition as a food fish (Pallas, 1811). In the nineteenth century, Russian soldiers stationed in Poland commonly ate smelt. A soup made from the fish was often served in jails in western Russia. Much of the smelt sold in Poland in those times was from Lake Belozero in Russia (Cios, 2014). Prior to World War I, smelt was caught on a large scale in Lake Ladoga, and then sold from its northern shore. The fish was dried in the sun, after which time it was sold (with the help of middlemen) on the Saint Petersburg market. Smelt was popular among city-dwellers, as indeed it remains today (Svanberg, 2000). Nowadays, the smelt season in Saint Petersburg opens up in March-April, when it is served in restaurants. The fish is usually rolled in wheat flour and then gently fried (Valeria Kolosova, personal communication, 15 May 2015). In the Pińsk district (now in Belarus) the fish were put into a barrel, salted, and then struck and pressed with a thick stick (like cabbage). Such fish could be kept the whole winter (Rouba, 1895). Commercial smelt fishing continues to take place on a considerable scale in Russia - and not just in the northwestern areas of the country, but also in the White Sea, the River Yenisey, the Ob Estuary, and Chukotka (Belyanina, 1969). Fig. 3

At Lake Peipsi in Estonia, smelt has been a traditional catch. Commercial smelt
fishing is still carried out in that country (Shpilev, Ojaveer, & Lankev, 2005). Anadromous smelt is also found in the coastal waters of Latvia. It winters near river mouths, and then enters the lower reaches of rivers for spawning between February and April. The young fish spend the summer in the rivers, and then migrate to the sea in the autumn. The freshwater variety was observed in 30 lakes in the 1930s, 7 in the 1950s, and 4 in the late 1980s. Smelt is still a commercially important species in Latvia, with an annual catch of 200–500 tons in the Gulf of Riga and in other coastal waters (Shpilev, Ojaveer, & Lankev, 2005; Aleksejevs & Birzaks, 2011). There is a tradition of catching smelt in the Curonian Lagoon, as older sources attest. Poor people in particular had a liking for the smelt caught there. In the mid-nineteenth century, the quantities harvested were so great that they started making fertilizer from it (Siebold, 1863). Fig. 4.

**SMELT FISHING IN SWEDEN**

We have many eyewitness accounts and ethnographic descriptions of smelt fishing in Sweden from the early modern period up to the mid-1900s (Svanberg, 2000). Particularly in the provinces of Södermanland, Värmland, Västergötland, Västmanland, and Uppland, as well as in the city of Stockholm, there is a long tradition of local smelt fishing. The River Mo in the northern province of Ångermanland has been another site for this activity (Eklund, 1979). Fig. 5.

In 1670, one observer in Värmland saw anadromous smelts being caught in baskets. Lift nets were also used, according to several reports. In April 1693, King Charles XI observed peasant fishermen using lift nets in the river at Kungsör in Västmanland. Several eighteenth-century authors describe the catching and consumption of smelt in Sweden in detail. Carl Linnaeus was well-acquainted with the fish, which was readily
available in his time in the market squares of Uppsala (Svanberg, 2014). In a manuscript from 1716, Erland Hofsten gives an informed and detailed account of smelt fishing in Värmland, with information on folk taxonomy, fishing gear, fishing methods, and the uses to which the catch was put (Hofsten, 1917). Smelt has usually been caught using gillnets, lift nets, or basket fish traps. For a detailed review of smelt fishing in Sweden before the twentieth century, stressing its importance amongst the peasantry and other ethnobiological aspects, see Svanberg (2014).

Ethnographic data on smelt fisheries in Värmland, Bergslagen, and Norrström – gathered through questionnaires, interviews and written sources – point to far-reaching continuity in technology, terminology, and what can be called local knowledge. The most important smelt fisheries in Sweden during the twentieth century were in Värmland; in 1918, that area accounted for 67.2% of the country’s smelt catch (Sveriges Officiella Statistik, 1920). As their forebears did earlier, those engaged in smelt fishing in our day possess a local knowledge of the fish, which they interpret according to their world view. This involves a certain way of seeing and reading the landscape and the waterways, based both on personal experience and on circulating biological knowledge. Its elements include previous observation, a close knowledge of local conditions, a conceptual framework for interpreting experiences, and a way of classifying fish and other elements in the environment. Such skills are conveyed across the generations, even while being adapted to new conditions. Specific linguistic expressions associated with smelt fishing are still being used today (Svanberg, 2000).

