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BLACK SLUGS (*Arion ater*) AS GREASE: A CASE STUDY OF TECHNICAL USE OF GASTROPODS IN PRE-INDUSTRIAL SWEDEN

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ABSTRACT.—Black slug (*Arion ater* L.) is a common gastropod in forested areas of Sweden. In pre-industrial Swedish society and up to the beginning of the 20th century, slugs were used as a regular or temporary source for grease to lubricate wooden axle-trees. Although the custom is mentioned in written records from the 18th century, it is an otherwise almost undocumented practice. However, through an advertisement in a popular nationwide radio program, it was possible to record contemporary oral statements about this practice from a few decades ago. It seems to have been a widespread practice to substitute or improve the tar as cart grease with slugs in the older days. These animals, a freely available resource for everyone, were often gathered by children. The practice survived as long as the wooden carts and wagons were used, for example, in transporting hay. The study demonstrates that it is still possible to gather information about older practices in highly modernized societies, utilizing mass media as a way to reach informants.

Key words: slugs, technical use, transport, methods, ethnozoology, ethnobiology, gastropods, Sweden.

RESUMEN.—La babosa negra (*Arion ater* L.) es un gasterópodo común en los bosques de Suecia. En la sociedad sueca preindustrial y hasta el comienzo del siglo XX, las babosas se usaban como una fuente regular o eventual de grasa para lubricar el eje de madera de las ruedas. A pesar de que esta costumbre se menciona en documentos escritos del siglo XVIII, es una práctica casi indocumentada. Sin embargo, gracias a un anuncio en un programa de radio de ámbito nacional, se han obtenido testimonios orales que indican la vigencia de esta práctica hace tan solo unas décadas. Al parecer, antiguamente las babosas se solían usar como sustituto de la brea o para una mejor lubricación al engrasar el carro. Estos animales eran un recurso gratuito al alcance de cualquiera y los solían recoger los niños. La práctica sobrevivió mientras que se emplearon carros y carromatos de madera, entre otros, para transportar hierba. Este estudio demuestra que es posible recoger información sobre prácticas antiguas en sociedades altamente modernizadas, utilizando los medios de comunicación para acceder a los informantes.

RÉSUMÉ.—La grande limace (*Arion ater* L.) est un gastropode commun des forêts de Suède. Depuis la société suédoise préindustrielle jusqu'au début du XX^e siècle, les limaces étaient utilisées sur une base régulière ou ponctuelle comme source de graisse afin de lubrifier les essieux en bois. À part quelques mentions écrites tirées de sources du XVIII^e siècle, cette utilisation demeure pratiquement

non documentée. Toutefois, par le biais d'une notice placée lors d'une émission radiophonique populaire couvrant l'ensemble du pays, plusieurs mentions orales ont pu être enregistrées voilà quelques décennies. Il semble que l'on ait eu largement recours à l'utilisation des limaces par le passé, et ce, afin de remplacer ou, du moins, d'améliorer le goudron comme graisse pour les charrettes. Ces animaux forment une ressource gratuite et disponible à tous, même aux enfants qui souvent les ramassaient. Cette utilisation est demeurée vivante aussi longtemps que les charrettes et les chariots en bois étaient en usage, notamment pour transporter le foin. Cette étude montre qu'il est toujours possible, au sein des sociétés modernes, de récolter de l'information quant aux anciennes pratiques en recourant aux médias de masse pour accéder aux informateurs.

INTRODUCTION

The traditional way to lubricate wooden axle-trees on the old wooden carriers in pre-industrial Sweden was with tar, sometimes mixed with lard from swine or cattle, or with fat produced by boiling cloven foot from domestic animals. A mixture of tar, thick cream, cod liver and raw egg is mentioned as wheel grease from Öland. Sometimes other substances were used, such as frogs and earthworms. The animals were crushed and then placed on the axle-trees and thus, through their greasy consistencies, provided grease. I have also found an interesting reference about another small animal used for the same purpose: black slug (*Arion ater*).

Black slug [...] is used as wagon grease: If you put a couple of these worms on each wheel, the wagon will be better lubricated than with tar, because they are rather fat. They are also put in the tar vessel to increase the wheel grease. This is often done by the peasants in Skåne and Västergötland" (Rothof 1762:454).

