

2.1. Latinsk navn (Latin name)

Luronium natans (L.) Rafin.

2.2 Røddlistestatus (redlist status)

Sårbar. (Vulnerable)

2.3 Utbredelse (spreading/place)

Luronium natans is an European endemic. It occurs in Western and Central Europe, southern part of Scandinavia, in the range of the Atlantic and Subatlantic climate. The Oslo populations seems to be the northernmost in the whole range (the only in Norway?).

2.4 Lokalteter i Norge (locations in Norway)

Oslo, Vestfold: Kimtahalvøya i Brunlanes, Larvik (nylig funnet).?

2.4.1. Lokalteter i Oslo (locations in Oslo)

3 known

Location: 1. DAUSJØEN

Observations were made only from the shore! We could observe water only to the depth of about 1.5 – 2 m and 3 – 5 m from the shoreline. Luronium can grow deeper- down to 3 m deep, but this area could not be examined from the shore (a boat is necessary).

Individuals: Very abundant, sometimes as many as 200 individuals / 1m². If we estimate: 10 individuals /m² and 2000 m of shoreline x 3 m wide belt of occurrence = 60 000 (for 200 individuals / 1m² = 1 200 000) individuals, or more.

Area: We estimate that Luronium is present on 60 – 70% of the lake shoreline. It grows more often on the Eastern side of the lake with the exception of a steep cliff in the southern part. It does not grow only in shallow, very muddy bays and in places where the water is immediately very deep. See the map.

Environment (habitat): Lake with stable water level. Plants prefer the depths between 10 – 100 cm. Plants with floating leaves do not grow deeper than 50 cm (at the moment of observation). Luronium grows preferably on empty sandy bottom with a thin layer of organic sediment, but also together with: Lobelia dortmanna, Juncus bulbosus, Equisetum limosum, Carex vesicaria, Lysimachia thyrsiflora, Alisma plantago –aquatica (rarely), Nuphar luteum

Condition: There were two forms of Luronium: water form (with floating and immersed leave rosettes) and vegetative immersed form (without floating leaves only with immersed leave rosettes). Only a few were flowering (start of flowering at the moment of observation?).

Care:

GPS-koordinates:

Date of watch: 1. 07. 2008, 3. 07. 2008

Owner:

Photos: 1686, 1693, 1699, 1708, 1717 (R. Gramsz)

Observer: R. Gramsz, J. Potocka

Location: 2. BREISJØEN

Observations were made only from the shore! Half of a lake shoreline was observed in July 5th and 8th and the rest in 25th of August.

Individuals: Abundant

Area: Luronium is present on ca 50% of the observed lake shoreline. Does not grow only in shallow, very muddy bays and where the water is immediately very deep. Also there is lack of Luronium close to the dam in Eastern part of a lake. See map.

Environment (habitat): This lake has changeable water level. Plants grow both on the shore and emerge from water and the highest concentration is observed along the present water level (about 1 -1.5 m below maximum). Luronium grows preferably on empty sandy bottom, but also together with: Lobelia dortmanna, Juncus bulbosus, Ranunculus reptans, Isoëtes echinospora (?), Equisetum limosum, Carex vesicaria, Lysimachia thyrsiflora. During observation in 25th of August the lake was with maximum level of water. Floating leafs were flooded but still growing to surface.

!!! – It will be very interesting to know (if it exist - limnigraph) the record of water level changes during as many years as possible.

Condition: all forms of Luronium were found: water-terrestrial form (only with floating, leathery leaves), water form (with floating and immersed leave rosettes) and vegetative immersed form (without floating leaves, only with immersed leave rosettes). Only a few were flowering (start of flowering at the moment of observation?). There were no flowers during observation in 25th of August).

