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SOUTHERN CAVER

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"SOUTHERN CAVER"

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Postal Address:
P.O. Box 121 Moonah, Tas. 7009

PRESIDENT: Mieke Vermeulen

Club Rooms:
132 Davey St.,
Hobart.

SECRETARY: Peter Russell

EDITORS:
o Dave Elliott, Ron Mann

TREASURER: Ron Mann

COMMITTEE:
Steve Harris, Graeme Watt

COVERS: By courtesy of Graeme Watt

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WACCON FIELD TRIPS. By Leigh Gleeson

The field trips following the 12th Biennial Conference of the Australian Speological Federation were largely in the South Western Region of W.A. The centre of most attention was the Leeuwin-Naturaliste Ridge area some 300 km South of Perth. Within this area there are five sub-areas but all can be served from Boranup Campsite. The caves are considerable in number, typically dry, have limited stream passage development and are almost always well decorated. For most caves the duration of trips tends to be short. Access to the caves is generally straight forward, internal pitches are rather rare and those with entrance pitches present little difficulty. Nearly all caves are highly photogenic and often have formation peculiarities not usually found in Tasmanian caves. One cannot fail to be greatly impressed with the beauty of the many cave systems. The Boranup campsite was continuously occupied for several weeks after the conference with as many as sixty cavers from all states present at any one time. The well organized WASG members made for leisurely caving on the part of the visitors. All trips were organized by an area co-ordinator who, with the aid of a large notice board, provided an up to date list of current and proposed trips.

The first feature of WA caving which appeals to Tasmanians is that you don't have to get wet and miserable to see tremendous underground scenery. WA cavers occasionally comment that they have no sporting caves by comparison with Tasmanian caves but even a short visit to the West will show that this is well compensated for by a multitude of rich and fascinating caverns. The skills one needs in the West are not those of endurance and tenacity, for the cold stream caves with multiple shafts as in Tassie but rather the ability to move with great care and respect in what is often a very delicate environment.

Another region to command considerable attention was Eneabba some 300 km North of Perth. In this area the campsite is set on the perimeter of a large claypan. In the wetter months this claypan provides the source waters for a couple of phreatic horizontal cave systems both about 2 km long. Several survey teams assigned themselves the task of mapping one of these systems. The area is also characterized by large areas of Karst pavements riddled with solution pipes dropping away to shallow cave systems below, unfortunately these are not always enterable. One of the strangest caves in the area is Aiyennu (A.N.U.) Cave which must surely possess one of the classic entrance forms found anywhere in Australia. The entrance chamber would be approximately 13 metres deep and 20 metres wide. The doline is at that rare stage of development whereby the 1 metre to 2 metre thick roof has not collapsed yet, there are about 100 holes already in it, many of them just large enough for someone to fit through them. The roof is thus like a very thin Swiss cheese. One enters by dropping a ladder down one of solution pipe type holes. If you elect to stroll across the roof of the chamber care must be taken not to step into a void.

The dry, almost semi-arid environment of the area presents many fascinating vegetation types and is rich in wildlife. Four wheel drive vehicles are essential to reach many of the outlying caves.

The Nambung area, 250km north of Perth has a number of small and horizontal caves that are often unusual and delightfully decorated. Apparently some of the caves have been mined on a small scale for Guano.

The surface karst of the area is famous for the presence of limestone pinnacles. The other area visited during the conference was Yanchep (51 km north of Perth). Once again the caves tend to be shallow and small but none the less well worth visiting.

There is a range of other less popular areas to which one could go. In addition to the caves of the SW considerable time was spent both before and after the conference on the Nullarbor.

In summary it would be fair to comment that all of the Eastern cavers were more than impressed with the many caves in the West and in particular with their beauty.

PRE AND POST WACCON TRIPS IN THE

NULLARBOR AREA

By Mieke Vermeulen

The Nullarbor Plain area which consists of the treeless plain proper and the semi-arid country further west of the Nullarbor station, proved to be a most rewarding place to inspect caves. The generally flat undulating country is broken in places by large collapse dolines, some with cave entrances at the base and some degrading to a smooth basin shape. The characteristic form is a roughly circular hole with one cliff face and a rubble slide on the opposite face. This situation caters admirably for the SRT enthusiasts who can do their thing off the cliff while those less inclined can ladder, or scramble down the other side.

The many caves visited were both sporting and beautiful, some being quite new to us. Some were small un-named "blow-holes" which are round narrow solution pipes leading down into the cave systems below. These blow holes often become too narrow to go through at a depth of a few feet but must be connected to further systems as they have either a strong cold breeze blowing out of them or they are sucking hot air in. This breathing action is characteristic of many Nullarbor caves and the refrigerator effect is extremely pleasant in the heat of summer. An excellent example of how strong this breathing can be is in the Southerly Buster, which is not far from the entrance of Mullahmullang Cave. The passage here is around $1\frac{1}{2}$ m high and 3 to $3\frac{1}{2}$ m wide. The "breathing" of the cave is thus constricted resulting in a gale through which only one person can crawl at a time as the sand is stirred up and gets blasted around. A pair of overalls can be blown out straight by the force of the wind. This wind is partly the cause of the 10m plus Dune behind the Southerly Buster.

Mullahmullang is the longest cave on the Nullarbor being 6 miles long and reaching a depth of 390 feet. The main tunnel itself is about 3 miles long with numerous side passages and consists mostly of sand passage with lots of rock falls which become fairly tiresome to walk over. The main side passage, the Easter Extension, contains many strange and wonderful formations of gypsum and halite. Also in this extension is a powdery formation of white and chocolate brown commonly referred to as "the Coffee and Cream". The trip to the Dome, at the end of the main tunnel takes around ten hours and the main difficulty is keeping the body fluids up. There is some water in several lakes inside the cave but like much of the underground water is far too salty for human consumption. The caves are fairly warm by Tasmanian standards and the possibility of dehydration is always present.

