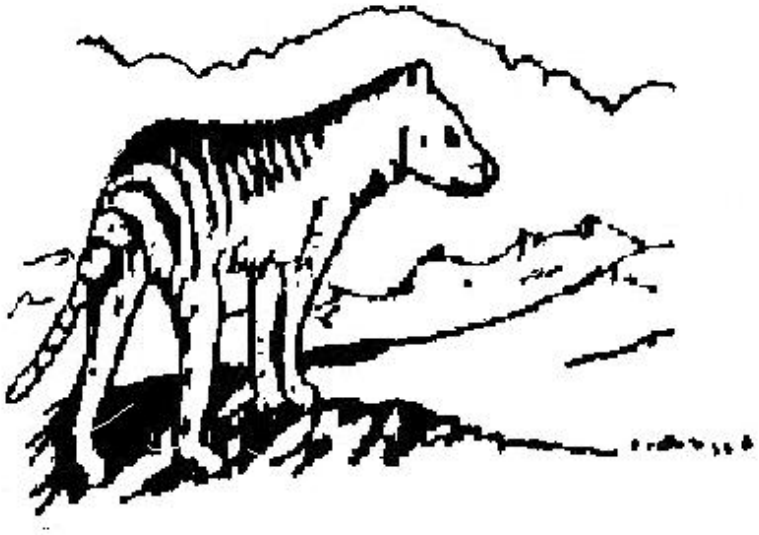
THE LAUNCESTON NATURALIST

Issued to members of the Launceston Field Naturalists Club as a contribution to club activities.



The aim of the Launceston Field Naturalists Club is to encourage the study of all aspects of natural history and to support the conservation of our natural heritage

Volume XLIV No 5 June/July 2011

Meetings 1st Tuesday of month, Feb-Dec at Scotch-Oakburn College, Penquite Rd Newstead

PROGRAM

AUGUST

Tuesday 2	**Speaker: Mark Leech - Forestry - a Future by Design**
Saturday 20	**Skemp Day: Tree Planting on Skemp Creek (please note change of day)**

SEPTEMBER

Tuesday 6	**Members night, including judging of Club Photographic Competition**
Sat 24 - Sun 25	**Skemp Weekend: Tree Planting and on Saturday evening Astronomy with Peter Warren**

OCTOBER

Tuesday 4	**AGM Dinner Meeting (venue TBA)**
Sunday 9	**Field Trip: Midlands wildflowers**
Sunday 23`	**Skemp Day: Water Monitoring**
Fri 28 - Sun 30	**Federation Weekend @ Bruny Island hosted by TFNC**

NOVEMBER

Tuesday 1	**Speaker: Lesley Kirby - *Royal Tasmanian Botanical Gardens* (RTBG)**
Sunday 6	**Field Trip: RTBG**
Sunday **20**	**Skemp Day**

DECEMBER

Tuesday 6	**Speakers: Mick & Helen Statham - *Native Rodents***
Saturday 10	**Christmas at Skemps**

To see the full July to December 2011 program visit
http://www.lfnc.org.au/meetings.htm

COMMITTEE/GENERAL MEETING

Skemp Report

Regular workers are needed at Skemps on Tuesdays to assist with mowing, track maintenance, track clearing, firewood and weed control. Members were advised that with the recent snow and wind damage, track clearing is urgently needed. If you are able to help by walking a track undertaking some light clearing and can note and report areas that need chainsaw clearing, that would be very helpful and most appreciated.

Puggle

June - Maureen Johnstone asked the meeting to identify a frog from a description she read out. John Elliott correctly identified the Moss Froglet (*Bryobatrachus nimbus*)

July - John Elliott told the meeting that 3 species of monotremes were not found in Australia and asked where they occurred. Noel Manning correctly answered New Guinea.

Sightings

June - Maureen Johnstone reported Eastern Rosellas feeding on banksia cones at Riverside. Margrit Korosi had seen a Little Falcon at Prospect Vale. Karen Manning reported an Eastern Spinebill in her garden at Newstead. Alison Green had seen a Black Cockatoo in a pine tree on Georges Square. Michael Clarke reported a flock of 9 Pelicans above the Queen Victoria building.

July - Peter Warren had seen a Wedge-tailed Eagle near Ben Lomond. Katherine Krejcar reported seeing Echidnas near the Silverdome and Denison Road.