The quote is from Lorens Wolter Rothof, who in the 18th century published a small handbook on the economic use of natural resources. The book, which is based on Mr. Rothof's lecture in economy at the sheep farming school Höjentorp in Alingsås, an important Swedish proto-industrial centre in mid-18th century, is of great interest for ethnobiologists because it deals with many wild species and their economic potential. Rothof's information about the use of black slugs is also repeated in other contemporary literature (cf. Fischerström 1782:236–237).

BACKGROUND

Mr. Rothof belonged to the same generation as Carl Linnaeus, which had generated an interest in the biological resources available in the country. Nature was, according to Linnaeus' opinion, created for the benefit of humankind. Everything had its use; everything could be utilized by us. Linnaeus' own scientific expeditions in Sweden were not only to record the local fauna and flora, but also to interview the peasantry for local names and information about traditional economic use of each species (Hildebrand 1979).

This way of recording information was followed by Linnaeus' contemporaries. It was part of their research approach to also document the uses of the

Lord's gifts in nature. By carefully observing how plants and animals were used by local people in Sweden and abroad, the scientist acquired knowledge about the benefits that the riches of nature brought to mankind. Linnaeus himself never hesitated to approach farmers to learn from their wisdom of how nature could be used. He asked about remedies and medications; he always took a close look at traps and fishing gear; he peered into barns and larders to see how noxious insects were kept away; and he asked old women about local plant names (Svanberg 1998, 2001, 2002, 2006). Although Linnaeus' main interest was to find plants that could improve national economy, his research program also carried the seeds of modern ethnobiology (Stearn 1994). The knowledge about the use of animals and, above all, plants that Linnaeus and his contemporaries gathered found its way into handbooks and became a common bank of scientific knowledge. Because of the material published by Linnaeus and his disciples, we have a large and extremely valuable body of source material at our disposal for ethnobiological research (Cox 2001; Svanberg 2005).

Although not a pupil of Linnaeus in the strict sense, Mr. Rothof followed the Linnaean tradition. His book is actually one of many published economic handbooks in the 18th century referring to genuine traditional folk knowledge recorded from peasants, fishermen, hunters or nomads in Sweden. These handbooks are usually compilations that include information from Linnaeus writings and essays published by the Swedish Academy of Sciences, and material gathered by the authors themselves. The aim was to promote this local knowledge for the benefit of the nation's economy. During the second half of the 18th century, numerous works appeared that were propaganda for the utilization of many wild plant and animal species. Rothof himself promoted the conviction that mankind could make use of all organic and inorganic material. Nothing was to be wasted. This was an era characterized by the rationalism and open-mindedness of the Enlightenment (Nelson and Svanberg 1987).

SLUGS IN SWEDISH AND NORDIC FOLK BIOLOGY

Folk knowledge and the use of gastropods for various purposes are well-documented not only from Sweden but also other Nordic countries. For instance, the Swedish scientist Carl Linnaeus wrote a thesis, *Fundamenta testaceologiae*, in 1771 about gastropods and bivalves in which he also addressed the human use of these animals (Linnaeus 1771: 8–10). The marine gastropods and bivalves have been especially sought after for supplementary food, bait, dyes, tools, technical uses and toys (Bernström 1966; Svanberg 2003). Utilization of molluscs is probably as old as mankind itself. There is a rich amount of information available from archaeological sources that also document the traditional use of gastropods (Johansson 2005).

Slugs are well-represented in Nordic folk traditions. Children, especially in the pre-industrial peasant societies, were fond of playing with slugs. In the folklore, they were used in certain plays accompanied with a rhyme to the slug. This sample, which the informant remembered from his childhood in the 1930s, was recently recorded from Önnestad in Skåne: "Snigel, snigel snöre, räck ut dina långa horn, så ska du få en skäppa korn hem till dina ungar, ungar i boet" ('Snail,

snail, string [here rather 'snot'], reach out your long horns, and you will receive a bushel of barley, to take home to your kids, kids in the nest'). Omens were drawn from the behavior of the slug (Brøndegaard 1985:159–162; Jespersen 1938; Nordlander 1886:203–204; Olafsen and Povelsen 1772:715; Seier 1934:24; Storaker 1928:283–284; Wessman 1962:124).