Aburakurrie Cave at Eucla is another most impressive system, consisting of a degraded doline 700 feet long with the entrance at the base of a cliff at one end. The cave is 1100 feet long and reaches a maximum depth of 230 feet. The resemblance this cave has to a railway tunnel is remarkable - high domed roof and flat sandy floors. (We threw frisbees and kicked footballs down there - the place is big enough for a football field!!) This cave is also interesting as it has Aboriginal hand prints present on the walls not far from the entrance.

One of the strange and wonderful experiences of the Nullarbor was swimming in caves not only voluntarily but actually for enjoyment. An excellent hole for this was Weebubbie Cave at Eucla which has a large main passage of 1100 feet going to a lake at a depth of 280 feet. The main doline is 150 feet in diameter and like many others in the Nullarbor, very spectacular. The lake in this cave is a delight to behold being very clear water with a light bottle green tint. The lake extends for some 300 feet and averages a depth of 30-40 feet. Unfortunately right in the middle of the domed roof above the lake is a nice round hole down which a pipe reaches into the water pumping out the drinking water for the township. The water is treated to remove the salt, empty beer cans, cigarette packets, dead torches and sweaty cavers. The locals know about many of the caves and are not particular where they drop their debris. This created an interesting exercise in Murra-el-elevyn cave which contained not only a Thylacine carcass but a whole truckload of 20th Century odds and ends, mainly beer cans. This cave was subsequently cleaned out by cavers heading back east after the Waccon field trips had finished.

Many of the other caves were typical of the area having doline, rubble slope, broken rock floor sloping down to a lake~~r~~ pool at the water table. Several were visited and in general were only an hour trip at the most.

Finding "lost" caves in Tasmania has sometimes been a problem with steep gullies, thick scrub etc. hiding a multitude of sins, but on the perfectly open grass lands of the Nullarbor it is no easier!! Four of us spent a considerable time with compass and written instructions cruising around the plain searching for a hole which had been "lost" for several years. We were in fact lucky enough to find the hole, Capstan Cave, which has a doline some 15m in diameter. You would not expect to lose a hole that big but on the Nullarbor it is quite easy and has been done on a number of occasions.

Over all the Nullarbor caves provided a totally new caving experience for us as well as some amazing above ground scenery. Future trips would be highly recommended as the area offers much for speleo enthusiasts.

Historical Reprint

from: Johnston, R.M. (1888) Systematic Account
of the Geology of Tasmania (P 40) W.T. Strutt,
Govt. Printer, Hobart.

Chudleigh - The non-fossiliferous limestones are largely developed in the neighbourhood of Chudleigh, notably at Mole Creek, where there are numerous and extensive caverns. The Mole Creek traverses for miles in the underground channels or caves formed in the limestone. Extensive chambers also occur at a place called the New Caves, which have at a former period, been produced by ancient watercourses. The chambers are often 10 fty, and their ramifications are wonderful and perplexing. Stalactites and stalagmites in all stages of development are found adorning the walls, roof and floor. The crystalline tabular ledges and Gothic-like pillars are all ablaze as the lights of the visitors' candles flash and reflex from the myriad crystal facets. When the lights are extinguished there is even still a wonderful display on roof and walls from the glow-worms, which everywhere abound in "clustered magnificence". In one of these caves a new species of cave-inhabiting spider was discovered by Mr. Henry, and described by Messrs. Higgins and Petterd, of Launceston.

In some of them are also to be found large deposits of mammalian remains, which are described as lying on the projecting shelves of rock to which they are agglutinated by thick stalagmitic incrustations. Still larger quantities are found in the crevices of the rock; whilst the earthy and stalagmitic floor yields abundantly the remains of marsupialia, which have been determined to belong to existing species, although giving evidence of considerable age. These remains will be more particularly referred to when describing the deposits of Post-Tertiary Age.

Circular Marshes - The non-fossiliferous limestones in this part of the district are often concealed by superficial drift, but the presence of the underlying members of the group is indicated by the numerous crateriform cavities, caused by underground drainage into the subterranean channels of the limestone.

Notes:

- 1) Johnston's volume has long been out of print.
- 2) The Chudleigh area referred to is most likely that area near Caveside where Honeycomb cave and the Wet Caves are situated.

- 3) The "non-fossiliferous limestones" are of course now known to be fossiliferous although many exposures have no obvious fossils. Those found in The Gordon Limestone in the Mole Creek area include calcareous algae, conodonts, cephalopods, and a rich cordalline fauna. Ref: Banks, M.R. in Hughes T.D. (1957) Limestones in Tasmania (monogr) Dept of Mines Hob.
- 4) New Caves, It is uncertain what this area refers to.
- 5) The "new species" of cave-inhabiting spider described by Higgins and Petterd is Hickmania troglodytes (Higg. & Pett.) Ref: Higgins, E.T. Petterd, W.F. (1884). Description of a New Cave Inhabiting Spider, Together with notes on Mammalian Remains from a Recently discovered cave in the Chudleigh District.
Pap. and Proc. Roy. Soc. Tas. 1883 (1884): 191-192.
- 6) The Circular Marshes area is probably Mayberry where many dolines occur in the flat floor of an incipient polje. Many dolines occur in siliceous colluvium on the low divide between Sassafras rising and Circular Ponds. Boggy sphagnum marshes occur on the bottom of some of these dolines.
- 7) Johnstone's description of the Chudleigh Caves is immediately followed by an account of a visit to caves at Ilfracombe, West Tamar (Flowery Gully). This account has been quoted in the following article: Kiernan, K.W. (1977). Flowery Gully
- An area found too soon, Southern caver 9,(1), 7-11.

