

Ecological notes on *Leptothorax interruptus*: an ant new to Denmark (Hymenoptera, Formicidae)

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Børgesen, L.W.: Ecological notes on *Leptothorax interruptus*: an ant new to Denmark (Hymenoptera, Formicidae).
Ent. Meddr 68: 67-77. Copenhagen, Denmark, 2000. ISSN 0013-8851.

This article records the finding of the ant *Leptothorax interruptus* (Schenck, 1852) in the northern part of the island of Læsø (Laesø) in Denmark, close to the northern limits of its distribution. Its presence had been reported earlier, but it was misidentified as *L. tuberum* (Fabricius).

On Læsø, this thermophilic species is restricted to areas with sparse and low vegetation such as stable grey dunes, hollows, and sun-exposed, sparsely covered heather and crowberry areas. In all habitats, *L. interruptus* usually excavates its nest among the roots of grey hair-grass, *Corynephorus canescens*, or under small flat stones.

This paper describes the distribution and habitat preference of *L. interruptus* on Læsø, the structure of a typical single chambered nest, the approximate population size, and the characteristic social structure of colonies (with a single functional (macrogyne) queen in field colonies but with observations under semi-natural conditions which may indicate another (microgyne) queen morph). The occurrence of replete workers is also described, as well as food preferences, food recruitment, and nest-site-moving by tandem-running, two different techniques for hunting collembola, protection against predators by a chemical repellent, and the observation of differential ratios of gynes and males produced in the field and under semi-natural conditions.

Some major threats to the future existence of *L. interruptus* on Læsø are mentioned together with some suggestions about proper habitat management to conserve this species on the island.

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Introduction

The ant *Leptothorax interruptus* (Schenck, 1852) has been found on the Danish island Læsø. The first record of this species in Denmark was published in Børgesen *et al.* (1984). Læsø, at 116 km², is the largest island in the northern part of the Danish sea-area, the Kattegat.

L. interruptus is an interesting and rare species distributed from England in the west to former Czechoslovakia in the east, and from the European Mediterranean countries in the south to Sweden and Finland in the north.

A population of *L. interruptus* on the island of Læsø has been known since 1976 (Børge-

sen *et al.*, 1984), but details on the natural history and ecology have not been available. The study reported here provides data on nest distribution, population size, nest structure, hunting and prey choice, food storage in replete workers, defence against predators and sex ratio.

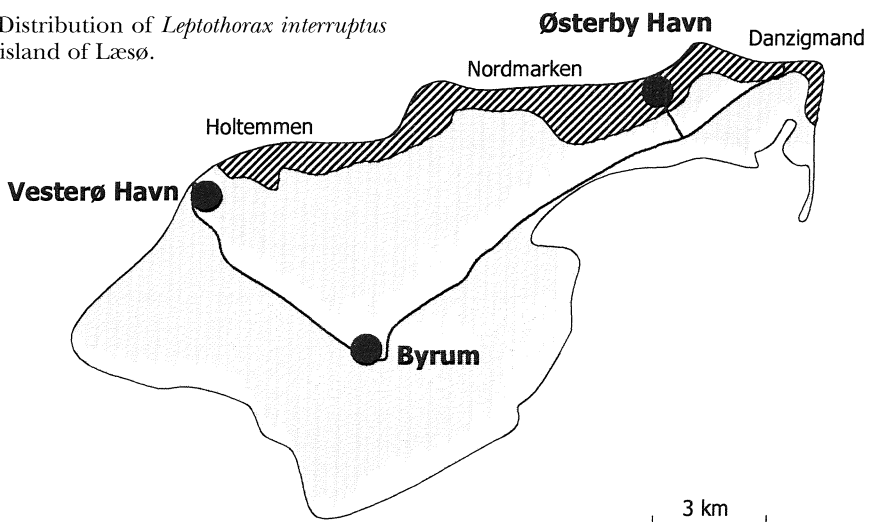
Finally, some consideration is given to the negative effects of the rapidly increasing forest cover, and the increasing pressure of tourist to the presence of *L. interruptus* on Læsø.

