

[Information compiled and retold by James Buchle. Extrapolated through Audio/Video Logs, Personal Notes, News Coverage, Accounts, Professional Logs, and other Applicable Sources]

March 11th 2020

Dr. Winan's Log:

I'm the only one who's survived thus far. Natural selection at work, I knew it wouldn't be any different at the bottom of the ocean. I have to commit myself to this research; I have to get all the information possible. I have to find those caridae; whatever those bioluminescent shrimp are the fact that they can create such heat and light at the depths of the ocean is the future of sustainable energy. If I can harness it, understand it, then expeditions like this to the depths of the sea will be a viable possibility instead of this meager one month voyage. That would never have been enough time to find the shrimp. We are almost there. I have to find the caridae. Or else they died for nothing and I've pushed this expedition this far for nothing. If we hope to survive in the depths, study the depths, live in the depths we must discover more. We must find those caridae. Project Fireflies must succeed.

[Compiled and retold using video/audio logs by James Buchle]

Darkness engulfed the entire submarine as it pattered slowly forward against the depths. "The pressure," Dr. Winan explained, "is enough to crush a can completely flat. Imagine the strength it would take in order to simply survive, let alone move. Over 19,550 psi, one thousand times the atmospheric pressure we experience. We must study everything we can while we are here."

The purest blackness spread out for miles, if not hundreds of miles. A brilliant flash cut through the darkness, revealing one massive beast. A whole fleet sparked and shined like undersea diamonds hardened by the sea and then descended upon the beast in the dimming abyss.

"Bioluminescence. The creatures here have evolved methods of self-defense that even a mile upwards into the light would be useless, but here at the depths of the ocean are remarkable. They create a light in order to blind predators and then disappear again into the darkness. But not these, did you see the coordination? Did you see the speed at which they traveled? We are using nuclear thrusters and still we move at 1.2 km/h. Astounding. I knew we were getting close to it, despite

what the others said. If I can simply capture one. If one will just come within 40 meters of the ship, we can harness that hydrodynamic form and learn whatever chemical makes it possible to light half the ocean for even a millisecond. Perhaps even cold-fusion is responsible... the heat created is so intense that for a fraction of a second it is hotter than the surface of the sun, like the pistol shrimps bubble but at **this** depth. It's the real and true last frontier, the bottom of the ocean. With that information we could... we could own the depths. Conquer the Abyss."

Dr. Winan's voice rang out alone in the ship. The reverence of his awe echoed in the otherwise uninhabited hall. Even in this treacherous environment Winan's captivation and exhilaration pushed enough adrenaline through his body that he slept only two to three hours. He dangerously delved ever deeper into the unknown, his thirst for understanding the benthic frontier pushing him to ever-greater lengths. A bell sounded through the hull and the professor ran to the side of the ship. They had practiced this drill several times in the mock dives. The ship could unknowingly wander into a hydrothermal vent putting out water at a thousand degrees Celsius. Though the reinforced titanium was modeled after aeronautic technology meant to withstand the heat and friction of re-entering Earth's atmosphere, it could not withstand these vents. Anything more than 20-30 seconds over that vent would overheat the ship and possibly combust the on-board oxygen tanks. *Only the strongest can survive here, the human race is ignorant and weak at the bottom of the ocean. Our intellectual evolution depends on this knowledge. The research must survive.* [Excerpt taken directly from Winan's Personal Notes] He reached for a green leather notebook with hastily written German scrawled on the cover. The harshness of the language was unfamiliar to him as he fought to discern the instructions that could save his life and propel the ship forward past the rushing hot air boiling him alive.

