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Uni Gliding

July 2003

The Official Journal of the Adelaide University Gliding Club



Wave at the Flinders (Photo: Dennis Medlow)

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QUOTE OF THE MONTH

"It would have been a bit embarrassing to have bent the guy's knob."

Catherine Conway, 25 Jun, describing her failed attempt to close an iced-up air vent whilst flying in wave.

Club News

Greetings all,

Yes, it's another newsletter already. My uni workload (Standard Excuse #01) caused the June edition to come out quite late, so I am attempting to get back on schedule with this one. You may notice that Bergfalke's get a great deal of attention this month. This was accidental, they just happened to be in lots of good photos and the topic of both articles. So what's been happening lately?

- Several club members attended the annual Flinders Ranges camp in the long weekend of June. By all accounts it was a weekend of shameless debauchery, punctuated by short bursts of flying. See page 6 for the lurid story of **Trent O'Connor** and **Ann Sigston's** ride home.



*A gaggle of Bergfalke's at the Flinders
(Photo: Dennis Medlow)*

- Following a rush to line and paint the clubhouse over the last few weekends (special thanks to **Dirk**) the SAGA AGM was held at Lochiel. About 20 delegates from other clubs attended and enjoyed a BBQ lunch organised by **David Hichens**. The meeting induced a nice Westerly and after the morning fog and drizzle cleared some long flights were enjoyed by all in the Puchatek. After the meeting **Redmond** and **Emilis** pulled out the Bergfalke and enjoyed a 'dusk flight' for about an hour.



SAGA delegates enjoy a BBQ lunch in the pleasant surrounds of the clubhouse (Photo: David Conway)

- **Mark Tyler** went solo in the Puchatek on June 15. Congratulations Mark!



*Mark Tyler, newly solo in KRO.
(Photo: Trent O'Connor)*



*More wave at the Flinders, the day before everyone arrived.
(Photo: David Conway)*

- Whilst waiting for the rain at Lochiel to clear last Saturday, the new hangar was cleaned up in readiness for the GFA Safety Seminar, and the broken windows in the current pie cart were replaced with metal sheet salvaged from the new pie cart. Thanks to those who helped out.

And what's coming up?

- The GFA Safety Seminar is being held at Lochiel on Saturday 19th July. ALL pilots are encouraged to attend. The presenter will be GFA Chief Technical Officer, Kevin Olerhead. Kevin will review accidents, incidents and operations issues generally. This provides an opportunity for members to learn from the wider Australian audience and also to provide your thoughts on any aspects of our operations directly back to the GFA Operations Panel.

See you at Lochiel,

David

Editor

July 2003



*Michael Texler (back seat) and Derek Eilers flying ZM on the ridge.
(Photo: Justine Thompson, from front seat of ZQ with Anthony Smith in the back)*

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
	1	2 General Meeting: Structures and Aerobatics, 7.30 pm Margaret Murray Room	3	4	5 Go Gliding	6 Go Gliding
7	8	9 Seminar on Thermal Wave and Ridge Flying. 7.30 pm at Internode Systems (see page 9)	10	11	12 Go Gliding	13 Go Gliding
14 'Pizza and Pik Night' 7.00 pm West Beach	15	16 Executive Committee Meeting Conway residence 7.30 pm All welcome	17	18	19 Go Gliding GFA Safety Seminar at Lochiel	20 Go Gliding
21	22	23	24	25	26 Go Gliding!	27 Go Gliding!
28	29 Deadline for August newsletter	30	31			

Golf Zulu Mike and a possible kit built two seater for Australian Gliding

Anthony Smith

Not so long ago there was a lively discussion on the e-mail chat list 'aus-soaring' about the demise of the Schneider Platypus design, the aging two seater population in Australia, the expectation of new people to the sport to fly in a shiny, sleek aircraft and what possibilities there were for developing a low cost two seat trainer for the Australian gliding community. Included in the discussion was the concept of a kit built aircraft that gliding clubs could build themselves. This concept sees Australian Gliding go full circle and return to its earliest origins with clubs building their own aircraft.

Recently within AUGC there has been much discussion about the club's aircraft fleet and what changes could be made to provide better opportunities to club members. It is more or less accepted that the club would benefit from having a self launching two seater. However, the purchase of such a glider may require the club to sell one of its current two seaters to raise the required capital.

The most logical aircraft to sell is the Bergfalke IV, GZM. It has a number of features that make it less attractive to club use, including comparatively poor cockpit comfort, an undercarriage that is prone to damage with trainee landings, cockpit visibility restrictions and comparatively low 'visual appeal'. Yet it has a number of attractive features: high performance compared to other aircraft its age and its simplicity and ease to rig and de-rig.