Material and methods

Data have been collected during several visits to Læsø since the first discovery of *L. interruptus* in 1976 (Børgesen *et al.*, 1984 ; Clausen, 1987). The island of Læsø is situated at about latitude 57° North, 19 km east of Jutland, and about 45 km west of the Swedish coast. *L. interruptus* has been found in the northern and the north-eastern parts of Læsø, from Holtemmen to Danzigmand, but is most abundant in the area called Nordmarken. See Fig. 1.

Observations were also made on colonies living in semi-natural conditions. During one of the visits to the island I dug up two nests, counted the ants, and brought them back to my home. Here I housed them for seven years in 25 litre glass terraria with a layer of about 15 cm of sand and soil, stones and vegetation from their natural habitat together with a variety of small animals in the soil. The terrarium had no lid and the ants were free to forage on the windowsill. With the help of a 25 W bulb shining on, and heating up, the soil behind the glass wall, the nest was constructed by the workers in a way which allowed the observer to have a view inside the nest. In this way, activities in the brood-chamber and activities outside the nest could be observed at the same time. The light shining into the nest did not seem to disturb the ants. The ants were fed with a selection of seasonal insects, mainly flies, crane-flies and moths caught in the windowsill and killed. Besides this, they were given boiled hens' yolk, boiled chicken liver, almonds, honey, and jam – apricot jam was their favourite. The ants had continuously access to a glass tube containing water. The opening of the tube was closed with a moist cotton plug and it was laid on the soil with the closed end in a slightly elevated position. The terraria were showered with a water atomiser (designed for flower-moistening) several times a week, and the bottom of the sand was kept moist by adding a cup of water when needed.

Fig. 1. Distribution of *Leptothorax interruptus* on the island of Læsø.



Previous misidentification of *L. interruptus*

In 1972, *L. interruptus* was found on Læsø by other investigators looking for Hymenoptera (Lomholdt, 1972). Unfortunately, the key used for the determination (Larsson, 1943) did not include *L. interruptus*, so that *L. interruptus* was mistakenly identified as *L. tuberosum*, which is a closely related species. *L. tuberosum* has previously been found in the easternmost part of Denmark on the Baltic island of Bornholm (Larsson, 1943). *L. tuberosum* is also very common on two small islands, Christiansø and Frederiksø, about 10 km north-east of Bornholm (L.W. Børgesen, personal observations). The known distribution of *L. tuberosum* in Denmark is thus restricted to these three Baltic islands.

Short description of *L. interruptus*

In the field, *L. interruptus* workers are recognised by their small size (length: 2.2-3.4 mm), and their yellow or light-brown amber colour. Near the abdominal stalk, a pair of tracheal air sacs can be seen as whitish spots through the transparent cuticula of the first gaster segment. At the distal edge of this segment, there is a more or less grey band. Usually, this band is interrupted in the middle, which has given the species its name. The area from the mouth parts to the eyes is also pigmented with a band which can vary in colour and width between individuals, similar to the gaster band. Usually, the largest and oldest workers have the darkest pigmentation, but all colour combinations from bright yellow to brown amber, and all degrees of ornamentation from grey to dark brown on the front of the head and on the first gaster segment, can be found within the same colony. The last three segments of the antenna form a club, which is always dark in *L. interruptus*. (See Fig. 2).