September 29, 2019

James Buchle Director of Triton Labs), Address to the Committee for Project Fireflies)
[Compiled through news coverage and personal accounts]

“Our vessel can safely accommodate four individuals for the duration of one month from the beginning of the descent. It is imperative that you do not attempt to push the ship beyond its capabilities and return safely. You have each been selected for your performance in your fields. Dr. Chiang Zhou of the University of Beijing, geologist whose groundbreaking research in the fields of plate tectonics and benthic floor mapping has largely made this expedition possible; Dr. Lana Schenowitz, whose pioneering research in echolocation in such pressurized conditions makes it possible to navigate; Dr. Mitchel Winan, renowned zoologist who singularly possesses the widest knowledge of benthic life forms and chiefly the caridae, which he believes will make this a very profitable venture; and Herman Schultz, MIT graduate and engineer responsible for crafting this amazing vessel. The goal of this expedition is to gain as much information as possible concerning your fields of knowledge. Your goal is to illuminate this great mystery. Hence Project Fireflies.” James Buchle swept a dry tongue anxiously over cracked lips.

Scientists who were renowned in their fields were also well known stubborn individualists. They had become accustomed to a solitary life where cooperation often meant slowing down and waiting for the other to catch up. Winan was especially unfond of this idea, but they each seemed to understand the gravity of the situation and how necessary cooperation would be to ensure the greatest amount of success in discovery.

“I think I speak for all of us,” Winan began, “by saying how pleased I am to be a part of this ground breaking exploration. The opportunity to really and truly study the depths of the ocean is nothing short of a miracle. I look forward to working, studying, and living with each of you for the next six months. Shall we begin discussing our roles?” Winan’s words came out hasty and eager.

Each of the distinguished scientists nodded in agreement and produced folders and notebooks overflowing with jargon, equations, and notes. Schulz laid a simple, elegant green leather bound notebook on the table.

“Shall I present first?” He said with the lightest hint of a German accent. “This vessel is made of alloys that even ten years ago we could not dream of. Welding them together has taken heat that if you asked us to again, I’m not sure we’d be able to produce. The interior of the hull, while not overly spacious, will provide you each with the necessary equipment to study...” Schulz proceeded to explain the simplistic but efficient design of the ship while Winan peered off into his own notes.

Winan pulled at his notes from a manila folder. His eyes focused on the black and white images of the glowing shrimp. He pulled out the radiological and chemical reads from the probe, whatever substances had been used were capable of burning at a much higher temperature than anything they’d seen before. Labs could not synthesize the material and the chemical agent monitor had been unable to sustain the intake.

“Dr. Winan?” a voice interrupted Winan’s thoughts.

“Hmm?”

“I believe it is your turn to present.” Mr. Buchle raised his spectacles to his forehead and wiped the sweat away.

“Of course. My interest chiefly lies in these caridae, shrimp in other terms. Bioluminescence is not unheard of in the animal kingdom, but to the degree that they display it’s astounding. At that depth the cold fusion necessary to make this happen is optimistically 20 years away. But these caridae, these shrimp are already doing it. If we can capture them we’d advance 20 years in the energy world. We could travel to the depths of the ocean, power and heat all of North America for 1/100th of the cost, we could change the world.”

Winan’s words fell rapidly on the table from his hurried jaws. His whole body trembled as he continued his presentation on the incredible research of which he was now capable.

“That’s... very fascinating, Doctor. It seems your enthusiasm will not be lacking.” Buchle dryly joked.

Winan laughed and peered over at Buchle who was fingering through the reports.

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James Buchle, Director's Notes

October 4th, 2019

Winan gets next to no sleep, however, and when the rest go to sleep he can be seen studying and reading about those caridae. He has brought a collection of literature, mostly Jack London and some of Darwin.

Winan's notes, January 27th 2020

Today we make history. Today we send the first ship to the bottom of the ocean. Today everything changes. Today we can all push for greatness. We have to find those Caridae or else this mission is pointless. None of them can get in the way. We cannot afford it.

