The Clayton's Supernova

or How to Achieve Widespread Embarrassment!

by Fraser Farrell

I'm sure some of you have heard rumours about a new supernova in NGC 5128 (Centaurus A) during February. Well, here's my part of the story—most names have been omitted to protect the innocent! Have a chuckle, then take heed of the moral at the end...

On the morning of February 24, my wife passed me the phone. "It's someone for you again..." The conversation went something like this:

"Are you the variable star man?"

"Yes..."

"When did the supernova in Centaurus A blow up?"

"Don't know. Haven't heard of any supernova, when did you see it?"

"Last night. My mate was showing me galaxies with his telescope, he says there's a supernova there!"

"In Centaurus A? He's sure?"

"In Centaurus A he said..."

The caller soon hangs up. "Probably another asteroid" I think. I start up the GUIDE CD-ROM, locate the NGC 5128 field, and tell GUIDE to plot any of its 10,000+ asteroids which were within 1° of the galaxy on Feb 23. Nothing. Also, no known or suspected variable stars nearby.

An hour later, a call from one of the boys at Heights School Observatory:

"We were looking at NGC 5128 last night, and we saw a bright star in it.

Could it be a supernova, and has anyone else seen it?"

"It could be, how bright was it?"

"We're not sure. You know the three stars in a line underneath? It was almost as bright as the middle one I think. How soon will we know if it's a supernova?"

"When some professional observatory aims a spectroscope at it. But first we'll need confirmation, and an exact position for them to aim at. I'll get some of the other observers to look at it tonight during our public astronomy session".

Half an hour later, a third phone call. A second anonymous male voice asks about "The nova in Centaurus A that I saw last night". I tell him nothing has been confirmed yet.

I start phoning people. The first two don't answer, the third one "is out all day", the fourth one "engaged". I tell the fifth one, "There are rumours of a supernova in Cen A. I've promised to take the kids to SkyShow this year, so I won't be observing until late. Can you check it out please?" I phone a sixth observer; again, no answer. I phone the VSS, RASNZ; but get a recorded voice telling me "All lines are busy". Maybe it's fifty other VSS observers all reporting a supernova!

Late that night I arrive at the Douglas Scrub public astronomy session, and start setting up my telescope. Someone near me is packing up to go home. "Check out the supernova in Cen A", he tells me. How did he know about it? It's a clear, moonless night; Centaurus is above the trees and I can see magnitude 6.3 stars already. I turn my telescope to NGC 5128. The dust lane is obvious at low power and there it is—a 10th mag star upon the southern half of the galaxy which wasn't there last month!

I start asking "Anyone looked at Centaurus A yet? Seen the new star?" "Yes, it's obvious", "We saw it a few nights ago too". A few more telescopes are turned to the southeast; and the replies come back: "It does look different", "Didn't see that last time", "Is it a supernova?" Someone pulls out Burnham's Celestial Handbook. We look at the photo of NGC 5128—it's rather overexposed, but there's no indication of a 10th mag star at the location.

Time for observing. I pull out my noteboard & pencil—my red torch has flat batteries! Quickly borrow another torch. I recentre NGC 5128, put in a high power eyepiece, and begin sketching the starfield. The new star looks to be a dim 10th magnitude, but is it an asteroid? I put the eyepiece into a Barlow lens in an effort to find fainter field stars. The 12th magnitude star in the NGC 5128 dust lane is obvious; the new star doesn't quite focus at 210×. I wait for a moment of steady air; it comes, the image snaps into focus. The new star is elongated NE-SW, so close to another star I can't split them, then it all dissolves into heat haze once more. If it is an asteroid, a couple of hours will make a lot of difference to that image.

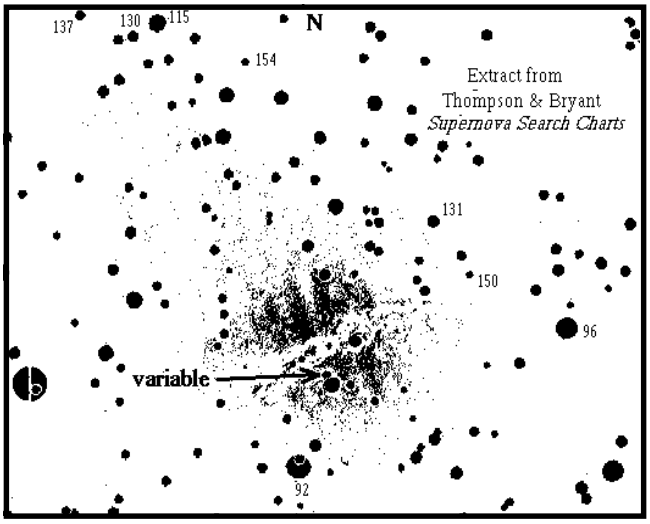
"Any magnitude guess-timates?", I ask the other variable star observers. We settle on magnitude 10.5–11.0. "Does Frank [Bateson, the VSS Boss] know about it yet?", I'm asked. "Don't know, but I'll send him a fax when I get home". There's no phone we can use at ~1 A.M. (barring medical emergencies), and Douglas Scrub is a marginal area for mobile phones. But is this thing an asteroid after all?