Unfortunately, Bergfalke's are little known in Australia and AUGC may experience difficulties in selling the aircraft to another club due to this lack of knowledge. Another handicap is that the club does not have a dedicated trailer to offer with the aircraft (ie you could sell a Blanik without a trailer to a club that already had a Blanik with a trailer).

An alternative would be to try and sell the aircraft to a syndicate within the club. There are a number of club members now with partners that are interested in flying with them. Perhaps these people would be interested in forming a syndicate to own the two seater. Maybe they could even lease it back to the club.

Another alternative is to try and use the aircraft to spawn a new aircraft design.

A design and build project that has been in the back of my mind for some time has been to design and build a new fuselage for ZM and use the existing wings and tail. The new fuselage would try and overcome some of the less desirable features of ZM. The aim would be to have a set of wings, horizontal and vertical tail and a pair of interchangeable fuselages.

My concept would be to have a side by side seating arrangement. It would basically copy the existing aft fuselage and then widen out into a Motorfalke style cockpit structure and a Platypus nose shape. By shortening the nose of the Bergfalke IV, there would be a weight saving by using less steel tube. This weight saving could be used to have removable fibreglass panels instead of fabric covering on the forward fuselage, substantially improving the aircraft's visual appeal as well as improving the maintenance access.

The weight saving, as well as removal of the skid undercarriage, could also be used to fit an oleo undercarriage (similar in design to the Club Libelle etc). This would increase the undercarriage's survivability in the hands of a trainee learning landings.

The reverse engineering of the fuselage and building the steel tube frame is relatively straight forward. Challenges would be provided by designing the wing carry through structure, the new undercarriage and the control connections.

The project almost seems ready made as a fourth year mechanical engineering student project.

Perhaps the Adelaide Uni Mechanical Engineering Department could consider taking on the project and lease access to ZM from the club as a 'project plane'? (...*"Uni-falke"*?). ZM could be kept and flown at Lochiel with regular trips back to Adelaide Uni for measurements and dummy fit ups etc.

As a side benefit it would encourage the Mech Eng students to come up to Lochiel and learn to fly.

Further project work would be to design and build a fibreglass fin and horizontal tail.

The end result is a new aircraft that retains the advantages of the Bergfalke IV and has many of the disadvantages improved upon. It is relatively low risk in that it is using proven components. It will be aerodynamically identical and as such will have nearly identical handling and similar performance.

A further development of the project is to adapt the new fuselage design to accept ASK-21 wings and control connections. These wings are nearly identical aerodynamically to those of the Bergfalke IV and could provide relatively cheap fibreglass wings. The root stubs would need to be lengthened to accept the much wider fuselage, but whether they are modified at Schleichers or here in Australia would be a matter of economics and engineering feasibility.

The ASK-21 wings are stressed to higher loads than the Bergfalke. This extra strength can be utilised to carry the extra weight of an engine for self-launching purposes.

The end result is a new training sailplane of reasonable performance with a self launching capability.

Selling this concept to Adelaide University would be a major task. But there is some synergy with other projects currently in progress at AU. An electric aircraft motor is under development (talk to Ian Linke) and at some stage will need flight testing. Perhaps the design could be developed to allow incorporation of the electric motor and fuel cell / battery bank in lieu of the more conventional piston engine for self launching purposes.

Perhaps the GFA would be interested in sponsoring the activity? Other support could potentially come from the Royal Aeronautical Society and similar interest groups.

The design could even be marketed as a kit, with upper and lower wing shells imported from Schleichers and a bundle of steel tube. This could enable clubs to replace aging Blaniks and similar at a potentially far cheaper price than a European made fibreglass two seater. ➔

President's Report

Trent O'Connor

Welcome back. The main club event in June was the Flinders Ranges flying camp, which featured pleasant weather and many extended flights, but no wave flying. Eighteen AUGC pilots participated, plus a few visitors from Port Augusta Gliding Club. We were glad to once again have the services of the Pawnee and tug pilot Pete Siddall from Renmark Gliding Club. Thanks to all who helped with the organization and towed or rigged club aircraft.