Extracted by Stephen Harris

RIFT CAVE - (JF 34)

By Leigh Gleeson

Lying in the eastern section of the Junee drainage basin at an elevation of 600 metres, Rift Cave is one of the last in a series of inflow caves which form the principal tributaries to the Junee resurgence. Although this connection has not been formally demonstrated by means of a fluorescein dye trace, proven connections from Growling Swallet, Rescue Pot, Satans Lair and Khazad-Dum to the Junee resurgence suggest it's inclusion in this system.

Access to the cave is usually by means of an old forestry track starting a kilometre from the Maydena township and initially following the crest of the Junee ridge and then alternately contouring and climbing on the southwest side of the ridge. Walking time to the cave is from 2 to 2½ hours (distance approx. 3 km). The track used is the same one as that taken to the Chairman and is ½ hour walk further along from this cave.

Rift Cave is situated 100 metres on the north side of the track in a major gully. The stream can usually be heard from the track and offers an obvious guide to its location. On the section of the track between The Chairman and Rift Cave there is a small creek which enters a doline on the south side of the track and this is the only water course which is likely to lead to any confusion in the location of the cave.

The cave itself has been very appropriately named with a spectacular gorge-like entrance leading into a high rift system which winds its way down to an estimated depth of 130 metres (see Kevin Kiernan's sketch survey). In many ways the cave has an unusual form for the Junee area in that one can reach the bottom without the aid of ladders.

It is virtually just a continuous boulder slope downwards at about 45°. The stream which enters the cave (approx. 0.1 cumecs) soon disappears into the floor and most of the system is dry. The large dimensions (average 3 or 4 metres wide and 3 metres high) make a bottoming trip down the 200 metres of passage a leisurely one hour sojourn. The cave ends abruptly but there are still a couple of possibilities for further extension. The strong draught noted on Kevin's survey was not evident on a recent trip.

The fact that no gear of consequence is needed (short hand line of 10 metres may be useful) means that Rift Cave makes a most enjoyable system to visit. It is not necessary to get wet and the route march to the cave is set in magnificent rainforest occupied by the rather rare Tasmanian Lyre Bird.

(There may be an easier approach to the cave from the Junee Quarry Road - refer Speleo Spiel No. 120 Page 2 - Editors).

Map No. 7JF34SCS1

C.R.S. Gr 2.

K.W. Kiernan 25 SEPT 71
Southern Caving Society

Flowstone

Vertical drop
(height noted)