Since the seventeenth century, a folk taxonomy has existed for smelt stocks in Sweden (Värmland and Bergslagen especially). It has featured a few main designations, which at times have been seen as synonymous, and at other times as referring to distinct populations or smelts of different sizes. At Lake Vänern, three kinds of smelt...
were distinguished. In Bergslagen, locals spoke until recently of two different kinds of smelt (Svanberg 1983, 2000, 2014; cf. Edlund, 2010).

As recently as the early twentieth century, the production year was divided up according to the most favourable times for catching different fish species. First came the ‘smelt tide’ (Swedish: norstiden, norsaveckan, slomtiden, norsnätter), in the spring. The time for the catch coincided with the post-winter thaw, when smelt began appearing in the river mouths. At that point it was time to take out the gear. It was important to observe carefully when the fish arrived. In some locales, vegetation was inspected for signs that the spawning time had come. When the alder leaves (Alnus glutinosa) are as big as rat’s ears – that is when the smelt has arrived. Or as they said in Bergslagen: the spawning time has come when the birch leaves are the size of mouse ears. The saying in Uppland was that smelt spawn when the goat willow (Salix caprea) blooms (Svanberg, 1983; Svanberg, 2000; Bergius, 2016). According to yet other reports, smelt spawn in the spring when the cold gusts blow, often with a touch of snow. In Bergslagen, in fact, winds of this kind were named after the fish (Swedish: norsylingar, norslingar, slomäl, slomkula) (P:son Karlsson, 1946; Harbe, 1956; Svanberg, 2014).

In former times the fish was caught with a range of gear: nets, seine nets, lift nets, hand nets, or basket fish traps set amid the rapids. Written accounts of lift nets can be found dating back 300 years or more (Salvius, 1741). In a travelogue from 1746, for instance, Carl Linnaeus describes this device (Svanberg, 2014). Nowadays lift nets and hand nets are mainly used (Möller, 1935; Jansson, 1954). Fish traps were used in eastern Sweden until a few decades ago (Höglund, 1982).
Due to the special conditions of night-time smelt fishing – when for a few days conditions are optimal – bonfires were often lit on the beaches. The catch attracted many who came to watch. It was a fairly dramatic event, with considerable entertainment value: journalists, adults, children – even tourists looked on. In Stockholm the fish were caught in the city centre, enabling a large number of spectators to watch. Fig. 6

One thing that did change in the twentieth century, however, was the treatment given the fish after being caught. Since smelt was caught in very large quantities, the most common treatment prior to 1900 was drying. According to Lars Roberg (1727) the fish was consumed after being air-dried and baked in the oven. An account from nineteenth century Sollerön in Dalecarlia describes how the catch was spread out on roofs or on boards laid on the ground. The sun-dried fish were then put into sacks and stored in warehouses (Levander, 1943). This procedure was simple and cheap. The method also made it possible to transport the fish over long distances, and thus to sell it in the cities of central Sweden (Svanberg, 2014). In its dried form, smelt provided protein-rich nourishment even for the poorest layers of the population. The dried fish could then be eaten as was, or roasted in the oven or fried in a pan (Storå, 2004; Svanberg, 2014). Fish pancakes made of smelt is mentioned as a popular dish in Södermanland (Höglund, 1982).

During the twentieth century and up to the present day, the most common way of preparing smelt has been to fry it in margarine (nowadays often butter). Deep-frying is another popular method. Sometimes the rinsed fish is soaked in milk, and then rolled in flour before frying. Opinion is divided on whether or not the fish needs to be cleaned; our impression, however, is that younger people prefer to remove the bones.
The head, however, can remain to good effect. The fish is served with lemon, parsley, and boiled potatoes. Striking new ways of preparing smelt are rarely mentioned. The fish can be frozen and then fried later in the year. According to the authors of one of Sweden’s most popular cookbooks during the postwar period, smelt can be fried, deep-fried, boiled, smoked, or prepared *au gratin* (Engnes, Tunberger, & Wretman, 1960). Fig. 7.

DECLINE

Until a few decades ago, smelt was caught on a large scale in several parts of Värmland and Bergslagen, as well as in central Stockholm. In the early 1950s, there were still 40 boats in Norrström in central Stockholm that caught smelt with large lift nets; today just four remain, and smelt fishing is insignificant. Along the Klarälven some smelt are still caught for household consumption, with the help of lift nets and hand nets.

The decline reflects a number of factors. Smelt fishing grew less common throughout the postwar years, although it retained a degree of popularity. Increased toxic emissions from industries near the lakes of Vänern and Hjälmaren were a death blow. Fisheries in the area were badly damaged. In Värmland, the expanding pulp industry in particular was fatal. The postwar period saw large-scale fish deaths in several areas. Forest industries resulted in lower water quality. It is said that smelt died in large numbers when migrating past sulphite plants (Degerman, 2004).