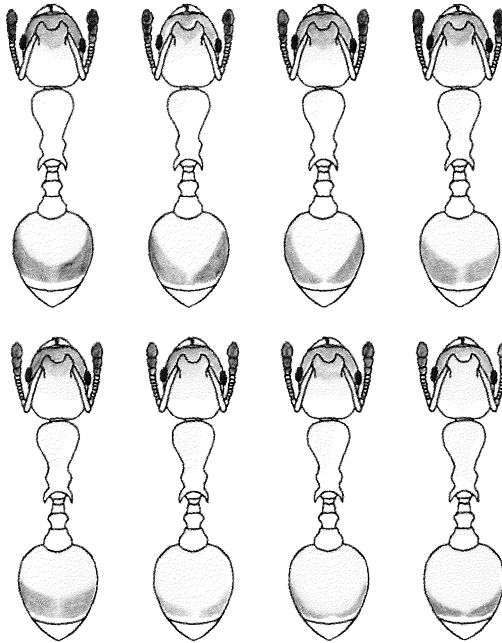


Fig. 2. Variation of the bands on the front of the head and on the gaster of *Leptothorax interruptus*.

The macrogyne queens found on Læsø are uniformly light brown and easily distinguished from the workers by their larger size (length: 3.7–4.2 mm). The gaster of the egg-laying queen usually seems banded due to extension because of development of the ovarioles.

Males are dark with very pale legs and antennae. In contrast to the description of *L. interruptus* males in Collingwood (1979), the males of *L. interruptus* on Læsø do not have distinct propodeal spines, but only two sharp edges or faint tubercles in the largest individuals, as described in Kutter (1977) and Stütz (1939). (Length: 2.5–3.0 mm).

Keys to the genus *Leptothorax* and to the species in Europe as well as further taxonomic descriptions of each species can be found in Schenck (1852), Donisthorpe (1927), Stütz (1939), Kutter (1977), Collingwood (1979), van Boven (1986), Bolton (1994, 1995), Douwes (1995), Seifert (1996) and Orledge (1998).

Habitat preference

On Læsø, *L. interruptus* nests are mainly found in dry and warm areas with bare soil or sand, which is only just kept from being blown away by soil algae and sparse low vegetation. Habitats such as consolidated grey dunes, hollows, wind-blown pans are preferred both near the coast and further inland where dunes are gradually replaced by heathland. The biotopes suitable for *L. interruptus* are characterised mainly by several species of reindeer lichens (*Cladonia* s.l.), cushion-forming mosses such as *Polytricum piliferum* Hedw., grey hair-grass, *Corynephorus canescens* (L.), sparse growth of red fescue, *Festuca rubra* L., sand sedge, *Carex arenaria* L., sometimes also with young specimens of heather, *Calluna vulgaris* (L.), and crowberry, *Empetrum nigrum* L.

Distribution

L. interruptus seems to be distributed throughout most of Europe. It has previously been recorded from the south in Spain, France, northern Italy, Switzerland, Germany, and from former Czechoslovakia to the north in Belgium, the southern parts of England, the Swedish islands of Gotland and Godska Sandön, and recently southern Finland (Saaristo, 1995).

Despite its apparent potential for dispersal over large areas, the thermophilic species *L. interruptus* is never common, and always restricted to open sunny areas with scattered low vegetation. In Central and southern Europe, they have mostly been found in montane habitats below 450 m (Seifert, 1993), and in northern Europe, mostly in warm and dry coastal areas or lowland sandy heath. The ants have been found on various types of soil (limestone, sandstone, granite, sand, rubble and peat). As on Læsø, the nests are usually found under stones and moss and in rotten heather roots, or, as in Finland, among the roots of *Antennaria dioeca* (Saaristo, 1995). Unlike populations in the rest of Europe, the Læsø population seems to be particularly keen in building nests among the roots of grass tufts such as grey hair-grass.

Local population densities of *L. interruptus* vary but can be high. In Central Germany, and in the limestone areas (Muschelkalkgebieten) of Thüringen, an average of about 17 nests per local habitat were found with up to 70 nests per 100 m² (Seifert, 1993). On Læsø a total of only about 40 nests, mostly from Nordmarken, have been found during my four short visits to the island using a total of about 30 hours of active search for *L. interruptus* nests.