Library Report

Tina McGlynn tabled books from the estate of Mary Page, including photos of Club members, the Burnie Field Naturalists newsletter and the latest Running Postman. Tina moved that the Club purchase a copy of *Seashells of Tasmania* for the library at Skemps ; this was approved. Tina also had a request from Tasmanian Regions, asking for reports of listed species. David Seymour has given the Club a CD of the Mathinna Supergroup report.

General

Annual General Meeting - Members were asked to suggest possible venues at which the meeting could be combined with a meal.

Photo competition - The President reminded the meeting of the submission date for the competition in September and of the entry requirements.

Circulation of emails - Hans Bosman spoke about the email circulation of items of a political nature received from other organizations. He stated that the Club should only be concerned with the study of natural history, as set out in the constitution.

Hans moved: That rules be established for the forwarding of messaged (emails) to members; the rules to include that messages conducive to the aim of the Club (Article 2 of the Constitution) and those related to its objectives and purposes (Articles 5 and 6 of the Constitution) may be forwarded and that messages of a political, confrontational, religious or commercial nature not be forwarded.

Following questions and discussion, the Chairman put the motion, asking for a show of hands. 15 were in favour of the motion. 6 were against. The motion was carried.

Asset List - The auditor has requested that an itemised list of assets be included with the financial records when they are submitted for the annual audit. Committee members are currently working on the list.

School for Seniors - The Committee intends to submit a proposal, based on activities during a day trip to Skemps, to the School for Seniors for consideration for inclusion in their 'summer school' program which is held in January each year. The proposal is required by October.

Club Calendar - Calendars are available for purchase at $5.00 each. The A5 sized calendar is the right size for posting overseas, interstate or even within Tasmania and would make an ideal Christmas gift. The calendar features Tasmanian plants and wildlife with photographs taken by Club members. Calendars will be available for purchase at meetings, outings or at Skemps by catching up from Karen, Club Treasurer. An order for calendars can be placed with Karen by telephoning on 6344 2277.

GENERAL MEETING JUNE - Member's Night

When speakers booked for the LFNC meeting on 7 June became unavailable, presentations by club members filled the gap.

Peter Warren named and handed around samples of minerals which he collected in Tasmania. These included quartzite from South Mount Cameron, hazelwoodite found near Trial Harbour, dog tooth spar (calcite) from Dundas and tektites known as "Darwin Glass". These were formed when a meteorite, which landed near Crotty, caused molten rock to spray out over the surrounding area.

A surprise addition to his display was a small diamond found inside one of the dates in a packet imported from Iran.

Roy Skabo illustrated a contrast based on fungi seen at Skemps. Flies feed on fungus while a fungus feeds on an insect.

A female sun fly, *Tapeigaster sp.*, laid eggs on a bird's nest fungus which the larvae would then eat. (Adult sun flies feed on fluid from decomposing carcasses). This 'bird's nest' is a tree-rotting fungus which is bioluminescent.

A "vegetable caterpillar" fungus, *Cordyceps sp*., produced a fruiting body which projected above ground. Its spores would be carried underground by rain water. Those which reach a burrowing moth larva would form hyphae which spread throughout the caterpillar's internal organs and consume them, leaving just an outer husk. Then a new fruiting body would grow upwards to repeat the cycle.

Louise Skabo showed photos of a Tasmanian cave spider, *Hickmania troglodytes*, found in a tunnel near Derby and she spoke about its significance. As residents of various darkened places, cave spiders live in the twilight zone where insects and other invertebrate prey can drift in. Here a spider waits on the underside of its large sheet web.

A female of *H. troglodytes* is about 19 mm in body length wiles a male is about 13 mm long. Eggs are contained in a pear-shaped, silk egg sac which hangs downwards from the web.

Genus *Hickmania* was named for a long-time spider researcher, Professor VV Hickman, of Hobart. Its only species, *H. troglodytes*, is endemic to Tasmania. The nearest spider relative is in Chile.

Hickmania posses an unusual combination of key characters. In mygalomorph spiders (eg. Trapdoors and funnelwebs) there are two pairs of booklungs in the abdomen and the jaws have fangs which are sub-parallel and pointed backwards. Most other spiders have one pair of lungs or none while their jaws have fangs which point towards each other in the mid-line.