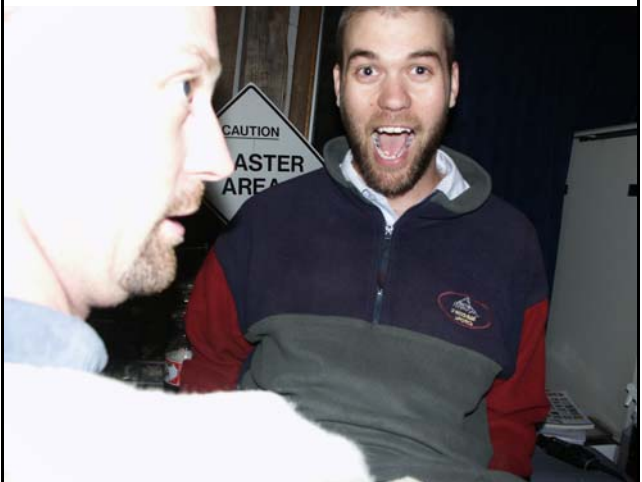
Unfortunately there are always some people who miss out on this trip so we hope to hold another camp at a different location on the October long weekend. There are also plans to hold an AUGC Regatta on the first weekend in December. This will be a chance for suitably experienced cross-country pilots to experience some (friendly) competitive cross-country flying and for other members to find out more about how gliding competitions work.

Congratulations to Mark Tyler on his first solo flight and to Roger Chapman for revalidating his DI rating.

Safe Flying,

.Trent.

Crazy Caption Contest



Now here's an intriguing shot, supplied by William Brodie-Tyrell. Just what could these two AUGC instructors be up to? Come up with a wacky, zany caption and you and your partner could be in the running for a weekend's free accommodation at a romantic secret location in scenic rural South Australia!

Send entries to editor@augc.on.net

Assistant Treasurer's Spiel

Trent O'Connor

Our esteemed Treasurer is on holiday in remote un-emailable localities but I can guess some of the things he might have said:

The club has some substantial bills to pay from the Flinders camp and all flying and other costs have now been charged to the accounts of those who participated, resulting in a fair few people being in the red. Automated account balance statements have gone out. Please pay promptly.

The tick sheet for food & drink purchases in the clubhouse has been well received and a similar system is now in place at West Beach.

There has been a pleasing improvement in the quality of flight sheets submitted in the last couple of months. Keep up the good work. Please remember to attach all relevant GFA forms, membership forms, etc to the flight sheet before it leaves the airfield.

For any O-Week sign-ups out there who have not been flying – your free flight voucher has probably now expired but if you come flying during the remainder of the year and present the voucher you can still get your first flight for only \$20 - a \$5 discount.

.Trent.

Zulu Mike Hitches a Lift Home

Trent O'Connor

This is an account of my cross-country flight with Ann in Bergfalke GZM from Rawnsley Park in the Flinders Ranges to Lochiel in June... with more than the usual amount of help from the tow plane.

At the end of the AUGC Flinders Ranges flying camp, it was decided to aerotow the club twin-seater back to Lochiel rather than having to de-rig, put it in the trailer and rig it again at the other end. Ann had not flown at all thus far during the camp and I was happy to take the back seat. The ferry flight was a little out of the way for the tug pilot on his trip home but the predicted extra ferry cost was not too high and the tug pilot was happy to oblige.

The planned flight was to be about two hours long so I would want to have the trim adjusted nicely once we reached our cruise altitude. Unfortunately, the Bergy has only one trim lever and the previous front-seat pilot had accidentally broken it off. During the inspection of the aircraft I convinced myself of two things – there was no way the trim was going to move unintentionally during flight, and there was no way it was going to move intentionally either – it was hard enough to move it on the ground using a tool kit. Nobody really knew what trim setting would be required to aerotow in cruise so I pre-set it at three-quarters forward and hoped that would be close enough. Another minor annoyance was that the clear vision window had fallen out of the front canopy some time earlier. Whoever had jokingly put the “air-conditioning fitted” sticker on the canopy was not kidding. Nevertheless, the plane was airworthy so it was made ready for the flight.



Ranges north of Hawker

With the tug plane fully fueled and loaded up with all the gear going back to its base, the twin-seater on tow and the windsock dead, this promised to be the slowest launch of the week. To minimise the ground run, it was decided to start from the slightly uphill end of the runway. Naturally, this was the opposite end to our tie-down area and we were running close to the departure time the tug needed to get home before dark. After towing the glider along the strip, we quickly did our standard checks and made last-minute adjustments to the radio frequencies, then we were ready.