Nest design

The nests are usually constructed between the roots of dense grey hair-grass tufts, or under small flat stones. More rarely, they are in brown lower parts of *Polytricum*, in the sand under cushions of reindeer lichens, or in rotten heather roots lying half-buried in *Polytricum*.

In grey dunes and old hollows which have grey hair-grass, and in the terrarium, the nests are constructed with one small entrance hole either in or right next to the hair-grass tuft. A corridor leads 5-10 cm down into the moist sand between the roots of the tuft, ending in a single nest chamber 3-4 cm wide and about 2 cm high.

In cold and rainy weather, the brood is in the chamber, but in sunny and warm periods, it is moved up to the surface between the straws and leaves of the hair-grass. Here, they are covered with small pieces of plants, such as chaff from the grass. This cover probably protects the brood from ultra-violet radiation from the sun, which is probably dangerous to the unpigmented brood, but may also have a function in regulating the microclimate with respect to temperature and humidity. If the cover is taken away the larvae are rapidly removed and the cover is replaced by the workers.

Colonies living in wind-exposed habitats usually have their nest-entrance under a small stone, below which they dig their nest chamber into moist sand. Under conditions of dry and warm weather, the brood is brought up into the narrow excavation below the stone, which is used to regulate the temperature for the developing brood. The size and form of the preferred kind of stone is usually quite characteristic, being rather small and flat. Optimal nest stones have an area of 15-50 cm², most often about 30 cm², are evenly flat and between 2 and 3 cm thick.

Composition of *L. interruptus* colonies on Læsø

The colonies of *L. interruptus* are recorded in most of Europe generally to consist of one queen and 50-200 workers (Seifert, 1996).

During a visit to Læsø in late August 1980, three nests were dug up and the ants counted: Nest A had two wingless queens and 354 workers, Nest B had one wingless queen and 167 workers, while C had one wingless and 49 winged queens, 15 males, and at least 208 workers. In all nests, there were many eggs and larvae at all developmental stages, but only a few pupae. Observations of two of these colonies (A and B) in terraria showed that the larvae later changed into the characteristic shape of diapausing larvae to survive the winter in this life-stage. Diapausing larvae are dorsoventrally flattened, having a wrinkled dorsal side with a greyish colour, and are concavely curled up around the smooth ventral side.

Queen morphs

Two queen morphs, probably genetically based, have been described in *L. interruptus*. Nests with macrogynes have only one egg-producing queen (monogyne), while nests with worker-like microgynes often have several mated egg-producers (polygyne). (Seifert, 1996).

On Læsø, the investigated colonies seem to be of the monogyne type. Though nest A had two dealate queens, only one was producing eggs. She was easily recognised by her large gaster. During the first half year of observation in the terrarium, the non-laying queen often left the nest and started digging alone in a place as far away from the nest as possible. After some time of digging she returned to the nest. After 7 months she was found dead on the refusal heap in a corner of the terrarium. It is unclear, however,

whether or not the microgyne system is also present on Læsø. After some years, I no longer saw the queen in nest B, but there was still brood in the nest, and the nest produced males now and then. In this colony worker-like individuals, which I then believed to be ordinary workers, were seen climbing straws of hair-grass, and sitting in an upside-down position, their gasters risen, and rhythmically protruding and withdrawing their stings, which had small droplets on their tips. In many ant-species this is a typical position for wingless worker-like reproductives (ergatogynes) which are trying to attract males for mating by using chemical attractants (Hölldobler and Wilson, 1990). Further investigations of the Læsø population are needed to clarify whether such individuals are ordinary workers or microgynes.

Observations of social life in the nests

Observations in the field and in the terraria showed that the different life-stages of brood were kept separated. Eggs and newly-hatched larvae stick together in clusters of 5-20 and were stuck to the underside of the stone or to the glass of the terrarium near the heating-lamp. Larvae have hairs (setae) with hooks on their body surface, which are characteristically different in each larval stage. The hooks are used to attach the larvae on the wall of the nest, either singly or in clusters of the same developmental stage. Keeping the larvae interlocked in clusters facilitates quick removal of the brood when the colony is disturbed. As the larvae develop into larger instars, they have fewer setae, and, in the last instar there are only few setae left, so that the largest larvae have to be transported singly.