roof height

aven

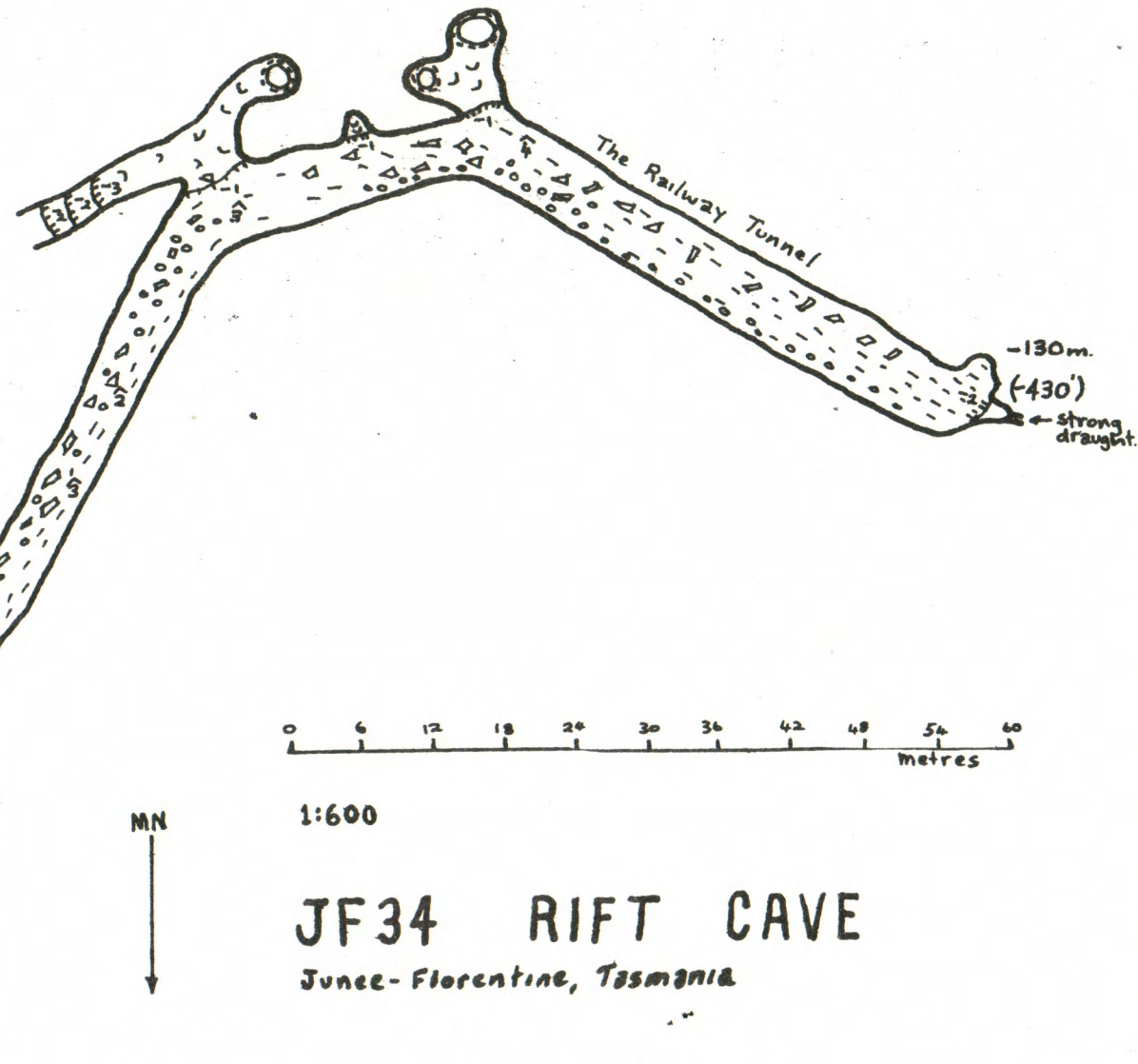
mud/sand

cobbles
(mainly dolerite
and Permian
mudstones)

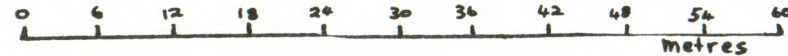
Stream

talus

vegetable
debris



Roofline
closes at
-30m.



1:600

JF34 RIFT CAVE
Junee-Florentine, Tasmania

FURTHER NOTES ON KELLYS POT

Ron Mann

The majority of this cave was surveyed during 1970/71 but the last section near the siphon had to be left due to lack of time. General notes on Kellys Pot, with a survey appeared in Southern Caver Vol 5 No 4 (April 1974).

A trip was organised during Easter 1978 to complete the survey to the siphon and to check for possible leads.

These notes are an update of the previous article and include observations of changes noted at Easter 1978. The creek appears to have changed its course slightly as part of the stream was coming into the normally dry passage above the ladder pitch. There is no way to avoid getting soaked as the passage is very steep and narrow and the water flows over the pitch just where the ladder hangs.

The water flows into the talus floored chamber meeting up with the rest of the stream at the base of the waterfall and the stream is not seen again until just below the large sand bank, where the low roofed stream passage begins. Most of the stream passage below this point is extremely low - 0.5m to 1 metre high and only 1.5 to 2.5 metres wide in most places. A close watch would have to be kept on the weather as these passages would flood easily.

In the section where a small tributary joins from the left the passage is much higher and there is another passage somewhere in this area which was not looked for on this occasion. It is an upper level abandoned stream passage which I think leads back in the direction of the entrance.

The walls are crumbly, rotten rock and it ends in an a ven which would more than likely have high level passages leading into it from high up.

There may be other high level passages at the top of the a ven if access could be gained. Careful checking towards the entrance and possibly on the surface may reveal these.

Sections of passage in the lower level had silted up since previous visits and in one spot some of the cobbles on the floor had to be moved aside to allow us to squeeze through. The creek was also flowing in this area on this occasion (this is not shown on the survey) adding to our difficulties. The siphon area at the end was checked out but there is no way on.

The original survey has been redrawn, photoreduced and now includes the last section of passage to the siphon. It was noted in the previous article that the siphon must be close to Herberts Pot, however, an overland survey showed that the distance between the two cave entrances is about 1190 m and between the siphon in Kellys Pot and the upstream sump in Herberts Pot as about 760 m.

There are still some prospects for further exploration notably in the aven area. It seemed as if a lot more effort was required on this trip to bottom the cave compared to previous visits or else it is a sign that I should get my armchair recovered!

SCS Represented at Waccon:

The Southern Caving Society was represented at the A.S.F. Conference in Perth by the President, Mieke Vermeulen and Leigh Gleeson.

In a letter, Mieke commented favourably on the Conference and the papers presented.

In the Speleo Sports Leigh and Mieke came equal third, being beaten by teams from VSA and CEGSA that came equal first.

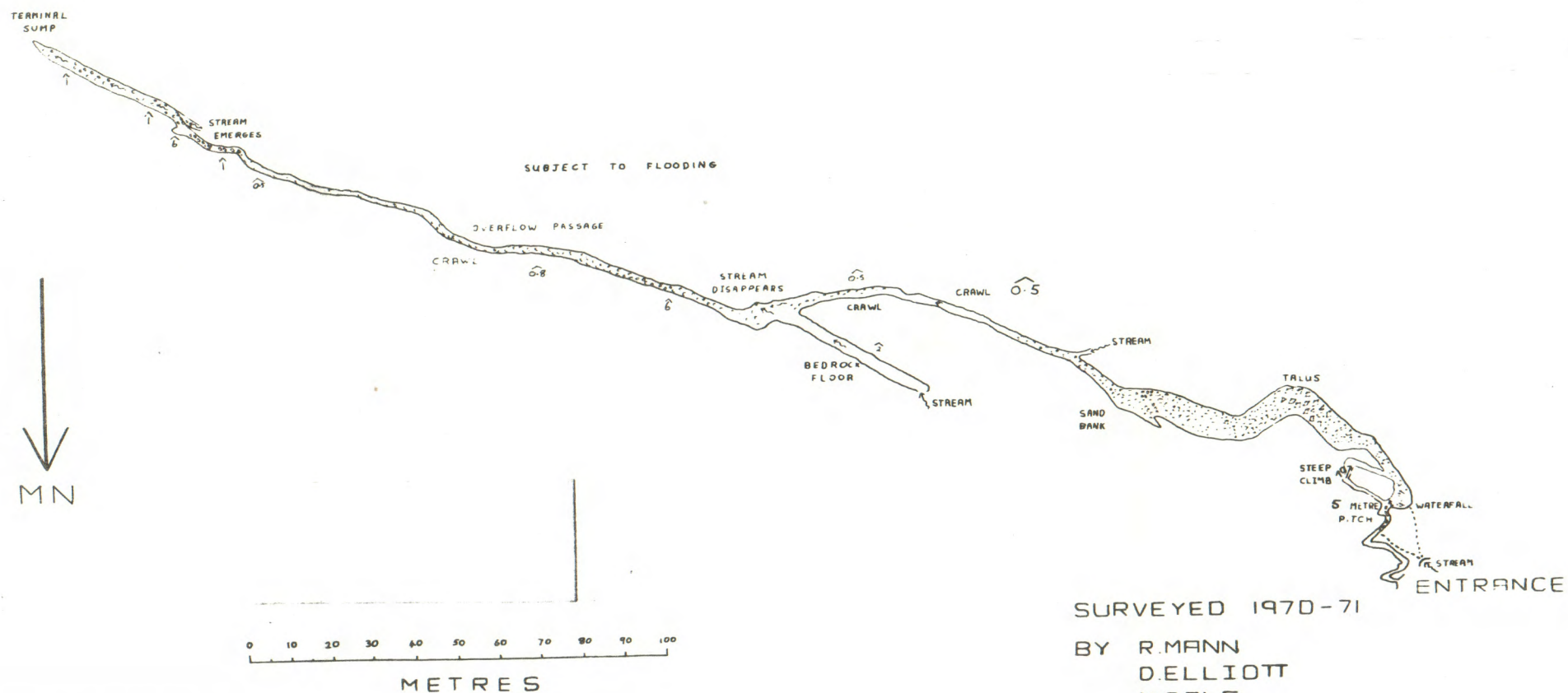
The course included a ladder pitch into the sea off a cliff, a swim and duck under a piece of floating bamboo, etc, and a crawl of about 200 metres up a $2\frac{1}{2}$ ft. diameter storm drain which, she reports, was quite amusing. On the way to and from the Conference they caved on the Nullarbor and were not impressed by temperatures that were in the mid 40's C.