Slugs also have a long tradition in folk therapy and have been used as remedies for various kinds of illness, not only for humans but also in folk veterinary medicine. For instance, slugs crunched in salt gives an ointment believed to promote the hair growth of horses (Kristensen 1905:94). Locally, in the provinces of Värmland and Lappland and adjacent areas of Norway, slimy slugs were used to develop a certain kind of thick milk (Larsson 1988:199–204).

Black slug (*Arion ater* L.), usually about 10 to 15 cm long, is a common species in moist places in forest areas, and is also found in enclosed pasture grounds and in thickly foliated gardens in Sweden. It has a well-known appearance, especially in wet weather, and it is very often observed along paths and smaller roads (Kerney et al. 1983).

Information about the technical use of the black slug is more scant in the literature and other sources. According to a record from Tiveds parish in the province of Västergötland, the peasants lubricated the axle-trees with earthworms and slugs (Haeggbloom 1946). There are a few other records from Västergötland, thus confirming Rothof's observations.

There are also a few examples from the province of Småland. In Gunnar Olof Hyltén-Cavallius' comprehensive ethnographic description of the old Småland, he mentions the use of intestines of bream (*Abramis brama*) or big black slugs as grease for wagons (Hyltén-Cavallius 1868:96). A study of harvest techniques in Alseda parish, Småland, describes how the peasants used a certain kind of wooden carrier to bring home the hay. If the axle-wood became dried and began squeaking and no tar was available, it was common to take slugs from the ground and smear them on the axles (Andersson 1934). A dictionary of a local dialect in the Gotland island in the Baltic Sea mentioned, under the entry 'snail', that residents of the area once used slugs to lubricate the nave (Klintberg and Gustavson 1986).

There are also some records from Denmark. During the war in 1807–1814, there was a shortage of tar in the country, and the drivers gathered slugs to use as lubricants. However, there are enough records available from Denmark indicating that it was a wide-spread knowledge to use slugs to lubricate the axle-trees during tours (Brøndegaard 1985:161; Christophersen and Ussing 1923:98; Ingvorsen 1918:18; Schmidt 1964:254).

METHODOLOGY

To delve more deeply into the problem and obtain an overview of how the slugs were actually gathered and used, I went to the folklore archives, which usually have an abundance of recorded testimonies of folk use of various animals and plants. However, the material available on this matter turned out to be rather limited. Although some material was found, the records were few and the descriptions brief.

However, although Sweden is a highly industrialized society, many parts of the country were still underdeveloped into the 1930s, and people lived by rather poor and, to some extent, traditional means in the countryside. For economic reasons, they continued to use old-fashioned ways and locally available resources until rather recently. Wild berries, mushrooms and common plants are, due to the legal right of public domain, still freely available resources for everybody to use in Sweden. The people have continued to use many traditional practices. It has therefore been possible to gather qualitative material about local traditional practices today. One example are the works of Mr. Yngve Ryd, who has been able to gather an extremely rich amount of traditional knowledge about snow taxonomy and about ways of fire-making from contemporary Sami informants in the Jokkmokk area in Lapland. Each book covers several hundred pages (Ryd 2001, 2004). His in-depth interviews are, of course, very time-consuming, as they go on for years, but obviously they provide a rich base of material (Ryd 2005).

Knowledge about the use of slugs as grease was scant in the archives and in the literature. Was it possible to turn to the public and ask about knowledge of this practice that was still present? Did people have any experience of this particular use? To answer these questions, I turned to a popular radio program at the nationwide radio station Radio of Sweden, where Dr. Bengt af Klintberg and director Christina Mattsson, two well-known folklorists, answered the listeners' questions about various folklore and folk customs. They had themselves often asked the listeners to provide new information about subjects discussed on the program, and surprisingly often listeners have been able to supply them with new and interesting information about various local customs, sayings, rhymes, children's play, folk religious customs, urban legends, etc. (cf. Klintberg 1991). Klintberg and Mattsson read my question on the program in the spring of 2004, and we received many responses about the use of slugs. This essay presents how the knowledge was described in the letters.