Most workers in the nest are occupied with brood-care, feeding the larvae, and keeping eggs, larvae, and pupae clean. The brood is often moved from one place to another in the nest, or up under the stone, or up among the hair-grass straws in nice weather. Old (dark) foragers participate in moving brood around.

In the field, as well as in the semi-natural conditions in the terraria, only few workers went out from the nests searching for food. Even in the largest colony, with many larvae, only a maximum of 8-10 workers were out foraging at the same time in days of fine sunny weather.

Food storage

L. interruptus collects various proteinaceous food items, like dead insects, and (in terraria) yolk, which is brought to the nest in small pieces. Collected food items are stored in a separate area of the nest away from the brood, but the store of solid food is not large.

As in many other ant species, the queen gets food from various larval secretions (Hölldobler and Wilson, 1990; Børgesen and Jensen, 1995). The larvae of ants are the only members of the society which can ingest and digest large food particles, which the workers give to them. The workers have been seen imbibing secretions from the large labial glands of the larvae, which have one common duct with an orifice on the lower mouth parts of the larvae. Anal secretions have been observed to be collected in several other ant species but has not been observed in *L. interruptus*. See Børgesen (1989).

In addition to the majority of nurse workers, which have slender gasters, there is a varying number of workers with conspicuously large and distended gasters. These function as stores of surplus larval secretions and develop into repletes and stay in the nest as described by Wheeler (1926). The surplus of larval secretions are probably fed mainly to the queen when the colony is short of food as seen in several other ant species. (Børgesen, 2000).

As *L. interruptus* lives in unstable habitats, they are often forced to move the whole colony to a more secure nest site. During such migrations, caravans of workers with slen-

der gasters can be seen carrying the curled-up repletes lifted high in the air: see the figure on page 78 in Dumpert (1978). Also, clusters of eggs or larvae are carried by workers. Sometimes the queen is also carried by a worker, but often she walks herself, closely following a worker, running in tandem.

Recruitment of workers to food sources

Tandem-running is characteristic for ant species, including most of those in the genus *Leptothorax*, which do not lay trails for mass recruiting of nest mates (Hölldobler and Wilson, 1990). When a forager has discovered a food item which is too large to bring back to the nest alone, she takes a sample and carries it back to the nest. Here she agitates other workers by agile movements and by providing samples of the food item. She then turns around, standing with her gaster raised and the sting exposed with droplets attached to it, and her head down in a calling position as previously described for sexual-calling. As soon as a nest mate touches her back legs or gaster with its antenna, the tandem pair is established, and both ants start walking towards the food source discovered by the leading ant; see the figure on page 75 in Dumpert (1978). If the following ant loses tactile and volatile contact to the leader, the leader stops and waits for reestablishment of contact. The lost follower, meanwhile, searches vigorously for the leader if contact is interrupted. Tandem-running of *L. interruptus* is often seen in the field, but rarely in the terrarium, after the foragers learned where their food was usually placed. Changing the feeding-place usually reinstated tandem-running for a short while. If the ants have been fed at the same place for some time, and a forager returns to the nest with fresh food, several other foragers will then set out from the nest and arrive singly at the feeding place within a few minutes. The workers never co-operate in carrying home items too heavy for one ant to carry. Instead, they cut out pieces small enough for one ant to bring back alone.

Hunting

L. interruptus seems to be specialised in hunting insects smaller than themselves. The terraria contained a variety of small arthropods, including several kinds of mites, larvae of various small flies and midges, woodlice, millipeds (*Polyxenus* sp.), and collembola, which were present in the sandy bottom layer which had been taken from the original site of the nest.

