

# OPUNTIA

## 308

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**MAY FLOWERS**  
photo by Dale Speirs

A very mild and warm spring in Calgary. Here is a photo of my neighbour's crabapple tree in full bloom.





**AROUND COWTOWN: MANHOLE COVERS**

photos by Dale Speirs

I never paid much attention to manhole covers until I noticed the one below. It shows a skyline of downtown Calgary, looking south across the Bow River at the downtown core. One major mistake though, as behind the skyline are some mountains, which would make them south of Calgary. The Rockies are in fact just west of the city.



The City of Calgary seems to go through cycles of ordering generic manhole covers, then occasionally splurging on custom-made ones. I guess it depends on the price of oil at the time the order was placed.

This is an old one. AGT was Alberta Government Telephones until it was privatized in 1990 and became Telus. The manhole cover shown at right is probably a generic telephone cover, since if Telus had ordered custom lids, it wouldn't have cost any extra to add the remaining two letters.



The LRT system began in 1981 and now has 44 stations on four lines crossing in the downtown core. It is fully integrated into Calgary Transit. Passengers can switch between buses and trains on the same ticket or pass. These covers are probably for electrical cables.





Calgary's electrical system is Enmax, a wholly-owned corporation of the City of Calgary. It began as the Electric Light Dept., then was the Electric System before being spun off as Enmax when Alberta's power system was deregulated in the 1990s. It serves not just Calgary but also the surrounding area.



The Sewer Dept. has many foliar covers but mostly uses generic lids.



District Energy is a subsidiary of Enmax and only operates downtown. It has a cogeneration plant at the east end of the downtown core and supplies hot water and steam to many skyscrapers.



Dominion Bridge was a steel foundry in Calgary, now defunct for many decades.

The Power lid is a generic cover ordered during an economy spell. Enmax never used the word Power in any of its previous incarnations. And there are no Hydro companies here; Alberta has very little hydroelectricity.



Atco Gas has only ever used generic covers. Natural gas is supplied in Alberta by private companies. All urban buildings in Alberta have been heated by natural gas after the first wells began flowing in 1914.







I can't find out anything about A-Stream on the Internet but I think it is a telecom.

## FOR DEDICATED STEAMPUNK FANS

Seen in a Calgary boutique on 17 Avenue SW. I did not buy one.



The ultimate in generic covers. These are illegal since all utilities must identify their underground facilities so that first-responders know who to contact in an emergency. I've only seen two or three.

# THEY SHALL MOVE OUT OF THEIR HOLES LIKE WORMS OF THE EARTH: PART 2

by Dale Speirs

## With Vilest Worms To Dwell: Tremors Television Series.

TREMORS: THE SERIES (2003) picks up immediately after the movie TREMORS 3. There are some new characters and Burt Gummer is the main leading man. There are lots of running gags through the series and at times it approaches a comedy. Good viewing all told.

Since there was a limit as to the number of changes that could be rung on the graboid story, partway through the season the series introduced a new storyline, about a secret biochemical laboratory hidden in the valley which decades ago ran genetic experiments called Mixmaster. This involved a mad scientist who developed a substance that could mix genes from different species. This produced several new types of monsters roaming the valley.

Burt was gradually faded out of the series, by making him a lecturer to survivalist groups across the country and thus off-screen. I'll review the episodes in two parts, one for each storyline, which are not necessarily in the order of the DVD episodes.

The first episode of the series is "Feeding Frenzy", with Tyler Reed driving into Perfection Valley as a new character. He bought Desert Jack's Graboid Adventures expecting to make good money on the tourist trade but found out the business is a bust. He's stuck though because on his way in, he stopped at the warning sign telling people to stay on the asphalt. Like so many dead tourists before him, he pulls off onto the gravel so he can take a selfie of himself with the warning sign. As he does so, a tourist comes running out of the desert pursued by the only remaining graboid in the valley, the sterile albino El Blanco. The bit player doesn't make it past the first five minutes of the episode. El Blanco then turns his attention to Tyler and pulls his car underground while trying to eat him. Tyler manages to scramble up onto some rocks where El Blanco can't reach him. Burt comes to the rescue and uses a concussion grenade to scare El Blanco away. Welcome to Perfection Valley.

Burt drives Tyler into the hamlet and introduces him to the locals. They brief him on how to survive in the valley, which also brings viewers up to date who hadn't seen the movies. Melvin Plug reappears, still trying to develop a suburb

in the valley. He was hoping to buy out everybody in the hamlet and rename it Melville, but was stymied when the federal government declared graboids an endangered species and prohibited development in half the valley. For Plug and his dreams of Melville, El Blanco has become the great white whale.