In some areas there was still smelt fishing in the mid-1960s, but demand for the fish had declined. Fish of other kinds, especially Baltic herring, were now available on the market throughout Sweden; and as eating habits changed and economic conditions improved under the expanding welfare state, they enjoyed increasing popular favour. Freshwater fish in general grew less important as a staple food in Swedish homes. Our interviews indicate, moreover, that housewives in the 1960s were not amused when their children would come home with yet another bucket full of odorous smelt, which the women were then expected to clean and to cook. Free food has much to recommend it, but variation was limited in how the fish could be prepared. It was usually fried in margarine and then eaten with potatoes. Some realized the fish could be pickled, and then eaten at Midsummer instead of herring. Due to the smelt’s odour, however, many who were unaccustomed to the fish did not care to eat it.

In the 1950s, smelt was still being served at lunch restaurants in Stockholm in the spring. It could also be found at better restaurants that offered classical Swedish dishes *a la nouvelle cuisine*. Nowadays, however, smelt fishermen are seldom seen on Norrström. One searches in vain for the fish at the city’s eateries. Not even at Hötorghall, the city’s famous market hall, can this local specialty be found today – despite all talk of local produce and of menus in line with the seasons, and notwithstanding efforts by restaurateurs to highlight brands and flavours of local origin. *Hallen*, the market hall’s paper, did tout the virtues of smelt in 2015; but for all that the fish is seldom available at Hötorghall (Edvinsson, 2015) Smelt fishing in central Stockholm is marginal nowadays, although boats with the typical nets are still to be seen outside the parliament. These, however, are mainly used to catch zander (*Sander lucioperca*).

Changes in eating habits have had an impact too. Over the last 25 years, the consumption of fresh fish has fallen and that of processed fish has risen. In the early
2000s, Swedish fish consumption was estimated at 18 kg per person per year. Of this, 5.7 kg consisted of fresh fish, 2.1 kg of frozen fish, and 7.1 kg of preserved fish. The rest consisted of shellfish. Consumers eat the fish which is available in stores (Bonow & Svanberg, 2013).

The only place where smelt is still caught in the traditional fashion is along Klarälven in Värmland, and on some other streams in that province. Improvements in water quality have contributed to the species’ return; some fishing for household consumption has thus been able to live on. Knowledge of how smelt is caught is handed down within families. When the fish makes its appearance in the river, local landowners fetch their gear and make their way to the water. It is an experience for the whole family. Taking active part in the catch – following a tradition which is practised just a few evenings each year – is seen as exciting and fun. It is dark and the weather is cold, but the occasion makes for excitement; and the catch itself makes possible a special kind of meal at home. No great fuss is involved, even as seasonal fare becomes available which people do not otherwise normally eat. Some families, however, freeze portions of the catch for consumption at other times of year.

Smelt fishing has dimensions which are not only culinary, but social and cultural as well. It has some importance for modern regional identity. Värmland, especially around Klarälven, remains the stronghold of smelt fishing in Sweden today, and it is the only region where local fishing for household consumption continues with some energy. In 1994, in fact, smelt was proclaimed the ‘provincial fish’ of Värmland (Svanberg, 2014).
In most places where it was traditionally conducted, smelt fishing has largely ceased and its memory has faded (Storå, 2004; Svanberg, 2014; cf. Maitland & Lyle, 1996). In order to re-awaken interest in the fish and as well as hold a springtime regional event, some localities in Sweden have held special smelt festivals. Making smelt a local attraction helps builds regional identity, while at the same time keeping a fine old tradition alive that is in danger of being lost. Fig. 8.

Holding so-called gastrofestivals to promote tourism and local food products is a global trend (Kisbán, 2013). The White Fish Fest in Kukkola, in the border area between Finland and Sweden, is probably one of the oldest (Granlund, 1940). Vendace Day in Bengtsfors, Dalsland, is another example of a local fish festival. The most well-established gastrofestival in the Nordic region is the annual Baltic Herring Fair (Silakkamarkkinat), held every October in Helsinki. A number of local events revolve around Baltic herring. The herring fair in Helsinki is popular among both tourists and locals. Smelt festivals are part of this trend, and have been held in the Swedish cities of Mariestad and Arboga.