In particular, the collembola were subject to high predatory pressure by *L. interruptus* workers, which were observed to hunt them, using two different strategies.

The most frequently observed strategy was a "Jumping Jack" attack on groups of collembola scavenging at the usual feeding place of the ants, which was a small flat stone on which the food items were placed. If a forager discovered springtails on the feeding place, she went to the side of the stone and stopped below the upper edge. The ant waited there often for several minutes, having its body flat against the stone and its legs close to its body, until some springtails came within reach, less than 10 mm from the edge of the stone. The ant then made a leap up onto the stone next to the springtails, which were startled, and jumped away in all directions. In the confusion, one of them often jumped directly towards the ant, which grasped the prey with its mandibles, and then quickly paralysed it with an injection of poison from the sting. After a few seconds, the springtail usually ceased moving, and was carried back to the nest.

The other hunting strategy was directed against individual prey (usually also springtails). Usually, *L. interruptus* worker can detect prey within a distance of approximately 12 mm from the tip of their antenna. If the prey was unaware of the ant, and stayed on

the spot, the ant would normally lower its body against the ground, and sneak towards the prey with the antennal clubs pointing at the prey while the rest of the body followed all unevenness in the terrain. The scene looked very much like a cat hunting mice in miniature. If the ant succeeded in sneaking up to a distance of approximately 3 mm to the springtail, it could be seen crouching with its head flat against the ground, and with its legs under its body, prepared to jump. When the ant jumped to attack, it was successful in grasping and killing the springtails in about 50% of attempts.

Production of sexuals in semi-natural conditions

The production of alates in the terrarium colonies A and B was highly male-biased. From the middle of February until end of March 1981, 142 males and six queens were caught on the windowsill from nest A, whereas nest B produced 22 males and one queen. Mating was observed between males from B with queens from A when they were placed together in separate glass jars (n=6). No mating was observed between males and queens from the same nest, as the queens were not receptive to their brothers (n =7).

Through the years, the male-biased production of nests A and B continued, with production of only few winged queens. This extreme male bias is in contrast to the female-biased production of nest C on location (see above). Unfortunately, the individuals of this colony were killed and stored in alcohol, so it is not known if the male bias is a product of living in semi-natural conditions with different food, or if it is an outcome of different social relationship in these specific ant societies. (See chap. 7 in Bourke and Franks, 1995; Crozier and Pamilo, 1997)

Defence against predators

In the habitats on Læsø where *L. interruptus* was found, it usually coexisted peacefully with other ant species such as *Formica cinerea* (Mayr.), *Formica fusca* L., *Tetramorium caespitum* (L.), *Lasius niger* (L.), *Lasius psammophilus* (Seifert, 1992) former *L. alienus* (Förster) and *Leptothorax acevorum* (Fabr.). All these species are larger and faster than *L. interruptus*. An explanation for the ability of *L. interruptus* to survive in the vicinity of these other ant species may be found in a few observations of encounters of *L. interruptus* with, especially, *F. cinerea*, which is an efficient hunter. The *F. cinerea* worker usually jumped towards the *L. interruptus* worker or accidentally ran into it, and then touched it with its antenna, probably investigating to find out if *L. interruptus* was a suitable prey. At such encounters, the *F. cinerea* worker then always hurried away from the *L. interruptus* ant, vigorously cleaning its antenna, whereas the behaviour of *L. interruptus* seemed completely unaffected by the encounter with the larger ant. It thus seems that *L. interruptus* has developed a chemical repellent towards other ant species which effectively prevents *L. interruptus* from being captured and eaten.

Securing the future existence of *L. interruptus* in Denmark

L. interruptus has probably existed on Læsø for a long time, and it may be that this species also lives on the island of Anholt, south of Læsø. Because of their location in the Kattegat, these islands have a milder winter climate compared with most other places in Denmark, and hotter summers because of reduced cloud cover (Johannesen, 1997). On Læsø, the thermophile *L. interruptus* is probably on the northern limit of its distribution, with the Finnish records only a few latitudinal degrees further north. Living on the edge of its geographical existence is a danger to any species.