[Compiled through news coverage and personal accounts/notes]

The crew took their first steps into the actual ship. It was exactly the same as the one they'd trained in, both in shape and design, but instead of mock test instruments and much less expensive plastics and metals, it consisted of everything they'd need for their excursion. It was the size of a classroom that they might lecture in some day, about 400 square feet. The overhead lights were a dimmed red to preserve energy and to keep their eyes adapted to the darkness. Dr. Schenowitz and Dr. Winan were adjacent to one another and on the other side of the hull were the engineer and the geologist. The center had a large metal examination table to be shared between them to discuss their research and findings.

Their quarters each featured the instruments necessary. Winan had scalpels, forceps, radiation tools, and tanks which gleamed with little red lights to house living species. They had lids

to pressurize the tanks in order to replicate the deep sea environment and keep the species alive. Dr. Schenowitz's quarters featured all the tools and monitors that kept her echolocation device calibrated and displayed its findings. Dr. Zhou had a series of maps and cartology devices in addition to his own device that could scan and analyze the composition of benthic rocks. Schulz simply had access to the entire ship's controls, from navigation to cooling and everything in between, neatly organized with strips in German labeling everything.

February 3rd 2020

[Compiled through Audio Logs, Personal Notes, and Video Logs]

"Mitch, what is that?" Schenowitz said pressing her fingers to the monitor of her radar.

The echolocation technology aboard was capable of 3D rendering objects within 25 meters of the vessel. The object displayed on the screen looked like two tissues stacked on top of each other like a double decker bus.

"Excellent question, Lana. It seems to be some kind of jellyfish in some sort of mating ritual. Herman, open the sixth bay door please and get this specimen in here."

The engineer smiled beneath a bristled black mustache. Schulz expertly pressed a sequence of numbers on the pad and a bay door opened in the rear of the vessel, forming a pocket between the scientist and the ocean. The pressure created a vacuum that sucked the organism into the pocket. Schulz pressed another sequence of numbers and the pocket drained of all water before opening to the scientist. Winan hurriedly gloved his hands and placed the organism in a tank on an observation plate. Winan examined it like a child with a new toy, not taking his eyes from it for several moments.

"Fascinating, they aren't really two separate organisms. These strands here connecting them? They appear to be joint gonads, a combination of female and male genitalia. This is much the same structure we see in birch trees for reproduction to ensure sexual dimorphism and changes in the species to prevent bottlenecking. Additionally in this vast nothingness finding a mate may well

be impossible. This way they have a guaranteed method of reproduction. Astounding. Keep pushing the ship forward. We need to find those caridae and this species has the largest amount of the chemical resin we've seen yet. We are getting closer."

Winan's hand moved faster than the pencil could keep up. The led snapped and he let out a loud curse, dropping the pencil and drawing another from his coat.

"Mitch, we need a rest. This ship can-" Lana excitedly began-

"Be quiet. If I needed your opinion on what's best for this expedition I'd ask. Those shrimp are the only thing that matter." Winan curtly interrupted.

Schenowitz took a seat, crestfallen. She'd felt she had gotten to know Mitch in the time they'd spent in this small hull, but he'd act strange at times. When he was involved with his work he became engulfed by it and no one else mattered. Schulz cast a disapproving look from deep eyebrows.

"Winan, I understand you're excited but that's no way to act." He said sternly.

"My-- I apologize. This is all just so, overwhelming. I got lost in it. I'm sorry, Lana. Thank you, Schulz."

February 4th 2020

Winan's Notes

I have come to a difficult decision but it's become very clear to me. Lana does not take this mission seriously. She can no longer be trusted with any level of responsibility. She will be the reason that this expedition fails and the caridae's secrets remain unknown

[Compiled through Audio Logs, Video Logs, and Personal Notes]

"Lana, this is... fascinating! How do you use it? Teach me?"

“I’d say it’s really quite simple, but it’s not haha. Once the ship is calibrated, as it is, we’re fine and it just requires ensuring that the measurements are all correct.”

“That must be impossible to memorize, how do you manage it?”

“I have everything written in this notebook, all the correct settings are on the final page. I just ensure that they all match up.”