ENGAGEMENT

We take this opportunity to congratulate Kevin Kiernan and Karen Hughes on their recent engagement. All members of the Society will wish them well.

KELLYS POT (MC 207) MOLE CREEK

ASF MAP NO. 7MC 207 SCS 2



SURVEYED 1970-71

BY R. MANN
D. ELLIOTT
M. COLE
S. STREET
R. HORNER

DRAWN R. MANN

GRADE 4

Where ice and fire come together in a paradoxical clash of the elements the potential exists for cave development in glaciers and snowfields by intensified geothermal heat release. New Zealand is well known for its glaciated mountains and volcanism, but the two come together less than might be supposed, and consequently the potential for geothermal ablation caves is not as great as it might otherwise seem. The high peaks of Mt. Egmont and the Tongariro region are the only sites where fairly permanent snow occurs at volcanic sites, but seasonally minor and very temporary features might perhaps be found elsewhere.

THE VOLCANIC SITES

Lying at the junction of two lithosphere plates on the Pacific "Ring of Fire" New Zealand has been the scene of considerable volcanic activity in comparatively recent times. Three major extinct or dormant volcanic districts occur on the east coast of the North Island: Taranaki, with the shapely Mt. Egmont (2525 m) which was last active about 300 years ago; the region around Auckland where Rangitoto is the best known volcano and which is noted for its lava caves; & Te Puke in the Bay of Islands - Kaikohe volcanic district. Some minor atmospheric ablation cave development is likely in the residual snows of Mt. Egmont, but none of geothermal origin, while the other districts are well below permanent snowline, and the northernmost never receives snow. More recent activity, involving highly explosive andesitic volcanoes, and sometimes loss of human life, has occurred along a line extending from White Island in the Bay of Plenty to the Tongariro region in the central North Island, and is represented in the South Island by hot springs associated with the Alpine Fault. To the north it extends to the Kermadec Islands and Tonga. White Island has a large crater which most recently erupted in January 1979. To the south, the Okataina volcanic centre is best known for the thermal activity of the Rotorua region, but on a larger scale is known also for volcanoes such as Haroharo and Tarawera, the latter of which after 800 years dormancy blew out a rift 15 km long 100-400m deep and about 200 m wide on 10 June 1886, with the loss of 153 lives. Southwards, most of Lake Taupo lies in a collapse depression dating from a huge series of events of many times greater magnitude than the infamous Krakatoa eruption between Java and Sumatra in 1883. AD 130 the great Taupo pumice explosions decimated enormous areas of forest, and beneath the pumice layers logs may be found all lying in the same orientation as evidence of the force of the blasts.

Kiver/Mumma (1971) have suggested that monitoring of geothermal ablation caves in Washington may provide early warning of eruptions, with morphological change in the caves occurring comparatively rapidly in response to variations in volcanic activity. However only one of

these New Zealand areas might hold potential for such study. Tongariro by virtue of the snowline, is the only one of major promise to the glaciopedologist. (In addition although the lava flows are predominantly of the sticky, blocky aa variety and thus largely devoid of tunnels there are also limestone caves nearby)

The Tongariro region comprises a number of volcanic centres, including three presently active volcanoes. The largest is Mt. Tongariro itself (1968 m) a truncated cone 12 x 8 km at its base, with many craters of which one the Red Crater is semi active, while hot springs occur at Ketatahi on its northern flank. Much of the mountain, which is below permanent snow line, has been blasted away. On its periphery, Ngauruhue has infilled the glacial Mangetopopo valley and forms a symmetrical cone extending to 2291 m. It remains constantly active, last erupting explosively in 1975, when two climbers had a narrow escape, being forced to shelter beneath an overhanging rock as hot block avalanches and pyroclastic scoria flows set the surrounding vegetation ablaze: as they then fled to safety their footsteps were pulverised by a further hot avalanche. (Booth 1975). The main vent is almost constantly active discharging ash and dust at times which may drift considerable distances by virtue of the windspeed exceeding the terminal velocity of the small particles, threatening downwind water supplies. The crater is about 450 m in extent, with a small cone built within it on the western side, and a firm occupying a fosse between it and the main crater wall, from which cave entrances have previously been described (Kiernan 1978).