The view south from 6000 ft above Laura

The launch was indeed long and dusty but we left the ground and the rope remained tight so I continued to follow it. Ann saw a bunch of people waving goodbye near the near the runway but I was busy following the tug as we emerged from the dust cloud and cleared the fence. The tug steered towards the gap where the main road passes through the hills as our climb rate would not get us safely clear of the hills on a direct track. After this minor diversion, the plan was to fly in a straight line for at least 200km – very unusual behaviour for a glider. As we headed south across the scrub at a low climb rate, it appeared that any attempt to glide back to the Rawnsley airstrip in the event of a problem might be rather dicey. The dirt side-roads ahead looked like a better option. Fortunately I did not get to test this theory and we eventually came within range of Hawker airfield ahead.

The air at altitude was clear and smooth and the view of the ranges was spectacular but I couldn't watch the scenery for too long at a time, as fairly regular attention to the tug was required to stay in position. The trim proved to be slightly forward of what was required so the glider had a slight tendency to drop below its correct position behind the tug. Also there were occasional brief descents or other disturbances requiring temporary sideslip to prevent tow rope going too slack. After the first half an hour on cruise I got more used to all this and was able to look around a bit more. There was little time spare to follow the map but fortunately I had a map reader in the front seat to advise on our progress and range to the emergency diversion airfield. Somehow it had worked out that my map reader had the benefit of all the best seat cushions so the back seat was living up to its reputation for discomfort.

After almost an hour of flying, the ranges and scrub below were replaced by cultivated land and Port Pirie came into view ahead and to our right. We were now back into territory more familiar from previous cross-country flights with the comforting presence of identifiable silos and landable fields.

There was no thermometer on board, which is possibly a good thing. The Adelaide atmospheric soundings for the day



Port Pirie and Lower Flinders

suggest that it was about 5 degrees C at our cruise altitude. Ann was able to reduce the airflow through the window with the help of some clear plastic but the Bergy has plenty of other air leaks. As the intensity of sunlight through the canopy dropped off, three layers of clothes began to seem insufficient.

Even a Bergfalke can glide quite a long way from 6500 feet but I didn't want to find out the hard way how much our plane falls below the manufacturer's optimistic claims regarding glide performance. As our destination crept closer, I had to decide where we should release the tug and commence our final glide to the airfield. Our progress suggested that we had experienced a slight tailwind enroute but I saw dust movement suggesting a south-westerly wind on the ground and decided stay on tow a few more minutes. The airfield was not yet visible but the map suggested it should be in range. Memories of having almost outlanded from a similar position last summer

kept me on the tow a few minutes more then with only 30km to go there was no excuse to waste any more of the tug pilot's time. After a brief radio chat we parted company, the glider turning briefly towards the sun before resuming course for Lochiel. The tug turned away from the sun and headed for Renmark.

We were free at last to do turns and choose our own airspeed. Maneuvering to use the side canopy I was able to make out the location of the airfield. Easing back to 53 knots reduced both our sink rate and the flow of cold air into the cockpit to a more comfortable level. As we descended, the wind became a little westerly, possibly a slight headwind, but we had height to spare and the target remained safely out of my sight below the nose of the plane. The chill air had had its effect so we were both keen to land without delay.

On our arrival at the airfield, the windsocks confirmed that there was a slight south-westerly. There were sheep grazing in "the valley" but the strips were clear. While we burned off some height with steep turns and wing-overs, the wind changed its mind a couple of times and then dropped off entirely so we landed on the strip at the hangar end. The plane was soon back in its hangar and we settled in to await the arrival of our car and retrieve crew.



Home in sight

The Bergy had carried us 252km in 2 hours, 4 minutes. This average speed of 122km/hr is no doubt the best cross-country performance I'll experience in the Bergfalke this year!

.Trent.

Thought for the Month

When a fly lands on the ceiling does it do a half-roll or a half-loop?

(recycled from Uni Gliding June '89)

Stay In Touch

The club has an e-mail group address, augc-people@lists.internode.on.net, that is used to either discuss or arrange things within the club. If you want to stay in touch with the club, send a blank e-mail message to augc-people-request@lists.internode.on.net and it will send an automatic reply with instructions on how to join the group list. You can still send an e-mail to the list even if you have not subscribed to it. There is also a new 'augc-announce' list for official club announcements, courtesy of our friends at Internode. If you are an AUGC member and have provided your email address then you will already be on this list. If you want to join this list or want to change your subscription, e-mail majordomo@lists.internode.on.net and follow the instructions.