Hickmania troglodytes has two pairs of lungs, like mygalomorphs, but its jaws are like those of most other spiders. This representative of a small and ancient group of spiders is a special member of Tasmania's invertebrate fauna.

Prue Wright showed photos of a variety of spiders. Most of these were found in her garden while some were at Skemps. They included orb-weavers and a leaf-curler (Araneidae), jumping spiders (Salticidae), crab spiders (Thomisidae) and a redback spider, *Latrodectus hasselti*. Remarkably, she achieved a picture of a jumping spider while it was not watching her.

Alanna Smith explained the topic of her Zoology Honours thesis. She studied the behaviour of a phasmid (stick insect) species, *Podacanthus wilkinsoni*, in conditions of different density.

P. wilkinsoni eats eucalypt leaves. One insect kept on its own is docile and cryptic in colour. Its plain green provides a good camouflage. In this situation it does not feed on plants which contain toxins.

When specimens of *P. wilkinsoni* are reared in crowded conditions their behaviour changes. These insects are socially interactive. Their colouring becomes a conspicuous pattern, with brown and pale yellow added. They will now eat toxic plant material which they can tolerate but which would harm their predators. The results of this study are relevant to the wider question of how does warning colouration develop?

Alanna followed her report with photos of rare or unusual birds seen in mainland Australia. She then spoke of her current work in a Parks and Wildlife programme for captive breeding of Tasmanian devils.

Thank you to the five volunteers who informed and entertained us well during the June meeting. Alison Green

SKEMP DAY - Saturday 18 June - Tree Planting on Skemp Creek

A small band of enthusiastic members met at Skemps to start the second stage of planting on Skemp Creek. The day was sunny and warm, today's plan was to start planting at the creek crossing and continue back up the hill to the Top Pond on both sides of the creek.

John Elliott, our co-ordinator, had done a great job preparing for the planting during his usual Tuesday volunteering time at the property; he had placed stakes, tree guards, plastic

covers and weedmats at each individual site. This preparation by John saved a lot of time, all that was needed today was the seedlings *Telopea truncata* (Tasmanian Waratah), *Eucalyptus viminalis* (White Gum) and *Callistemon pallidus* (Yellow Bottlebrush) to be placed and then members concentrated on digging holes and completed the planting process with the installation of tree guards to protect against wildlife grazing.

With one side of the creek completed we headed back to the Centre for a quick lunch.

News of snow at Skemps last week came as a surprise. This has resulted in damage to plants. In the immediate Centre area there were quite a few broken limbs and the *Acacia riceana* (Arching Wattle) between the shipping container and outdoor toilet had been severely damaged.

After lunch planting on the other side of the creek was quickly finished and members headed off to look for fungi on the North Track. Here we found a lot more tree damage, having to crawl under one breakage in the mud to get past.

Fungi seen in the area were *Geastrum triplex, Hydnum repandum, Armillaria novaezelandiae, Entoloma sp., Mycena epipterygia, Pleurotopsis longinqua*.

Karen Manning

GENERAL MEETING JULY - Guest Speaker David Seymour - *Geology of the Mathinna Group*

David Seymour is a regional geological mapping geologist rather than a specialist palaeontologist and needed to update his knowledge because the discovery of the graptolites was very important to the work as a dating agent for the geology of the Mathinna Supergroup.

David acknowledged the work of the other geologists involved in the mapping and mentioned that he was not directly involved in the mapping around Skemps but got details of the area from Ian Woolward who was involved in the Skemps area before he left the project.

The geological survey of Tasmania is a long term project which has been managed by many government agencies including the Mines Department and most recently Mineral Resources Tasmania. The aim of the project was to produce a set of geological maps of Tasmania comparable to the topographical maps presently available.

One slide showed the geological maps which are presently available and these include the old 50,000 to 1 scale, the newer 25,000 to 1 (which are also digitised). The map also indicated that there was still a big part of the state which is yet to be mapped.

He explained some of the geological terms on a slide including stratigraphy the area of geology which deals with the processes to determine the relative position of rocks data and the relative and absolute ages and relationship with the geological time scale.