Ruapehu (2797 m) is the highest of the three. Its crater is generally occupied by a lake some 22 ha in extent and flanked to the west by 40 m ice cliffs surrounded by large crevasses. The waters are glacially derived and geothermally heated. Eruptions have occurred in recent years, involving initially the displacement of the crater lake by lava frequently leading to Lahars. The massive flows of water mud, ash, scoria and rocks have been a major factor in the development of a ring plain around Ruapehu. The power of these lahars is attested by the presence of a 300 tonne boulder of Ruapehu lava in the bed of the Rangitikei River near Bulls, over 190 km distant. The Tangiwai disaster of 1953 had such an origin, but there have been luckier incidents: in 1975 a lahar swept down the Whakapapa side at night with no casualties but a few hours earlier 2000 people would have lain in its path on the skifield lower down the mountain. The lake itself drains out via a channel melted in the ice described by Odell (1955) and the possibility of glaciopedological activity has been noted by Kiernan (1978).

TONGARIRO REVISITED

In December 1978 Tongariro was revisited to further examine the potential for geothermal cave development in the firm of Ngauruhue and the ice of Ruapehu, following a previous visit in 1977.

Results at Ngauruhoe were disappointing. Whereas one of a number of long snow couloirs was ascended last year, virtually no snow was present on the flanks on this occasion and the easier and shorter 630 m ash and scoria slope above the Mangetopopo saddle was climbed. This route is reasonably easy but is unstable in places, a couple of hours after my descent another climber fell 60 m injuring his back and had to be rescued by helicopter. The outer rim of the main crater was steaming profusely with loud high pressure hissing and gurgling noises evident, but the main vent was somewhat less active than the previous year when it was impossible to see across even the fosse, and fumes forced an early retreat. On this occasion it was possible to actually descend a short distance into the active vent, which is about 40 m wide and to glimpse the bottom some 60 m down.

The sparse snow conditions on the flank were reflected within the fosse and the firm bank had retreated below the level of the entrances previously seen. The fosse itself is about 100 m wide and 3-400 m long, and the maximum depth appears unlikely to exceed 30 m. This diminished state appears related to climatic rather than volcanic factors. It therefore appears likely that any cave developed on Ngauruhoe are at best only very transient features, occurring only within a very shallow firm bank which may vary markedly in size from season to season, and that if they develop again they are unlikely to be more than fairly minor. Results from Ruapehu were more encouraging. On 30 December 1978 the mountain was ascended from Whakapapa village (11.20 m) reaching the col at the head of the Whakapapaite Glacier (260 m) early in the morning. The Sharks Tooth (about 2750 m) and the highest peak of the Ruapehu massif, Tahurangi (2797 m) were too attractive under the perfect weather and snow conditions and so were traversed before descending to the crater lake outlet via the Wahiano Glacier and the North-east ridge of Tahurangi.

The present crater is 1.2 x 0.8 km in extent, elongate N-S, with Tahurangi forming the southern rim. To the north-east a broad summit plateau occupies an earlier crater, giving rise to two glaciers, including the Whangaehu into which the lake drains. The Whakapapa col is some 100 m above lake level and is spilled when lahars move down that side of the mountain, and a col at similar elevation may be spilled to the west. These two cols are separated by Paretetaitonga (2751 m). The two lowest crests are adjacent to the outlet in the SE corner and to the NE, both leading to the Whangaehu and separated by Pyramid Peak, a mass of ash, ice and scoria rising 100 m above lake level. There is thus a large area draining into the lake with the lake itself accessible only near the outlet due to steep ice and rock cliffs.

The entrance to the outflow cave proved comparatively easy of access, but with about 1 cumec of warm water dropping over a 3 m waterfall then cascading into a fairly flat roofed entrance 4 m high and 9 m wide. Inside the water cascades down rapids at 30° then the passage

veers easterly for a short distance before the stream drops some 6 m into a spray filled chamber down which solo exploration needed unavailable gear and a stouter heart.

Passage dimension in relation to stream size so far appears quite commodious and somewhat larger than normal terminal outflow passages in most other glaciers, presumably due to air currents heated by the geothermally warmed waters playing a considerable role in passage enlargement. This large passage size may aid exploration, but it is worth bearing in mind it may also be due to sudden flow surges triggered by volcanism.

permitted

Surface exploration downvalley/a view down the Whangaehu and it appears the efflux is at least a couple of kilometres distant, with an average stream gradient of around 1:3.6. One spectacular tributary, originates from a second lake outlet flowing right under Pyramid Peak. It flows from one entrance 4m x 4m, then drops immediately as a spectacular waterfall 40m to a vast pit in the ice, 20m in diameter and of unknown depth to join the main stream. This thundering feature is one of the most impressive cave entrances I have ever seen. A somewhat sulphurous smell is evident, but whether it is sufficient to be problematic deeper in the system remains to be seen.

An interesting feature near the main entrance was a number of boulders up to 2m in diameter sitting on ice pedestals, the opposite of the usual situation in which differential heating of the darker coloured rocks melts them into pits in the ice. In the immediate vicinity dark ash was widespread on the ice surface lowering its albedo and probably accentuating melting to a greater extent, leaving the rocks at a higher level. In a study of the Whakapapanui Glacier lower on the mountain, Kells (1970) has suggested that an ash layer of up to 3 decimetres accentuates melting, whereas much more insulates against solar radiation by comparison.