RESULTS

The radio program was aired in mid-April of 2004, and during the forthcoming weeks letters were sent to the program. We received around 40 responses concerning the use of black slugs as grease. A handful of the informants had their own experience of using the slugs for this purpose. Most of them ($n=23$), however, relied on information that they had received from a close relative, usually their fathers. Obviously, the use was particular, so it was something to tell your children about when you grew up. Many of the informants mentioned that they remembered very well how older relatives had told them about the practice. Some of them were fascinated, but others were disgusted about the cruelty. A few informants ($n=6$) knew about the practice from exhibitions in local museums, and a couple had read about it and referred to published literature with local history contents.

According to the responses, the practice was known especially from southernmost Sweden (Figure 1). There were records from the provinces of Skåne ($n=5$), Småland ($n=10$), Halland ($n=1$), Gotland ($n=1$), Västergötland ($n=3$),

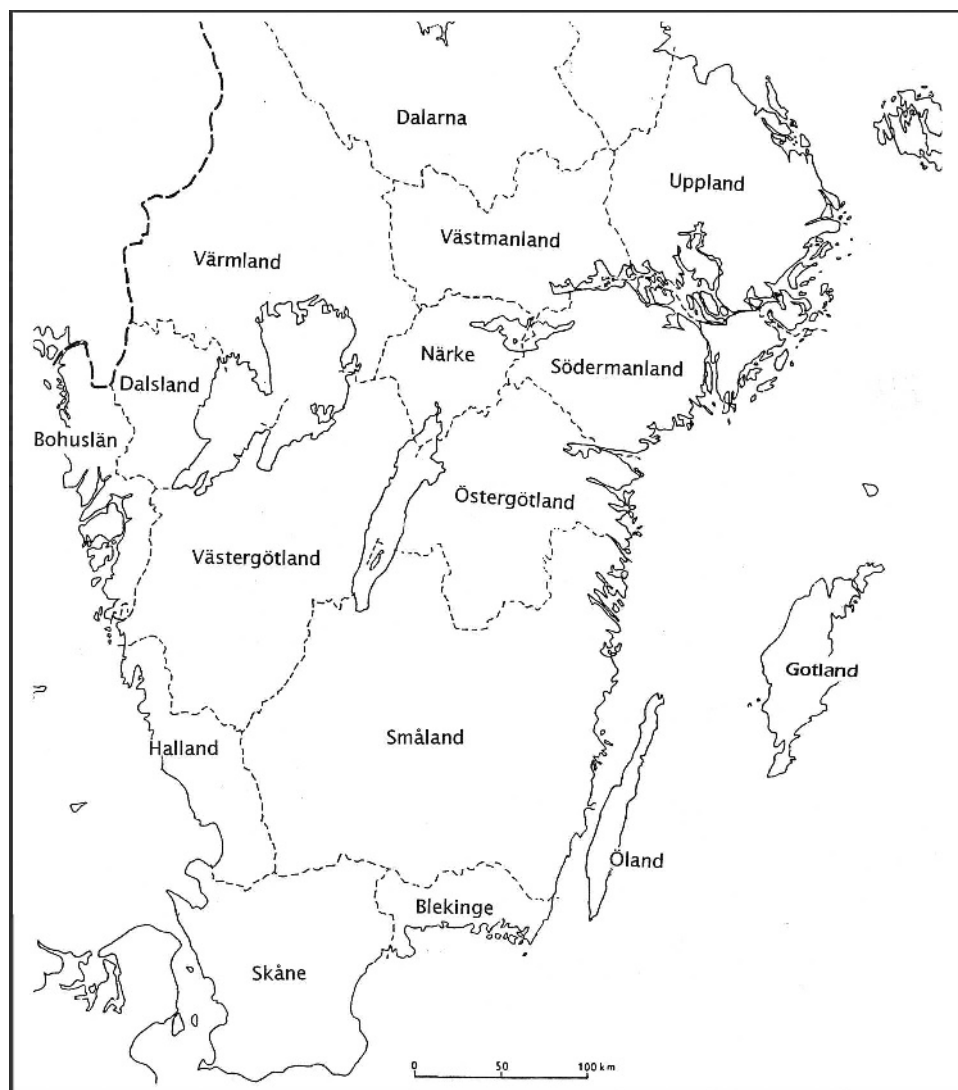


FIGURE 1.—The provinces of southern Sweden.