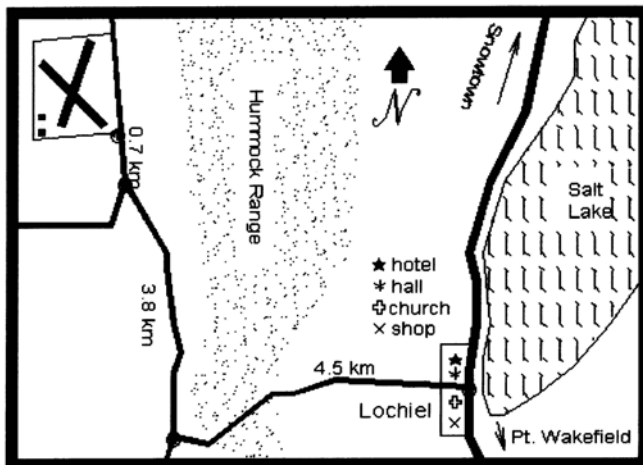
You can also get the latest newsletter and up to date news on what is going on at the club's web page:

<http://www.augc.on.net/>

If your e-mail address is on the membership database the club's Assistant Treasurer can send you your account updates over the internet. Send an e-mail to: accounts@augc.on.net

Want to fly this weekend?

LOCHIEL AIRFIELD



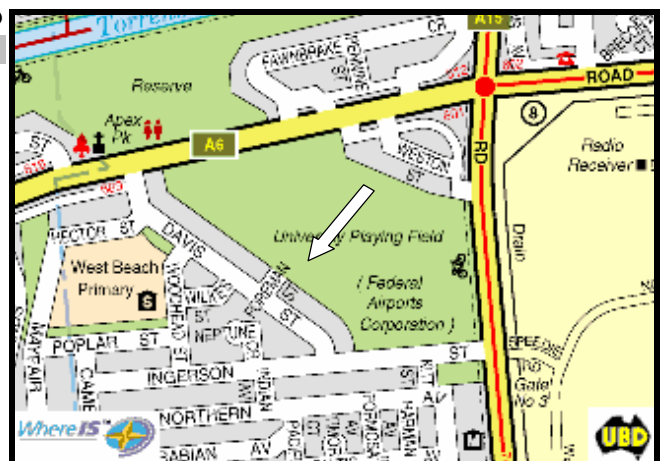
Want to go flying on the weekend? You must ring the club contact person, Mark, on the Thursday before, between 8.00pm and 10:00 pm, on 0412 870 963, (or by e-mail before) so that he can organise instructors and transport for those intending to fly.

You can either drive up yourself by following the map at left, or Mark can arrange a lift to Lochiel either from the Adelaide University footbridge (meet at 7.15am to leave at 7:30 am), or from the Caltex Service station on Port Wakefield road, Bolivar (meet at 7.45am to leave at 8:00 am)

Want to help at West Beach?

West Beach is where we carry out the maintenance and repair on our gliders and equipment. There are usually volunteers working down there on Monday and Tuesday evenings. The entrance is at the end of Foreman St, West Beach.

So you want to help fix the gliders at West Beach, but can't get there? A lift can be available from the Adelaide University footbridge at 7.30pm by arrangement. Ring Anthony on (wk) 8393 3319, (hm) 8269 2687 or E-mail: anthony.smith@adelaide.on.net.



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Newsletter Editor:	David Battye	8331 1451	editor@augc.on.net

Upcoming Events

Wed 9 July: Winter Gliding Seminar. 7.30 pm at Internode Systems, Level 3, 132 Grenfell St., Adelaide. The topic will be "Thermal Wave and Ridge Flying" by Bernard Eckey. Please bring drinks and nibbles to share.

Upcoming General Meetings:

3 September	Cross country 1
1 October	Cross country 2

Monday 14 July: 'Pizza and Pik Night'. 7.00 pm at West Beach. Come and help work on the Pik and eat pizza.

Wed 16 July: Executive Committee Meeting. 7.30 pm onwards, Conway residence, 1 Cuming St, Mile End. All welcome to come along and have a say in how the club is run.

Sat 19 July: GFA Safety Seminar at Lochiel. ALL pilots are encouraged to attend. See club news on page 2 for more details.

Wed 6 August: General Meeting. 7.30 pm in the Margaret Murray Room, Level 4 Union Building, Adelaide University. There will be a guest speaker.

Wed 13 August: Official Observer Course. 7.30 pm in Seminar Room, Department of Chemical Engineering at Adelaide University.

An Official Observer performs official duties required by the FAI to enable pilots to obtain badges, distance badges and record flights. Anyone can do it, all you need is to be honest and reliable. The course will be presented by the SAGA Regional Technical Officer (Sports), Catherine Conway and will provide all the knowledge necessary to become an Official Observer.

<p>Uni Gliding If undelivered please return to: AUGC Inc. c/o Sports Association Adelaide University, SA 5005</p>
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