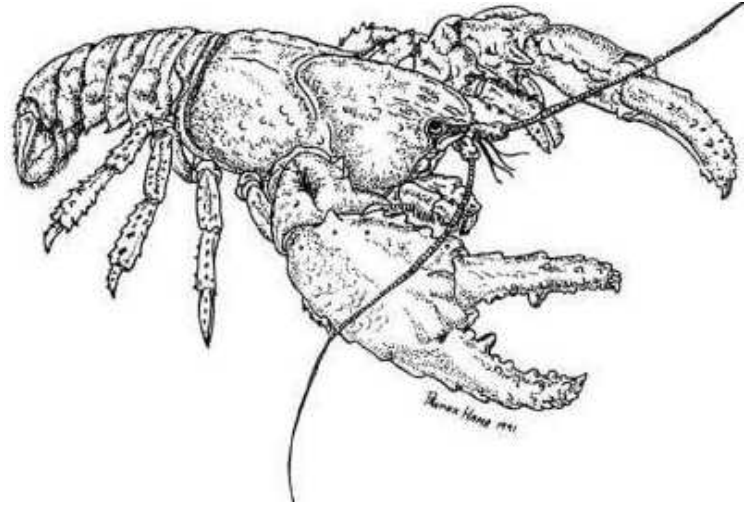


Disjunct Naturalists

WEBSITE OF THE CENTRAL NORTH FIELD NATURALISTS



Goebelobryum unguiculatum

by T. Thekathyl



1. sporophytes emerging from bare ground

Phil Collier, CNFN president, discovered what appeared to be liverwort sporophytes growing out of newly burnt grassland and sent images to a couple of contacts for their opinion. He stated that they 'are crowded threads that are embedded about 10mm into the ground otherwise I might be tempted to think they are fertile parts of a liverwort. These have persisted for several days now in large patches in recently burnt ground'.

I stared at the images for some time and could not imagine any locally known liverwort to exhibit this behaviour and decided it was worth making a trip to the site to observe the phenomena at first hand.

Several days later I called at the property and sure enough there were masses

of 'threads' in strong contrast to the burnt ground. My initial opinion was that this was some form of fungus. Patches of ground up to 300mm across were near white with the 'threads'. I collected a couple of soil cores and took them home for closer study.

Under the microscope it was obvious that the sporophytes were those of a liverwort but with notable differences from what I have been accustomed to:

a) Sporophytes seemed to persist over several days while in other leafy liverworts they dehisce and collapse in a matter of hours. This was Collier's observation as well as mine of the sample we collected and potted up - setae (stalk) had not collapsed several days later and capsules had not 'opened'. This may account for the density of sporophytes on the ground - they comprise of several days growth.

b) Capsules do not dihisce by splitting open into quadrants and releasing all the spores/elaters. Rather they appear to have a pair of slits at the side which open to release spores, much in the way the moss *Andreaea* does. I speculate this could go on for days depending upon weather conditions. A wet capsule placed under the dissector looked intact when placed on the slide but within 10 minutes or so slits had opened on both sides and elaters and spores were being ejected over several minutes.

Examination of underground parts showed club like vertical growth with sporophytes emanating from the top. I was able to remove part of the gynoeical bracts (guard leaves protecting the female organ) and they were heavily toothed. The cells seemed to contain oil bodies, capsule walls had the typical pattern and both spores and elaters were typical of liverworts.

As far as I knew there are only two subterranean liverworts, *Cryptothallus mirabilis* from western Europe and *C. hirsutus* from Costa Rica. This could be a new species.

I posted a note on Bryonet (listserv for bryophyte enthusiasts) about my observation and provided some images. A few hours later it was suggested that this was probably the marsupia (underground female organ) and sporophytes of *Lethocolea pansa* where the sterile gametophyte dies back each year. In this case they had subsequently been burnt to the ground.

L. pansa is unusual in that fruiting is rare and no herbarium seems to hold fruiting material. Not surprisingly there were several requests for specimens.

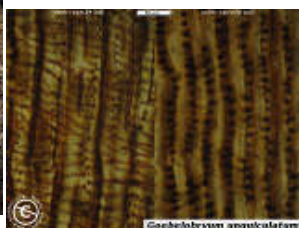
This called for a second trip to the site and this time I took a closer look at some of the unburnt ground nearby. There were pale patches (obviously dead from heat of fire and bleached) that turned out to be *Goebelobryum unguiculatum*, fruiting of which is not as rare as *L. pansa*.

Cleaning the soil cores yielded numerous marsupia as well as fragments of vegetative grow, all of which were toothed and belonged to *G. unguiculatum*.

This proved to be a major disappointment - from what I thought was an extremely rare *Cryptothallus* to a rather rare fruiting *Lethocolea* to a more common *Goebelobryum*. However it provided an opportunity to record an event that most people would never get to see.



2. massed sporophytes



3. capsule walls



4. capsule wall TS



5. elater

I am grateful to P. Collier for providing pix 1 and 2 as well as permitting me to collect specimens from his property.

Page URL: <https://www.disjunctnaturalists.com/articles2/goebelobryum.htm>

[Back to top](#)

[Home](#)

[Why 'disjunct'?](#)

[Membership](#)

[CDs & Books](#)

[Contact Us](#)

[Articles](#)

[Acoustic Bird Monitoring](#)

[Walks & events](#)

[Links](#)