Mariestad, located on the eastern side of Lake Vänern in the province of Västergötland, is an old city with just over 15,000 inhabitants. Its economy is dominated by a few major industries. There is an old tradition in Mariestad of fishing for smelt in the River Tidan, which empties into Lake Vänern within the city, and which happens to be one of the few Swedish rivers that flow northward (Astin, 1982). In 1983 the city celebrated its 400th anniversary, and in connection with the occasion began a festival – known as the Smelt Festival (Swedish: Norsival) – devoted to the catching and consumption of smelt. The festival drew many visitors and attracted the attention of the national media, including television. It took place on a yearly basis thereafter, but came to an end in 2010.

Arboga is a medieval town in the province of Västmanland. Located on the river Arbogaån, just north of Lake Mälaren, it has only 10,000 residents. It is a traditional industrial centre, with a technical profile. Arboga too has made smelt fishing into an attraction. Known as “Norsylingen” (in reference to a biting wind associated with the smelt fishery), the festival usually takes place on a Saturday in mid-April. It is seen as a way of greeting the spring (the arrival of smelt in the rivers being a traditional sign of spring in places where the fish was caught). The festival began in 1981, through an initiative by the Arboga Lions Club (Dagerhäll, 1989). A local fishing club, Sturefiskarna, has been responsible for organizing it since 1999. The fishing is done beforehand and the catch is frozen. An estimated 200 kilos of smelt are sold on the festival day, during which time a couple of traditional boats go out on the river with lift nets and show how the fishing is done. The festival is held in a restricted area along the river, where representatives of the fishing club bone and broil the fish, and then serve it in flatbread with onions. This all takes place under the supervision of older men who are bearers of the tradition, and who took part in smelt fishing in the past. The smelt can also be purchased for home consumption. The fish sell out, and the number of visitors is increasing each year. Besides eating smelt and watching it being caught on the river, visitors can drink coffee, buy hot dogs, and listen to music performed by some older local musicians. The festival is very simple, and it attracts young and old alike (often together). Grandparents see it as an opportunity to convey a culinary heritage to their grandchildren – as a sort of counterbalance to the
multinational fast food that the latter otherwise eat. The fishing club has tried to interest local politicians in the idea of opening a summer restaurant where smelt and other local fish may be served, but it has not yet succeeded in securing their support. Nor have tourists found their way to this event. Smelt fishing remains otherwise marginal. Fig. 9.

Catching a species such as smelt, when it appears in large numbers in the spring, is of course appealing. The fact that the catch takes place at night may also contribute to the excitement. Smelt fishing has always attracted people. Smelt festivals with similar taxa have thus emerged in several locations in the northern hemisphere. Along the River Cowlitz in the state of Washington, fishing for a smelt known as eulachon (*Thaleichthys pacificus*) has a long history. A smelt festival begun in 1952, arranged by the Fraternal Order of Kelso Eagles, included a smelt-eating contest. In 1956, the local chamber of commerce proclaimed the city of Kelso the ‘smelt capital of the World’ (Miller & Watson, 2011; Yuasa, 2015). A probably better known festival is the one held in the village of Lewiston, on the lower part of the River Niagara in the state of New York. A two-day smelt festival is celebrated there every year, during the first weekend in May. In the course of this festival, approximately 350 pounds of rainbow smelt (*Osmerus mordax*) are battered and fried along the waterfront. The motto for the festival is a play on words: ‘Lewiston never smelt so good.’ (Daul, 2013). For other smelt festivals in North America, see Kaups (1978). In South Korea, the city of Inje holds a yearly event called the Ice Fishing Festival. It takes place at Lake Soyang in late January or early February, the time when smelt enters fresh waters in the region in order to spawn. The pond smelt (*Hypomesus olidus*) is typically eaten alive(!) or deep-fried (Cho et al., 2006).

In Europe, festivals of this kind are held around the Baltic Sea. In Palanga in Lithuania, the annual smelt festival takes place in January. It is known as the Palangos Stinto. In
Finland, since a few years back, the city of Paltamohas held the Norssikarnevaale (‘Smelt Carnival’). Considerable funds were invested locally in an attempt to develop commercial smelt fishing. Now, however, the carnival seems to be fading away, and its festive nature has largely been lost. In 2015, it consisted mostly of onlookers watching the smelt fishing. In Saint Petersburg, a smelt festival (Russian: Prazdnik koryuški) has been held since 2002 in the month of May – at the time of the fish’s run in the River Neva (Valeria Kolosova, personal communication, 15 May 2015, 1 May 2016). Fig 10.