Östergötland ($n=5$), Bohuslän ($n=2$), Dalsland ($n=1$), Södermanland ($n=2$), Närke ($n=1$) and Värmland ($n=2$). One letter referred to a local poet, John Liedholm, whom in the poem "Smörjebulken" from 1951, described the old use of black slugs as grease in southern Västergötland (Liedholm 1976:81–82). The distribution of the custom was obviously restricted to the southern part of the country.

There were also two letters referring to the use of slugs in other countries. According to one correspondent, it is well-known in Denmark that German glass blowers from Westphalia, who immigrated to Sydsjælland about 200 years ago, used black slugs to smear on the frying pan when they made pancakes. Butter was too expensive for them! Another correspondent mentioned that she lived in

Colchester in Essex in the 1970s. There she heard that it was common “in former days” that children who lived along the railway line gather slugs and sell them to the work force on the trains so that they had something to lubricate the wagon wheels with. A couple of letters mentioned other kinds of grease used for the same purpose: badger lard and bacon rind.

Some letters also mentioned other field of applications. In several cases, the correspondents mentioned that the slugs were used to lubricate the cog wheels in millwheels and, in one case, linkages in mines. One correspondent relayed that there existed a certain verb, in her local dialect to describe ‘to lubricate’ with the black slug, namely *att snigla* ‘to slug/to snail’.

One reason why some of the informants knew about the practice is the special tub that was hung behind the wagon (Figure 2). Several such tubs were still kept in local collections. A correspondent from Hyltebruk in Småland wrote:

My father has told me that in former days when they had wagons with axles and naves of hard wood, it was necessary to have some [slugs] to smear with. Otherwise they should wear out very soon, even if the axles were of iron [...] They also had a tub hanging in the back of the wagon where the slugs were kept.

Several letters mentioned that it was the duty of children to gather the slugs. A man from Gothenburg wrote:

My grandfather was born 1893 in Ränneslöv, Halland. When traveling with horse and wagon, he and his brothers had the duty to gather snails along the roadside. They were put in a certain box under the driver’s seat. The slugs were used for smearing the naves.

One informant from Åsenhöga parish in Småland mentioned that both his grandfather and his father had a canister for the slugs.

One duty for us kids was to pick the slugs and put them in the canisters, either while traveling with the wagons or if we found them along the roadsides when we walked. I know that my brother also, who inherited the farm, used the slugs to smear the cart wheels with. However, the slugs were only used for the work carts.

For the wagon used for church visits and market visits, they always used fat or oil. A correspondent who remembered this from his childhood during the 1920s and 1930s stated:

Slugs were used to smear the wagon wheels. You took one or two and placed them around the nave, where they were crushed while traveling and in that way lubricated the nave so the creaky sound ceased. This was of course cruel and probably painful for the animals, but who taught about that in those days. It was natural to make use of what the nature could provide. Still today, when I see black slugs in the woods I think about those days when we as children gathered them and put them in a canister.

Even into 1930s and the 1940s, the practice seems to have been in use. One correspondent, born in 1931, mentioned that he, from his early childhood in