Geological rock units are grouped together and we were introduced to the following terms. First there is a local geographical name such as the Retreat Formation at the old township of Retreat and the Turquoise Block Slate named after the Turquoise Block Slate Quarry, both areas which David had studied, and these are a formation lowest or smallest of the units. Then comes a group of local geographical names

grouped together such as the Tippagory Group named after the Tippagory Hills in the north east of the Tamar. A number of these groups together are called a supergroup, the highest level term in the hierarchy of names given to geological rock units.

David then mentioned the graptolites as an index fossil, the fossil of an organism which existed in a relatively restricted range of geological ages. This means that the rock strata can be dated accurately and with sedimentary rocks, fossils are often the only indicator of age. In 2005, there were only four places in north east Tasmania where graptolites had been found.

Another slide showed what he referred to as the stratigraphic 'bible', the names of the various geological stages with absolute age listed as well, and representing some 4,000 million years of earth history. Australia was represented by the Darriwilian referring to an area in Central Australia and the late Precambrian is now called the Ediacaran Stage named after a set of fossils from South Australia which are the remains of some of the earliest life forms that ever existed on earth. These were seen in a recent BBC series, First Life, with David Attenborough.

Fossils place rock strata into one of the above named stages while the absolute age is determined through radioactive decay, a sort of atomic clock for rocks.

A map of the Mathinna Supergroup had coloured parts representing the two broad associations of rocks. First the volcanic, sedimentary and igneous rocks which are relatively undeformed and flat lying and known as the cover rocks, and are up to 310 million years old. Underlying these is a strata of older, strongly deformed, folded and faulted complex rocks which can only be studied through what is called the windows in the cover rocks. The broad, colourless areas of the map showed how much there was of these windows in the north east of Tasmania making it important for the study of these older rocks.

These older rocks can be further divided into two associations starting with the sandstone and mudstone of the Mathinna Supergroup deposited in the range 410 to 480 million years ago as established by index fossils. About 400 - 346 million years ago these were intruded by very large volumes of igneous rock to form the wide spread series of granites forming many of the well-known land forms in north east Tasmania.

David stated that granites were the main focus of his geological studies and that granite is much more prevalent in Tasmania than we might think. A 3D representation of the underlying rock strata showed the huge areas of granites below Tasmania with the best outcrops being in the north east. The presence of granite can be determined by gravitational surveys as granite is lighter than the other rock types below Tasmania resulting in a negative effect on gravitational measurements. He humorously suggested that if you wished to lose weight you should live or holiday where granite forms the bulk of the subterranean rock at Melaleuca, Trial Harbour or on the east coast. North east Tasmania is important in geological terms in that a large chunk of the inter-national geological time scale was represented there.

The Mathinna Supergroup was formed in a deep oceanic environment where sediments from a large land mass or the continental shelf washed into delta like submarine canyons cut into the edge of the shelf. These deposits are carried by turbidity currents, low friction turbulent currents which keep the sediments in suspension for very long distances to where it is deposited. The sediment is then deposited in layers starting with the coarser material at the bottom and getting finer

toward the top. The flow of sediment can be caused by a slump at the edge of the continental shelf and the slump can be triggered by an earthquake.

Two small movies showed turbidity currents reproduced in tanks to demonstrate how these work with one showing that there was nothing driving the forward movement other than the slope on which it starts. Also that such an event was relatively fast moving and destructive to any established environment in its path. The accuracy of these predictions was confirmed by an earth quake triggered turbidity current off the east coast of Canada in 1929. The Grand Lake earthquake as it was known travelled for hundreds of kilometres at 60 to 100 kilometres per hour and broke twelve trans-Atlantic telegraph cables. It was the breaking of these cables in sequence that established the speed of the turbidity current.

We have one of the most incredible examples of a submarine canyon in our own backyard. There is a 140 kilometre wide one in the north east of Bass Strait, off the south west tip of Victoria.

Arnold Bouma a geologist, made a model of a typical sedimentary deposit from turbidity current with this rock layer typically laid down in minutes to hours of a slump event. The further background deposition could be laid down over years giving a distorted view of the time scale of the various layers of rock. Also, the turbidity layer will only feature fossils such as shells washed along with the current while the background layer will feature index fossils such as the graptolite. The Mathinna Supergroup features layers which show most of the structures matching the Bouma model and the upper black layer is the background deposit as found at Skemps. This layer is easy to split and is where the graptolites are found.