In the city of Lüneburg in northern Germany, smelt was made the centrepiece of a marketing project in 2007, generating an abundance of creative ideas from local businessmen, restaurateurs, and artists. In northern Germany today, rivers are cleaner and richer in oxygen than they had been, contributing to the revival of smelt fishing. When the catch begins on the Elbe in February, restaurants in Hamburg and elsewhere are quick to set out signs explaining that freshly fried smelt is being served with potato salad and apple sauce (Rebaschus, 2014).

**DISCUSSION**

Local produce and regional cuisine have become key concepts in contemporary debate (Bonow & Rytkönen, 2013). Besides being affected by market forces, by our economic situation, and by the recommendations of food-health authorities, our eating habits
are influenced by factors that can be called trends. One current trend is that in favour of local products: the food we eat should be locally produced and (ideally) seasonal in character. Other concerns are environmental and ethical: what we eat should be produced in a manner that is both sustainable and ethically defensible. Long transports should be avoided. Then there is the health trend, where the emphasis is on wholesome food. Finally we have connoisseurs, constantly on the lookout for new options for fine dining. In the convergence of these trends, traditional dishes and local produce are once again in vogue (Hermansen, 2012; Łuczaj et al., 2012; Svanberg & Ägisson, 2012; Bonow & Rytkönen, 2013). In this context, local specialties attract particular interest (Téchoueyres, 2001; Golija, 2013; Lysagh, 2013).

Marine fish, meanwhile, are being depleted due to great demand on the world market. In the Scandinavian countries, green certification has accordingly become important for ecologically conscious consumers. At the same time, farmed fish are taking an ever larger share of the market. But the consumption of farmed predatory fish, such as salmon, is not sustainable over the long run. Freshwater fish may offer a viable alternative. Smelt is both healthy and environmentally friendly. Here we have a resource, almost entirely untapped, around which to try to create consumer interest. Smelt may also help stimulate the local economy in places where it can be caught. So far, however, efforts to promote smelt have not been very successful, either in Sweden or in its neighbours on the Baltic.

Smelt is caught during a few days in spring when the fish enters the rivers to spawn. Smelt fishing of the traditional sort now takes place only along Klarälven in Värmland. In central Stockholm it has largely ceased, as it has in many other places where successful smelt fishing for household consumption was still seen a few decades ago. The pollution of waterways first contributed to its decline, after which the changing eating habits of a younger generation – and a sharp associated fall in demand for smelt on the market – led to the fish’s disappearance from the country’s diet. Attempts have been made through special smelt festivals to stimulate interest in smelt and smelt fishing, and to create a regional basis for them. These have met with some success in northern Germany, but less so in Sweden. The one festival (that in Mariestad) came to an end after almost 30 years; the other one in Arboga survives but is very small. Attempts to mobilize support from local politicians and the business community have not been successful so far. The charm of smelt still lies largely in its nostalgic shimmer: it affords the opportunity to enjoy something one ate in former times. It has become a snack munched at festivals, but not eaten otherwise. The tourist industry, furthermore, has failed to focus on these festivals. Gastrofestivals, then, have not been successful.

Modern chefs in the restaurant industry, who have been very successful at developing Swedish cuisine, have so far shown freshwater fish only a minimal interest. Smelt must find its way into restaurant kitchens if it is to have a future. But before it can gain acceptance as possible cuisine in today’s post-modern Sweden, much more must be done. In Paldamo, Finland and in Lüneburg, Germany, companies, research foundations, and government agencies have devoted real resources to expanding our knowledge about the economic, cultural, and social importance of smelt. This has not happened in Sweden. Nor has the Swedish fishing industry sought, unlike its Finnish counterpart, to develop smelt for export. Much of the freshwater fish caught in Sweden is sold on the larger European market. Smelt has a potential in that area, but one that so far has failed to materialize.

Smelt can be said to have the status today of a culinary curiosity that attracts some
attention in the spring in places like Arboga and Karlstad. Smelt can also be had in small quantities at Hötorgshallen, the big market hall in Stockholm. At the same time, while it is unknown as a table fish to most people, it is probably one of the most common species of fish in the large lakes of central Sweden, and it constitutes a considerable part of the total biomass of fish in some lakes. It is an important food for predatory fish like pike, zander, salmon, and trout. Scholars from the Institute for Freshwater Research have recently estimated that smelt accounts for 80 percent of the biomass of fish in Lake Vänern (Nilsson, 2014).

Thus, a great mass of this fish is available that is not used by consumers at all, but which clearly has great potential as a resource and as possible cuisine in post-modern Sweden. Indeed, freshwater fish in general offers a great opportunity to develop regional dishes, to expand environmentally friendly food production, and to encourage eating habits in harmony with future needs.

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