Winan leaned in and ran a hand across the notebook covetously. His eyes darted quickly back to the monitors.

“And how do you read these monitors? What does all this mean?”

“These are the distance indicators, you can adjust the scope of the locators with this nob but the farther out the less accurate it is, of course. This nob here moves the pulse subs,” Winan drank in her every word and she smiled with pride for being recognized. “They create the waves that submit and report the information displayed. Try moving it back and forth yourself, be gentle because if you don’t-”

Winan’s trained fingers slipped swiftly across the ridged nob, sending it spinning. An audible thump reverberated through the cabin and the monitors blanked.

“If you don’t you’ll overreach the device and then I’ll have to manually reset it. Now I’ll have to go out and reset it. Tell Schulz to open the bay.”

“He’s sleeping, I’ve had him show me how to before. I can do this without him. Here. Put on the suit. It’s cordoned to the hull, just go out there and reset the echo locator. I’ll be here to let you back in.”

“Ok.”

“And Lana? I’m sorry about yesterday. I really value you as a member of this team but at times I get a little... self-absorbed. I couldn’t do this without you.”

“Thanks, Mitch.”

Lana buckled the insulated suit and waited as Mitchel mimicked Schulz and pressed the buttons from memory. A partition formed and Lana swung two padded feet out to the cluster of technology she was responsible for. A conduit had become dislodged, requiring her to adjust and seal it again with a gasket and two layers of silicone. Her expert and practiced hands quickly swung three times around the sub even in the dim light projecting from her helmet. She smiled and threw a thumb up to show Mitchell that she was finished. She looked through the Plexiglas to see him flipping through her notes. Her flattery in his fascination with her work quickly changed to rage at his lack of attention span. She was powerless to reach him as the sound of a rushing undertow was thousands of times louder than her voice and the insulated ship would never let her pleas in. Mitchell drew his face from the notes at the sound of the echolocator working again; he smiled and looked over at the monitor. He threw a thumbs up to her and walked backwards, eyes lodged on the monitors now showing increasing numbers of blips on the radar. Thin lines slithered on the screen, closer and closer to the ship and to the defenseless Lana. Her light caught the glimmer of slick flesh; so reedy her eyes didn't even catch them. In sheer fascination Winan attempted to discern the nature of these thin green bugs flitting across the screen. Lana let a scream out that would never reach through the thick walls of the ship.

February 5th

Winan's Personal Log

We recovered Lana after she fixed the equipment. She's complaining of lightheadedness and stomach nausea. Several noticeable lacerations and puncture wounds. She has traces of the chemicals those caridae leave behind meaning we are closer to finding them. The others say we should turn back for medical help. We can't turn back now we've only just gotten here. I suspect it is some native life form that is responsible, which is what we need to study here. Perhaps if we can understand how this deep-sea predator survives... We must study the life forms. Independent of what they say. I must continue.

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My suspicions have been confirmed. Due to her sickness we were unable to move forward – in part because her assistance is necessary to navigate though I know her job well enough to do it. The others insisted we remain stationary until we figured out what was wrong. A slim parasite managed to pierce the thick insulated material of her dive suit and tunnel through her skin unnoticed, in part due to the cold numbing her skin instantly and in part due to the numbing agent applied by the creature. It used a

disturbingly strong anticoagulant that sealed the wound and the suit to prevent the pressure suit from collapsing in on itself. Ordinarily that cold would have given her skin frost bite in the time she was exposed, the creature must have applied some kind of chemical based off the traces on her skin. This chemical kept the host alive, no doubt an evolutionary adaptation. It has been secreting chemicals in her which appear to be preserving her while it relies on both her body heat and nutrients. Amazing. I have found another but I will keep it alive and inside the host in order to study it further. If it threatens her life I will remove it.

[Compiled through Professional Logs, Notes, Audio/Video Logs]

“I’m feeling much better, Mitch.” Lana lay prostrate on a cold steel table, a glisten of beaded sweat crossing her forehead.