David described a typical set of graptolite fossils, flat on one side and saw toothed on the other with a slight taper, mostly straight with some sickle shaped. This description would have been very familiar to anyone who has seen the graptolites found at Skemps.

The graptolite turned out to be a creature (or creatures) unimagined to the inexperienced eyes which have seen the fossils. One form of graptolite was attached to the sea bed and each type tended to be endemic to a continent. The other led a planktonic lifestyle floating around the oceans with new varieties quickly replacing the earlier forms making them an ideal index fossil. With the floating variety each saw toothed fossil we have seen is but one of around half a dozen arms hanging from a floating carousel like structure and each tooth on the saw edge represents the home of an individual creature.

Graptolites had been found in only 4 locations in our area over 37 years up to 2005, probably because they occur only in the relatively rare black mudstone produced by the background sedimentary deposits.

The graptolites of the Mathinna Supergroup allowed those who studied the area to establish that the mudstones are from a specific sub-age in the Ludlow epoch of the Silurian era. All told these index fossils provided a very accurate picture of the area and made it important for the geological study of Tasmania and these graptolites in the north east of Tasmania have been identified by a palaeontologist.

Monograptus insignitus found at Boags Ridge are around 15 cm in length, considerably bigger than graptolites from other areas and those who have seen the graptolites from Skemps can confirm that these are only up to 10 cm in length.

The loss of graptolites was a significant worldwide event and may have been caused by a change in climate, sea level, ocean salinity or perhaps a combination of these. This is considered to be a major event similar to the better known extinction of the dinosaurs in

the Cretaceous period and David stated that a meteorite strike is not universally accepted as the cause of this well-known event.

Recent work in north east Tasmania has resulted in a more detailed geological map of the area and a much more detailed stratigraphic subdivision of the Mathinna Supergroup which will hopefully act as a quite valuable reference for future work.

Some questions are raised by the gaps in the record of index fossils and the jump in the time scale of the geology of the area caused by a fault in the rock deposits and various ways these might be interpreted.

David has asked that we report any discoveries of graptolites as each new location could significantly add to the knowledge of the geology of the area. Noel J Manning

Peter Warren thanked David for his interesting talk with its comprehensive coverage of the graptolite fossils.

FIELD TRIP - Sunday 10 July - Mathinna Super Group

The early rain must have put off all but the hardiest as only three of us met in the Inveresk car park. At Myrtle Bank our numbers eventually swelled to the days final tally of seven.

We left the John Skemp Field Centre around 10am to walk to the lava flow at the top of the Bedfordia walk where the basalt seems to end, although the chocolate soil and loose basalt rock down to the road suggests that there is eroded basalt and some rocks well away from the lava flow. From the lava flow we followed a winter creek to find out where the basalt is replaced by sedimentary deposits in the form of Mathinna mudstone. Below the road the creek had exposed only mudstone making the road the demarcation line between the basalt, or it's eroded material, and the mudstone. Perhaps the road was built where it is because this provided a more solid base. This part of our field trip was quick and easy, as John Elliott had already researched the area with a spade on his Tuesday visits armed with information from the internet.

A quick warming cuppa and chat and we went via Nunamara and Prossers Road to Lilydale and then to the Lilydale Falls car park. At both the Lilydale falls we saw a Bouma sequence where the rock starts out as a sediment deposited on an undersea slope after being shaken loose by an earth quake. The sediment is graded into smaller and smaller material with the gradual slowing of the water carrying the sediment. In the old quarry on the way to the falls we could make out the folding and cleavage of the rock strata.

After a lunch break in the rather cold car park we headed for Bridport enjoying the warmth of the cars. We arrived in Bridport just before 2pm and along the road to Granite Point found a parking area big enough for our three cars. The wind had increased at Bridport and seemed colder proving that it was a good decision to lunch before reaching the coast. We were soon on the rocky foreshore and quickly found where the igneous granodiorites had intruded into the alluvial deposits which were formed into harder material by the heat and pressure.

A worthwhile outing, despite the wind and cold, providing excellent examples of the geographical features of the Mathinna group as presented at the July meeting.

Noel J Manning

SKEMP DAY - Sunday 24 July - Planting on Skemp Creek

Members arrived early for the second of four planting days scheduled for Skemp Creek this year. The morning was fine following a heavy frost. After a quick cuppa, members set off to the northern side of the Creek down the paddock from the Centre.