The grey dune areas and lowland heathland on Læsø where *L. interruptus* is found

are vulnerable habitats. Grey dunes, hollows, and the wind pans are extremely vulnerable to trampling from frequent trespassing which breaks the fragile vegetation. In the inland heath dunes, *L. interruptus* is endangered by the natural spreading of trees and bushes, which are gradually changing the area into woodland, shading out the warm and dry places needed for *L. interruptus*.

The flora and fauna on Læsø are unique and appreciated by the islanders as well as by thousands of tourists every year. Until late middle age the northern part of the island was covered by pine woods, but the forests gradually diminished, because the wood had been used for heating houses and, especially, as fuel for boiling sea water to maintain a salt production allowing the islanders to pay their taxes. In the 17th century the forest had almost disappeared, and when large amounts of heather peat were subsequently dug up to be used as fuel in salt production, extensive sand drifting started and covered large parts of the island, ruining most of the fields on the island. With considerable effort the sand drifting was gradually stopped about 1920 by planting lime grass and maram grass in the dunes, and later plantations of mainly spruce (Johannesen, 1997). *L. interruptus* probably prospered in that period, having large open areas with lots of suitable nest sites. In 1978, there were still old people on the island who remembered that, in their youth, they could see from one end of the island to the other, which is no longer possible. Particularly in the last 25 years, since I visited Læsø for the first time, the area covered by woodland has increased substantially especially in Nordmarken, and is now covering the inland dunes with amazing speed. Furthermore, large areas on Nordmarken have recently been occupied by summerhouses and an expanding golf course.

To keep *L. interruptus* on the list of the Danish fauna in the future, it will be necessary to keep a significant part of the inland dune-heath open and free from trees. This can be done by manually removing trees and scrub and/or by using sheep to keep the vegetation down. As their hoofs are dangerous to the nests, management plans must consider not having too many sheep on an area at any one time.

At the North coast of Læsø, adjacent to the “*interruptus* area”, considerable erosion of banks and dunes takes place. Since 1976, the erosion-brink has moved more than 5 m inland, as judged from aerial photos from 1981 and 1992. The currents around Læsø deposit the material on the south of the island, thus creating large new saltmarsh areas with another unique type of landscape, but which seems completely unsuitable for *L. interruptus*.

Across the grey dunes and hollows at the coastal area of Nordmarken there is frequent trespassing from the summerhouse area to Østerby Havn. This can be seen by the extensive network of paths in these vulnerable habitats. Trespassing in this area by only a few people during summer leaves paths in the vegetation which take years to recover. To reduce the damage, which promotes wind erosion, it is important to construct paths from the summerhouses down to the beach to encourage tourists to use these instead of walking through the dunes.

In conclusion, the development of woodland in the inland dune heath, the damage of the vegetation in the coastal grey dune area, the establishment and extension of summerhouse areas and of golf courses, and the general erosion of the north coast, are factors which reduce the possibility for *L. interruptus* to maintain a thriving population on Læsø unless precautions are taken soon.

Acknowledgements

This article is dedicated to the memory of my friends, Ole Lomholdt and Christian Skøtt, who shared my joy of finding this rare species. I am grateful to Poul Vagn Jensen who improved my drawings considerably.

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Dansk sammendrag

Myren, *Leptothorax interruptus* (Schenck, 1852), er fundet i Danmark på de nordlige kystegne af Læsø. (Se Fig. 1). De første fund er beskrevet i Børgesen *et al.* (1984). En tidligere registrering af arten *L. tuberum* for Læsø (Lomholdt, 1972) har vist sig at være fejlbestemte individer af *L. interruptus*. *L. interruptus* er fundet i de fleste europæiske lande, men betragtes som sjælden.