The few remaining publics are asking questions. I explain that we think we've found a new supernova. Excitement about witnessing a *moment of discovery*! While they are looking at it, I explain what a supernova is. "What would happen to its planets?". "Vapourized" I reply. "So maybe some alien world has just died?" "Maybe, but it would have happened about 15 million years ago". "So they didn't build the Pyramids then?"

A couple of hours later, I take another 210× look at NGC 5128. The new star is still elongated, but it looks brighter at the NE end. Not an asteroid, but it's going to be hard getting definite supernova spectra from that merged image! Back home, I use GUIDE to generate a quick chart of the NGC 5128 field, import it to my usual "Advice of ▶

▶ variable star activity" fax page, add the suspected supernova, and fax it to New Zealand just before going to bed.

Next day I'm on the phone again. Nobody at Stockport's public night seems to have noticed this star. Surely someone looked at Centaurus A? Tony Beresford doesn't have any IAU Circulars or e-mail about a supernova, but offers to make enquiries. He also offers to fax over a copy of the Supernova Search Charts for NGC 5128. A phone call from Frank in NZ informs me that no other reports of a supernova have been made. We're going to get discovery credit as well! Tony's fax arrives a couple of hours later; I forward it to a couple of the variable star observers. Interesting, the chart shows a 12th mag and 14th mag star at the position of the suspected supernova. I make plans to observe before sunrise, when NGC 5128 is near culmination; and set up another fax (with detailed chart) to the VSS.



Early Monday morning is clear. I still can't resolve the new star, but I estimate a magnitude of 11.0v for the elongated image. My position plots on top of the 14th mag star on the chart. Is this a real supernova, or is the 14th mag star an unknown cataclysmic variable? I fax the position & magnitude to the VSS before going to work.

Another phone call from Tony on Monday evening; the Central Bureau for Astronomical Telegrams want more details; he suggests I fax them directly. I compose and transmit a fax, just before another call: "Siding Spring reports no new object brighter than 15th magnitude in NGC 5128". No new object? No supernova? Maybe it is that 14th mag field star after all, did Siding Spring check its magnitude? I wish I had Internet e-mail at times like this. And it's going to be cloudy for the next few nights too...

Well, it *wasn't* a supernova. It is now known to have been bright on February 17, 18, 22 & 23; it was magnitude 11.6 on March 1, and tonight (March 3) it is fainter than magnitude 11.7. It appears to be a cataclysmic variable directly in front of NGC 5128, which has evaded discovery by normal photographic techniques. Typical photos of NGC 5128 are grossly overexposed at this star's location and would reveal nothing. It needed visual observers, familiar with the galaxy's usual appearance, to spot the difference. To aid detection of future outbursts, the central section of the NGC 5128 chart is shown here. I urge all observers of NGC 5128 to pay close attention to this 14th mag star in future—even negative observations are useful. And what a nuisance for future supernova hunters!

The moral of this story? Never look through a telescope with preconceived ideas of an object's appearance. And don't just look, *observe!*

Variable Star Notices

• The BL Telescopii eclipse is due to start in a few weeks, so start practicing with the chart in last month's Bulletin. And pray for clear skies this time.

• The next supermaximum of VW Hydri is due in mid-May, *but* it can come earlier than this. The magnitude at supermaximum is about 8.5–9.0 with a duration up to 14 days. Normal maxima reach mag 9.5 at most, and last less than 4 days. VW Hydri is mag 13 to 14 between outbursts. If it is seen brighter than 12th mag report this immediately. Several satellites, including the Hubble telescope, are waiting to observe all outbursts.

• The dwarf nova WX Hydri is erupting more frequently. The period is now only 8 to 9 days instead of 20 or so.

• Reports: a couple of observers are being a bit slow getting their reports in each month. You know who you are. I send our monthly disk to VSS, RASNZ on the 10th day of the following month. If your report arrives late, its observations don't get credited in that month's Circular; it just goes directly to the VSS archives.

The Sky Tonight on Radio 5UV

The "Brainwaves" science, health and environment program on **University Radio 5UV** features a short Astronomy segment, "The Sky Tonight" every two weeks. ASSA member **Robert Purvinskis** presents the segment around 6:45 to 7 P.M. every second Wednesday (this month on the 10 and 24 of April).

Telescope for Hire

The Society's 6-inch (150mm) f/8 Newtonian telescope is again available for hire. Conditions are that it be hired for one calendar month at $10 month, with a refundable deposit of $20.

Call Joe Grida (270 5644 a/h) to arrange a booking.