At present the New Zealand Dept. of Scientific and Industrial Research monitors activity by lake surveys, seismic monitoring, laser survey of the crater dimensions and lake depth soundings. Study of the actual cave morphology would probably be of little further aid to predictive efforts. At least there should be sufficient DSIR data to time any further exploration attempts.

The potential of the Ruapehu outflow seems considerable but further exploration would be a very serious undertaking although it is undoubtedly feasible. As the lake is derived from glacial melt, winter would doubtless be the best time. Added to the usual problems of glacier cave exploration is the unnerving prospect of volcanic activity precipitating a flood crest. The ascent to the crater lake was repeated on 31 December 1978, but in contrast to the grey, still, luke warm

waters of the previous day, clouds of steam all but obscured the lake surface, rising 50-60 m above it, while huge yellow upwellings spread from the centre of the lake across its surface. Fortunately, we were not sufficiently equipped to have to feel guilty about stealing quietly away, with just lingering glances from the summit of Paretaitonga and the Plateau. Nineteen days later the mountain erupted, in a hydrothermal event reaching 600 m above lake level.

BIBLIOGRAPHY

- ANON(1979) minor Eruption The Press (ch.ch.) 20 Jan 79:7
BOOTH, Basil(1975) Ngauruhoe erupts. Geographical Mag. XLVII (7) April 1975:457
KELLS, B.R. (1970) The Whakapapanui Glacier: Hydrological Budget Studies and Associated Aspects of its Glaciometerology. (M.A. thesis Massey Uni)
KIERNAN, Kevin (1978) Glaciopedology II: Geothermal Ablation Caves, Southern Caver 9(2): 13-18
KIVER E.P. & MUMMA MD (1971) summit firm caves, Mt. Ranier, Washington. Science 173:320-322
ODELL N.E. (1955) Mt Ruapehu - Observations on its crater lake and glaciers. J. Glac. 2(18):601
OLLIER C.D(1969) Volcanoes Intro. to System. Geom. 6 ANU press.
SELF, Stephen & BOOTH, Basil (1975) Pacific Eruptions. Geographical Mag. XLVII (7) April 1975: 446-450

AN EXTRACT FROM

"TASMANIA BY ROAD AND TRACK" BY E.T. EMMETT

I walk to Mole Creek, find a wonderland, train an eagle to hunt hares, sprint through Paradise, find fault with the person who named Sheffield, and follow a "ghost" road.

As I walked along the road from Deloraine, bound for Mole Creek, I remembered a letter I had received many years before from a Bendigo doctor. He asked me to describe this particular road under one of the three headings - "uninteresting", "medium", "extra good". He went on to explain that if description number one fitted it he would motor; if classed it among the "medium good" he would cycle or drive; but if the third description were used he would walk. Of course, the first adjective can be ruled out regarding any Tasmanian road, but I had a choice of the other two. My reply was "extra good", and the doctor informed me afterwards that he had thoroughly enjoyed every step of the way. It is much too good a road to be rushed along in a wheeled vehicle. There is the Meander River to keep you company on the first mile, green fields deck the hillsides, mountains form a background, and ever and anon one passes lovely old homesteads and crosses cool creeks, with many a mile of hawthorn hedges flanking fields of buttercups and daisies where browse the cattle, sheep and horses for which the area is renowned.

The name Mole Creek may seem rather repellent, but I for one would not have it changed, for it is as apt a title as any. The creek that gives the township its name definitely burrows like a mole, and while on its underground journey it performs feats that are not equalled by any stream even in this island of surprises. Having noticed the little river in its sober journey through the village preparatory to losing itself in the turbulent Mersey, you wonder at its modesty when you learn of the exploits of its infancy. It merely prattles when it is entitled to shout. Mole Creek and its tributaries have, like Coleridge's sacred river, literally run through "caverns measureless to man". Nobody except the creek itself knows where it has been nor what miracles it has been performing.

The explanation is, of course, that this is a limestone country, and many a stream plays hide and seek among the hills. Caves are numberless. Some of them are owned privately by farmers; others are exploited to attract sight-seers. Bottomless holes are so common that landholders hardly ever bother to explore them. Noticing that nearly all the fences were awry, I enquired whether

the district had been settled as long as the fences seemed to indicate. "Well sir," explained my informant, "the place is so riddled with caves that no fencer is game to sink a hole more than eighteen inches deep for fear of disappearing into the bowels of the earth." This is a sample of a lie that is not a lie. The Mole Creekers love to tell of the man who threw his cat into the river, and heard two days later that it had been found with only two of its nine lives lost, twenty miles away near Beaconsfield crawling out of the Flowery Gully caves.

Eventually Tasmania will be known as the world's outstanding cave-land. A belt of limestone runs through the island from near Beaconsfield in the north, through Mole Creek, Mount Field National Park and the Huon, terminating at Ida Bay. There are caves in the foot-hills of Adamson's Peak known as the Hastings Caves, as fascinating as those to be found anywhere. All except one are sealed up, awaiting the day when thousands of sightseers will flock to wonder at them.

Ten miles from Mole Creek the road dives steeply down to the Mersey at Liena. The hillside is riddled with caves, some of which I entered with the aid of a rope. It is eerie work crawling about these dungeons of which the only inhabitants seem to be glow-worms. These lower levels are, in effect, the suburbs of the well-known King Solomon Cave, where, though the monarch may not be seen in all his glory, his palace may. No doubt the visitors thought they got their money's worth in the days when acetylene was the illuminant, but they get many times the value now that electric lighting is provided. If the King Solomon is not Australia's finest then Australia is lucky. All the usual features are there - pillars, shawls, furze-bushes, menageries, cathedral chambers and the various freaks that emphasize the limestone wizard's weird skill - and in addition there is glorious colour scheme. There is not an inch of blank space in the whole cavern.