På Læsø foretrækker denne varmekrævende art at leve i sparsomt bevoksede soleksponerede biotoper som grå klit, afblæsningsflader med sandskæg (*Corynephorus canescens*) samt i indlandsklitter, der er sparsomt bevokset med hedelyng og revling.

I felten er *L. interruptus* let at kende på sin ringe størrelse (2,2-3,4 mm) og sin ravgule farve. Den har et mørkt tværbånd over den nederste del af ansigtet samt på bagkroppen. Farve og bredde af disse bånd er særdeles variabel mellem individer fra samme bo. (Se Fig. 2).

Reder anlægges ofte mellem rødder af sandskæg eller under små flade sten. Indgangshullet fører gennem en kort gang ned til et redekammer, hvor æg og yngel opholder sig i dårligt vejr. Under gode vejrforhold befinder disse sig under en sten eller mellem stråene på sandskæg under et dække af planterester, som arbejderne konstruerer.

Reden indeholder 200-350 arbejdere og en dronning (makrogyn). Senere iagttagelser under semi-naturlige forhold i terrarier kan dog tyde på, at populationen på Læsø muligvis kan have to slags dronninger (macrogyn og microgyn) som beskrevet for enkelte tyske populationer af denne art (Seifert, 1996).

Foruden de sædvanlige slanke arbejdermyrer findes der en del arbejdere med stærkt udspilet bagkrop. De er specialiseret til at fungere som forrådskamre for flydende føde, som gemmes i kroen. Sekreterne udskilles fra de store larver og gives som næring til dronningen og de andre arbejdere ved behov. (Se Børgesen, 1989, 2000; Børgesen og Jensen, 1995).

Arten synes at have specialiseret sig til jagt på små insekter som springhaler, og to jagtstrategier er her beskrevet.

Rekrutering af arbejdere fra reden til fødekilder samt ved flytning af boets medlemmer til nyanlagte reder foregår ved hjælp af en særlig rekruteringsmetode, der foregår i tandem. Myrerne optræder parvist med arbejderen, der har fundet føden eller det ny redested forrest, tæt fulgt af en myre, der har berøringskontakt med sine antenner til bagkroppen på myren foran og som følger enhver af førerens bevægelser. Hvis føderekrutering sker til et gammelkendt fodringssted ses ikke tandemløb. I stedet dukker arbejderne op enkeltvis på foderpladsen, efter at finderen er vendt hjem til boet og har agiteret for fundet med ivrig uddeling af smagsprøver.

På samme biotoper som *L. interruptus* findes andre myrearter, der alle er større og hurtigere. Nogle af arterne optræder som rovdyr over for andre myrearter. *L. interruptus* beskytter sig mod disse prædatorer ved hjælp af en frastødende lugt på kroppen, som rovdyrene bruger meget tid på at fjerne fra antennerne, hvis de har rørt ved en *L. interruptus*.

Artens fortsatte eksistens på Læsø er truet af en hastig reduktion af de biotoper, den lever i. Det skyldes dels en kraftig opvækst af træer og buske i de hededækkede indlandsklitter, der hurtigt ændres til skov. Dernæst er der i nyere tid sket udstykninger af sommerhusgrunde og anlagt golfbaner i Nordmarken, hvor arten forekommer hyppigst. Ved sammenligning af luftfotografier af området ses, at der samtidig sker en kraftig erosion af de nordvendte lave kystskrænter, hvorpå de grå klitter og afblæsningsflader befinder sig. Den sårbare vegetation på disse steder er yderligere udsat for en kraftig slidtage fra sommerhusområdets turister, der vandrer til og fra Østerby Havn over klitterne. For at bevare denne spændende og sjældne myreart på Læsø er det nødvendigt med landskabspleje, der visse steder fremmer og beskytter den grå klitvegetation og bibeholder nogle af de åbne sparsomt bevoksede hedeområder.