“Good. Good. I’m glad. You let me know if you’re feeling anything, anything at all. Nauseous, tired, achey. I want you to feel better and the more I know the more I can help. So please. Tell me everything.”

“I’m still a little tired, kind of nauseous but not achey.”

Subject reports achiness and light fatigue. Probably the result of surgical stress and hosting parasite. Subject shows no immediate signs of death.

“Good. Good. Let me know of any further symptoms.”

Winan’s Patient Notes

Time: 1200

Heart Rate (HR): 60 bpm

Temp: 98.7

Notes: Patient still shows signs of nausea and fatigue

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Time: 1500

HR: 75 BPM

Temp: 99.2

Notes: Patient has vomited twice. Fatigue increased. In and out of consciousness.

Time: 1800

HR: 110

Temp: 103.5

Notes: Patient comatose. Fever climbing. Parasite cannot be found.

1845- Patient deceased

February 6th

“The autopsy revealed that there was a second parasite, it tunneled deeper and was impossible to find. It appears that it thrives in exceedingly warm temperatures and as a result attempts to superheat the host by triggering bacterial infections that stimulate the autoimmune system. This superheats the body, causing the subject to overheat and essentially burn to death. The parasite then consumes the remains of the subject.”

“Stop saying subject, her name was Lana. She was a person, this isn’t some lecture.” Schulz gravely leaned on the table where mere hours ago Winan carefully dissected his subject.

“I know that. Grieving won’t do us any good now, though, and her name won’t change what this creature does. This information, however, is vital to understanding life in the benthic region. This is what we came here for, to learn.”

“We came here to explore, for God’s sake, not just study the life forms! Not to die for this information!”

Winan’s eyes were fixed to the charts filled with copious notes. Schulz raised an arm with ire and brought it down like a guillotine on the clipboard. Winan furiously collected the notes with anxious hands.

“This research is worth more than all of our lives put together. Do not jeopardize this mission, this information, or my job again.” Winan gravely straightened the charts.

“You’re a madman.”

“No. I’m a scientist. And so are you, Schulz. Don’t ever forget it. We have pledged ourselves to science. To the advancement of society. To changing the world. It’s part of our intellectual evolution. *My* work will bring that about. *Your* work can only hope to advance mine and stay out of its way. Don’t forget that either. “

“Is this about those god-forsaken shrimp?”

“It’s about surviving in the deep, and those caridae don’t just live, they thrive, they travel in massive packs. They light the bottom of the ocean up like stars. They are the key.”

"You're mad."

"And you're a coward."

"You don't even care that Lana died."

"Do you know how many people before her died? In less extreme circumstances? Do you think the ocean cares for each dead organism crumpled at its depths? The only thing that matters is surviving, and she didn't. Life is all that matters. And those caridae live."

"You're mad."

February 12th

Schulz Notes (Translated from the original German)

Winan has lost it. He's thrown all of Dr. Zhou's specimens from the ship saying that they weigh it down. Zhou did not respond well but we couldn't understand him as he cursed in Chinese. We have no comms down in here. I'm slowly pulling the ship back up. We only have another week before we have to begin the ascent. We need to end this early. Winan is mad.

Winan's Personal Journal

Zhou thinks he can get away with stowing those useless rocks on my ship. I swear to God if I catch him with another... Schulz thinks he's so smart. As if I didn't know he was moving the ship to the surface. Luckily that's where the trace chemicals are strongest for the caridae. I will not let them get in the way of this mission.

February 15th

Winan's Personal Journal

This ship is drastically harder to pilot alone than I thought it would be. Schulz left all his notes in German, no doubt a purposeful decision in order to exert his control over this mission. Our metrics don't look good, I have enough supplies to last another two weeks but the oxygen is more temperamental. The readings are set to four people but now that I'm using a quarter of that I feel confident that the oxygen supply will last at least another 82 hours. I've set the ship to auto pilot after 83 hours in the event that the lack of oxygen incapacitates me. My research must reach the surface. There is only one word for this monstrosity and its beauty that consumes absolutely. It is an abyss. A glorious abyss. We can't leave this glorious abyss unexplored and if this mission fails they'll never send another party. We must catch those benthic fireflies.