A few miles away in the foot-hills of the Western Tiers, lies immense Marakoopa Cave. A mile or so of chambers and galleries have been opened up, but nobody knows where the cave ends. The guides say they have walked for a day, and the passages still burrow into the mountain side. "Why," said the Boots at the Holly Tree Inn, "it would be easier for them to tell of what they hadn't seen than what they had." And Boots spoke for me too, after my ramble from Deloraine to the Mersey. Mole Creek has practically everything except volcanoes and glaciers. The caves would have been enough; but there are also canyons, forests, fern glades, waterfalls, lakes, mountains, rivers. I once camped a night near the mountain tops by the side of a quiet little lake which proved that utility

could be allied to beauty by furnishing tea in the shape of a six-pound trout. It was on this trip that I discovered a practical use for eagles. These monsters of the air - very nearly the world's largest - build their nests in the inaccessible crags of the Tiers, especially round about the wild spot known as Devil's Gullet. Just near here we started a hare, and soon afterwards one of my companions noticed an eagle swoop to the ground. We sprinted to the spot and disturbed the winged hunter just about to administer the knock-out blow to the hare which he had buffeted half to death. That hare went well, jugged, next day; and we became celebrated as the campers, who, too lazy to do their own hunting, trained the eagles to do it for them.

But though I admire the caves and the gorges and the big trees and the wealth of the fern, forest and wildflower, the waterfalls and the mountain lakes, the most lingering memory I have of the spot is Mole Creek settlement itself. Early in the morning, after a dip in the creek near the old water-wheel, I climbed the little hill that hides the Mersey and, resting under a clump of gums and blackwoods looked back and watched Mole Creek wake up, wash, and dress itself ready for the toil of the day. Smoke curled from the farmhouses, the sun broke through the morning mists which had sponged the face of the earth, ploughmen came out into the fields, cows straggled into milking yards, birds chattered and whistled, a motor lorry coughed its way up the hillside road, and amid the variety of sights and sounds and scents I was sorry when the tinkle of the breakfast bell assured me that it was not only fancy on my part that the odour of frying bacon was mingling with the perfumes of the bush, I took one last look and engraved on my memory for all time is that sweet prospect - the tree-girt homesteads; the fields, some green with clover, some chocolate after ploughing; the snake of willow and black-woods that marks Mole Creek crawling across the plains; the winding roads, the distant forest, and beyond all, the ramparts of Western Tiers burnished by the strengthening sunlight, with here and there a patch of snow.

EDITOR'S NOTE:

This extract from Chapter 6 of "Tasmania by Road and Track" by E.T. Emmett was reprinted by kind permission of publishers "Melbourne University Press" P.O. Box 278, Carlton South, Victoria, and covers pages 57 to 60 of the 1962 Melbourne paper back edition. The book was first published in 1952. Incidentally, on page 62 there is a brief reference to the fact that Mole Creek was called Moleside River about 1832 when a Mr. James Backhouse journeyed through the area.

MANFRED RIDES AGAIN

(A Film Review by our Mann at the Movies)

During the quarter members of the Society enjoyed a social evening at the out of town Graeme Watt Cinema for the screening of Kiddies' cartoons. On this occasion the evening was given over to an interesting programme of German caving films in living colour. Many of the audience were erect in their chairs as scenes featuring most interesting formation unfolded. The films also featured horizontal passage exploration and associated techniques. Surprisingly, perhaps the director was able to introduce a Freudian element here and there, particularly we thought, in the film featuring cave bones.

Members were unanimous in voting the evening a great success, and some expressed the intention of trying some of the techniques demonstrated at the earliest opportunity.

Editor's Note:

The assignment to review these films was given to Ron Mann who, after viewing them declined the assignment, saying that it was impossible to do justice to the subtle delicacy of the presentation. Because we liked the heading, and to prove him wrong, we provided a "ghost writer" for the occasion.

SOCIETY

NOTES:

Gray Wilson, an original member of SCS and currently of VSA was in Hobart over the Christmas period with his wife and daughter. During his stay he renewed acquaintances with old friends and visited the clubroom.

Steve Harris may be leading an exploration trip into the South-West over the Easter period. Those interested in participating in the proposed trip will need to start training now as the terrain will not be easy.

The Police Search and Rescue Squad has moved from Patrick St. to Princes No. 3 Wharf (near the Wheat Silos) where parking is available in a secure fenced compound during callouts.

S.C.S. EXECUTIVE OFFICE BEARERS:

	<u>PRESIDENT</u>	<u>SECRETARY</u>	<u>TREASURER</u>
1965/66	B.N.James	R.J.Cockerill	G.Wilson
1966/67	B.N.James	G.Davis	D.Elliott
1967/68	R.J.Cockerill	B.James	D.Elliott
1968/69	R.J.Cockerill	B.James	D.Elliott
1969/70	D.J.Elliott	R.Mann	R.Mann
1970/71	D.J.Elliott	R.Mann	A.Terauds
1971/72	A.Terauds	M.Cole/G.Fry	R.Cockerill
1972/73	J.McCormack	G.Watt	G.Fry
1973/74	J.McCormack	M.Cole	R.Mann
1974/75	S.Harris	M.Vermeulen	R.Mann
1975/76	R.Mann	G.Watt	M.Cole
1976/77	M.Cole	M.Russell	R.Mann
1977/78	L.Gleeson	M.Vermeulen	R.Mann
1978/79	M.Vermeulen	P.Russell	R.Mann