With two people digging holes, some planting and others staking and bagging, we quickly got into a system. With a few more members arriving during the morning, when the hole diggers had finished at the established bush area, the rest of us had pretty much caught them up. We then moved further down the creek to the river crossing and planted on both sides prior to heading back for our lunch around 12.30 pm.

Unbeknown to us, there were only a handful of seedlings (*Telopea truncata*, *Eucalyptus viminalis* and *Callistemon pallidus*) left to be planted and John Elliott had all but finished planting them when we returned. Back at the Centre, members dragged the remains of the fallen *Acacia riceana* down to the rubbish heap before departing.

Karen Manning

AUSTRALIAN PLANT SOCIETY MEETINGS

LFNC members are welcome to attend APS meetings held on a Tuesday at Max Fry Hall, Gorge Road Trevallyn at 7.30 pm. Their next meetings will be on:

August 16 - Doug Friend 'Native Grasslands'
September 20 - Member's Night

FEDERATION WEEKEND AT MURRAYFIELD STATION, BRUNY ISLAND

Friday 28th October ~ Sunday 30th October

TFNC is hosting this biannual get-together of the Federation of Field Naturalists Clubs in Tasmania. It is a rare opportunity to visit an interesting part of Bruny Island in company with a wide range of naturalists. Click for location map.

About Murrayfield

Murrayfield is a 4097 ha property on Bruny Island owned by the Indigenous Land Corporation and managed in partnership with the Weetapotah Aboriginal Corporation. One of the aims for the property is to balance the demands of running an established sheep and fine merino wool business with protecting cultural and environmental sites. It has a rich and varied landscape with significant habitat for rare and threatened species, including the swift parrot, white-bellied sea eagle, wedge-tailed eagle, and the forty-spotted pardalote. It has a rich Indigenous cultural landscape. More information about the station is available at http://www.murrayfield.com.au/.

Draft Itinerary

Arrive: Friday afternoon
Friday Dinner: BYO dinner and refreshments
Friday Evening: Welcome to country (TBA) and talk

Saturday: Drive to church ruins and walk to Cape Queen Elizabeth
Saturday Dinner: BBQ provided by TFNC (byo refreshments)
Saturday Evening: Guest speaker (TBA)
Sunday Morning: TBA

Accommodation

Accommodation sleeps 24
Tent sites available
Max. numbers = 50
Cost = $10/adult/night

There are 12 rooms with single beds and 6 rooms with bunk-beds for 2 people. There is the possibility of people sleeping on the floor in the bed rooms to increase capacity.

The station includes a large living areas, large kitchen with fridge and freezer, cooking and eating utensils, BBQ, toilets and showers.

To attend you must book with Michael Driessen at president@tasfieldnats.org.au, or on (03) 6229 6382. Please advise if you need a room or can camp if a room is not available.

Regarding the Saturday evening barbeque: if you have special dietary requirements, please let us know ahead for catering, or alternatively bring appropriate food.

Bruny Island Ferry Timetable

Timetable and fares available from this website http://www.brunyisland.com/island/ferry.php. We suggest avoiding the last ferry on Friday as it may be busy.

Above information from http://www.tasfieldnats.org.au/TempPages/TFNC2011-Murrayfield.htm

Additional Information

Club Outings:

1. All outings depart from Inveresk carpark (near Museum entrance) at 9 am unless otherwise specified. Internet site updated regularly to reflect short notice changes. Saturday all-day parking cost is $3.00. Sunday parking free.
2. You need to provide your own food and drinks for the outing unless otherwise specified. Morning tea is normally provided by the bus company on bus outings.
3. When travelling by car in convoy, each driver is responsible to ensure that the vehicle behind is in sight immediately after passing each cross road or fork in the road.
4. When car pooling, petrol costs should be shared between all the passengers, including family of the driver, and based on other clubs the Committee suggested $11 per 100 km. This is a guideline only.

Name Tags: Name tags are to be worn at meetings and on outings.

Tea/Coffee: A levy of 50c is currently charged for supper provided at meetings.

Field Centre: All members have access to the John Skemp Field Centre. Contact our booking manager, John Elliott on 6344 9303 regarding availability and keys.

Field Centre Phone Number - 6399 3361

Postal Address: PO Box 1072 Launceston 7250

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