Winan's Log

Catastrophe has struck. Sole survivor. This Abyss has consumed the others. We have almost found the caridae, the single most important part of this expedition. I've overridden security protocol so that this mission will not be in vain. I will finish so my colleagues will not have died in vain.

[Remains from the Black Box Emergency Records, Chief Recording systems have failed or been sabotaged]

*** ALARMS SOUND***

ENERGY RESERVES-7%, OPENING BAY DOOR INADVISABLE

OVERRIDE CODE INPUT: DR. WINAN

AUDIO DETECTED: "WE'VE FOUND THEM. DESPITE EVERYTHING. I HAVE THE CARIDAE. I MUST BEGIN DISSECTION IMMEDIATELY."

WINAN'S RESEARCH:

Chemical trace exactly consistent with nuclear fission at this pressure. Additionally, evidence of cold fusion. With this lab I cannot dissect the process further but I can say that the pulmonary chambers are capable of withstanding immense pressure, I pumped a further 1,000 psi into them and they withheld. It appears then that their respiratory process is somehow linked to the means by which they generate the energy, they must be capable of expanding to withstand the heat/steam/energy produced by the fusion and light. They possibly then expel that hot gas and energy to propel themselves at unheard of speeds in the depth. This information is ground breaking. Project Fireflies is a success.

[Final Recordings from the Black Box]

ENERGY RESERVES- 2%

DEPTH- 500 M

ASCENT SPEED- 12/km and increasing, danger, advise slow. Rapid ascent, ADVISE SLOW, ADVISE SLOW, ADVISE SL--OVERRIDE CODE: Winan

Winan's Personal Journal

I've done what I had to. To whoever reads this, I regret nothing. I wish that they could have lived, that I could have lived, but we cannot. Could not. The abyss was too much

for us, but now we have shined a light. Go further. Take my research. Explore the abyss, understand it.

COURT INVESTIGATION

[Compiled through Stenographer Notes]

Parties: Judge James McMahon, Attorney Nathan Dirk, Director James Buchle

DIRK: Has your team found any reason to suspect foul play in the death/disappearance of Dr. Schenowitz, Dr. Zhou, Dr. Winan and Mr. Schulz?

BUCHAL: We have extensively reviewed all the ship's security cameras, transcripts, logs, and any relevant personal notes. It is in our belief that all deaths were the result of freak accidents that could not be anticipated on such a pioneering expedition as this. The autopsy report for Dr. Winan reveals that he died of decompression sickness, popularly known as the benz. All the evidence points to his own steadfast dedication even in the face of this tragedy. When faced with near inevitable death Dr. Winan pressed forward. Sadly, his research with the caridae has proven conclusively compromised as the specimen did not survive re-entry to our compression. Which is why we advise the court to allow another dive as quickly as possible.

DIRK: Mr. Buchle, that's all well and good but on the heels of these deaths you understand the committee's hesitance to allow any further dives at this time. Thank you for your counsel, for your service, and we are very sorry for the loss of these brave and brilliant researchers. But at this time we cannot—

BUCHAL: Then you're cowards. I'm done.

[CLOSE]

March 22nd

Buchal's Personal Log

It doesn't matter how much I review the specimen Winan brought up, I can't recreate his findings with the chemical trace and the pressure. Most plausibly delirium altered his findings and the poor lab with which he had to operate. Additionally the acetylene torch he used chemically altered the substance, leaving evidence of the chemical trace he had hoped for. These caridae, while amazing, do not hold the energy key to our future. I will burn this research and the surveillance logs. We will explore further.