Care:

GPS-koordinates: (See the map. Map datum (Kartdatum): WGS 84; Position format (Posisjonsformat): UTM UPS) GPS 1: 0603737/ 6650352; GPS 2: 0603700/ 6650374; GPS 3: 0603661/ 6650387; GPS 4: 0603616/ 6650450; GPS 5: 0603672/ 6650527; GPS 6: 0603661/ 6650635

Date of watch: 5. 07. 2008, 8. 07. 2008, 25.08.2008

Owner:

Photos: 1734, 1735, 1745, 1746, 1984 (R. Gramsz)

Observer: R. Gramsz, J. Potocka

Location: 3. Alunsjøen

Individuals: About 50 + 100 individuals in 2 sites.

Area: Luronium is present only in 2 places in small bays in Eastern and Southern part of a lake where small streams flow in. Plants takes up about 20 m² in site 1 (Eastern) and 100 m² in site 2 (Southern) See map.

Environment (habitat): This lake is with changeable water level. Plants grows in a very shallow, both standing and flowing water in places where flow in streams forms pools still full of water. During maximum water level in the lake this places may be emerged in water but usually this water level is much lower.

Seams that Luronium become extinct in whole lake except this two places

!!! – It will be very interesting to know (if it exist - limnigraph) the record of water level changes during as many years as possible.

Condition: There were two forms of Luronium: water-terrestrial form (only with floating, leathering leaves), water form (with floating and immerse leaves rosette). There were no flowers during observation in 8th of September).

Care:

GPS-coordinates:

Date of watch: 8.09.2008

Owner:

Photos: 2025, 2029, 2031, 2033 (R. Gramsz)

Observer: R. Gramsz,

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We were looking for *Luronium natans* also in other lakes and we did **not** find it!

There following lakes were examined:

- Små Vannene - L. n. not found

There are two small lakes surrounded by mire. With other species: *Nuphar luteum*, *Phragmites australis*, *Menyanthes trifoliata*, *Comarum palustre*, *Myrica gale*, *Eriophorum angustifolium*, *Trichophorum alpinum*, *Carex echinata*, *Drosera rotundifolia*, *D. anglica*, *Vaccinium oxycoccos*, *Carex lasiocarpa*, *Sphagnum* sp.div.

- Kringla - L. n. not found

Lake with mires closing only bays, the rest of shoreline - mineral. With other species, such as: *Nuphar luteum*, *Phragmites australis*, *Menyanthes trifoliata*, *Myrica gale*, *Doctylorhiza maculata*, *Eriophorum angustifolium*, *Carex lasiocarpa*, *Sphagnum* sp.div

- Puttene Søndre and Midtre - L. n. not found

Lakes surrounded by a wide belt of mire. With other species, such as: *Nuphar luteum*, *Nymphaea alba*, *Phragmites australis*, *Menyanthes trifoliata*, *Myrica gale*, *Drosera rotundifolia*, *D. anglica*, *Carex* sp.div *Sphagnum* sp.div

- Svart Putten - L. n. not found

Mostly mineral shore. Used for recreation , almost without vegetation: *Menyanthes trifoliata*, *Comarum paustre*

- Svartkulp - L. n. not found

Northern and western part of the lake with a wide belt of mires, the rest of the shoreline is mineral, sometimes with very steep cliffs. With other species, such as: *Nuphar luteum*, *Nymphaea alba*, *Potamogeton natans*, *Phragmites australis*, *Menyanthes trifoliata*, *Comarum palustre*, *Myrica gale*, *Drosera rotundifolia*, *D. anglica*, *Vaccinium oxycoccos*, *Carex* sp.div *Sphagnum* sp.div

- Støre Gryta, Steinbruvann - L. n. not found

We only saw a small part of the shore but *Luronium natans* most likely does not grow in those lakes.

- ~~Alusjøen~~, Maridalsvannet, Skarselva (below Dausjøen) - L. n. not found

Only small parts of those lakes were observed but there is a great possibility of finding it. Lakes should be carefully checked. (What about a permit to go behind the fences of drinking water lakes?)