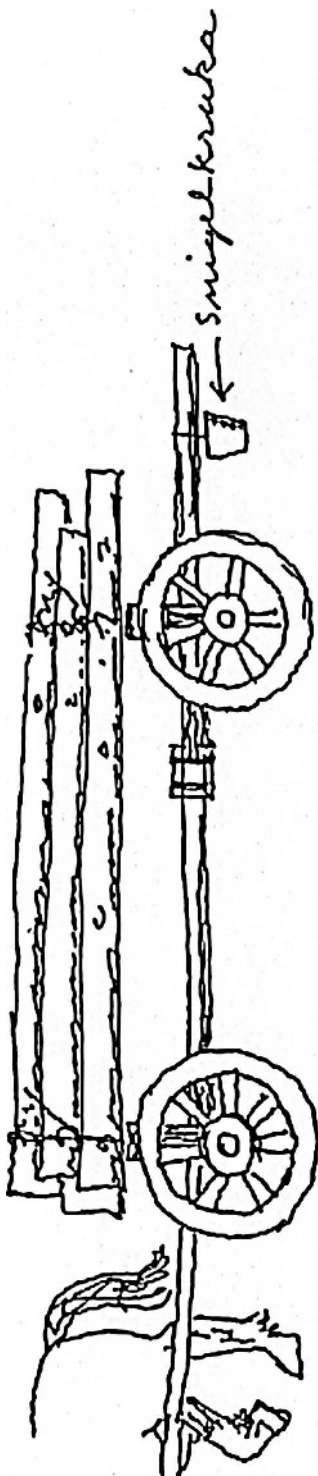


FIGURE 2.—Drawing by Ragnar Gomer, Tranås, showing a wagon with a tub (*snigelkruka*, handwritten on the illustration) containing the slugs.

Småland, remembered how they used to lubricate the wagon wheels with black slugs. His family lived close to Målilla Sanatorium and most transports there were done with horses and various kinds of wagons. As far as he remembered, it was evident to use the slugs, even later when they had access to more modern kinds of grease. Another informant from eastern Småland, wrote that in the 1930s, "I grew up with my maternal grandparents in Ukna in Norra Tjust in Kalmar län. My grandfather gathered black slugs in a bucket and smeared them on the axle-trees, which were made of wood and with a sprint outside the wheel to keep them in places."

Another correspondent, from Piggeboda parish, remembered that in Småland it was still common in the 1940s for the local peasants to use black slugs for this purpose. He remembered it especially from the hay harvest. When the wheels became dried, they began to creak, which was cured by putting a slug or two on the nave. During the time of shortage due to the World War II in the early 1940s, the peasants continued to use traditional practices instead of the more expensive fittings. Oil was a luxurious product reserved for the knives in mowers, according to the informant.

The fact that the practice continued to be in use into the early 20th century was, of course, a question of economy. Slugs were a free resource available for everyone. An informant belonging to the Swedish-speaking minority in Estonia, who was transferred to Sweden during World War II, reflected in his letter about this:

It never occurred anything such so inconsiderate and cruel, that we, in contrary to the heartless national Swedes, used black slugs for the wagon wheels. On the other hand, it happened many times, that we smeared the wheels on our toys with the plant biting stoncrop (*Sedum acre*).

The use of *Sedum acre* as grease is, by the way, known from Sweden as well. It was used to polish shoes with in western Sweden (Henriksson 1911:15).

CONCLUSIONS

The peasantry in the southern Sweden used four-wheeled wagons with two tree-axles for transport (Berg 1935). They had different kinds of carts for the transportation of hay or cereals and for transporting heavy goods. Richer peasants had fancier wagons for church and market visits (Esbjörnsson 1967; Frykman and Nilsson 1970). The tree-axles needed grease to work better. Becoming dry, they gave a squishing sound, which was the object for many various imitations in the folklore. Therefore they had to be lubricated with some kind of grease.

The traditional local use of slugs as cart grease received attention from a utilistic mid-18th century author, Mr. Rothof, but has since been almost unrecognized by scholarly society. Very few records are known in other sources. However, the contemporary material gathered through a popular radio program shows that the practice was not only widespread in pre-industrial Sweden, but also known until rather recently. The letters from respondents included extensive and detailed information about this use of slugs. There are still people alive that have experienced the practice in their childhood. Even into the 1930s and 1940s, slugs were obviously used for this purpose.

In contemporary Sweden, it is usually regarded as being too late to gather oral information about traditional knowledge, and we are therefore restricted to folk life records and notes in the literature for ethnobiological research. However, this study shows that it is possible to gather a rather substantial material of a little known use from the field. To advertise the question through a popular radio program proved to be very rewarding, and is, of course, not new in Sweden. Particularly in the middle of the last century, it was rather common among ethnologists and folklorists to successfully ask for material through various kinds of mass media.

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