W.D. Twitchell is a pompous bureaucrat from the Department of the Interior who got stuck with the Perfection Valley file. "*I hate that worm*" sums up his feelings. He always introduces himself by his initials, never his given name. Besides El Blanco, he also has to deal with the antics of Plug, and file paperwork on each tourist eaten by the graboid. He also issues residency permits to the citizens of the valley. Their mutual dislike moderates somewhat as the series progresses and they go through trouble and strife together.

Rosalita Sanchez is the sex interest in the valley, a young Latina who inherited a ranch from her uncle, one of the Mexicans killed in a previous movie. She has a past in Las Vegas as a showgirl, which will catch up to her in a future episode.

Jodi Chang is still running her grocery store and souvenir shop, and several other residents are there but played by different actors. Nancy Sterngood is a flower child left over from the Sixties and now makes graboid souvenir pottery and Burt Gummer figurines. Burt is internationally famous as a graboid hunter, although he is still hurting from the 60 MINUTES expose on him as a trigger-happy paranoid conspiracy theorist survivalist.

The plot of this pilot episode is that El Blanco is attacking and eating everything, instead of the usual one tourist or cow every few days. It is eating obsessively, far beyond what a graboid normally eats. In an ominous foreboding, Burt notices occasional reflections of light out on the horizon, and finds tracks of a dirt bike, not a tourist but someone traveling about the valley on unknown business. Burt's geophone computer is experiencing intermittent radio interference. Somebody out there is up to something.

The climax comes when El Blanco launches a major unceasing attack on Jodi's store, far out of character for it. During the attack, Twitchell gives permission for Burt to kill El Blanco with his big rifle, but Burt notices a reflection out of the window and on a hunch turns and fires at it. It was an electronic device of some kind out in the desert. Burt and Tyler arrive on the site of the device just as the dirt biker does, who flees after a brief confrontation and manages to lose them.

The biker is a techie working for Plug. He drives to a meeting with Plug and they start arguing in the middle of the desert. The biker's fatal mistake is that during the argument he is sitting on his bike while the engine was running. El Blanco homes in on the noise and there goes another bit player (not even Mexican this time). Plug, having grown up in the valley, was smart enough to stay within two seconds of a rock outcrop.

In the epilogue, it is revealed that the device was stolen from a commercial laboratory which developed it to stimulate appetites in feedlot cattle so that they didn't have to be fed growth hormones. Plug wanted to provoke Twitchell into declaring El Blanco so dangerous that it had to be killed. Since El Blanco was the only graboid left in the valley, this would remove any federal restrictions and Melville, Nevada, could take its place in the pantheon of suburbs.

"Shriek And Destroy" opens with a bit player being eaten by a shrieker on his ranch. Jump cut to Twitchell, who is telling Burt that a graboid egg hatched near Juniper, Arizona, matured, and gave birth to shriekers. They are now roaming about causing trouble and strife. Fish & Wildlife are claiming jurisdiction against Twitchell, so while the bureaucrats battle it out off-screen, Burt and Tyler head to Juniper. Jodi gives Tyler a video camera because she needs a sequel to the previous video. He does a good job; in all the subsequent combat he never forgets to set out the camera before opening fire on a shrieker.

On arrival in Juniper, Burt is indignant that the town is having its annual fair oblivious to the shriekers roaming about. He insults a baseball player who comes by selling tickets to a charity game, but Tyler smooths things over and buys a dozen tickets just for nice. That puts them on the good side of the baseball team, which will shortly come in handy.

Burt and Tyler take out one batch of shriekers, but are interrupted by a Fish & Wildlife man named McClane. They won the infighting with Twitchell and are now claiming seniority. McClane fancies himself as a Great White Hunter, and tells Burt to leave it to someone who knows how. There are no prizes for guessing that McClane will not make it to the end credits. He takes out all but one shrieker, which he wants to keep for scientific study.

Juniper being a small town, the only place he can find to lock it up is a feed and grain store, with his men to guard it. They don't understand that well-fed shriekers reproduce by parthenogenesis once they consume enough food, and inside the warehouse that means exponential shriekers.

The shriekers eat, reproduce, kill all of McClane's men, and head for the annual fair. Ten minutes later, McClane joins his men in the next world. Burt and Tyler run out of ammo as the remaining shriekers head into town. Someone mentions to Burt that a local resident has a famous gun collection, so everyone heads over there with the shriekers in pursuit. The baseball team come along to help. The bad news is that the gun collector specialized in muskets and blunderbusses.

Burt is nothing if not resilient, so he organizes the baseball players to form ranks and fire the muskets while the others reload in sequence. Says he: "*Don't fire until you see the whites of their* [pause while he thinks a second] *heat-seeking organs.*" The shriekers fall to a drumfire of muskets. And so back to Perfection Valley with a job well done, not to mention material for the video.

"Blast From The Past" begins with Tyler driving along the valley road when pieces of a hang glider and the man who was flying it drop onto his jeep. Next up is a delivery man in an open delivery truck; only the lower half of his body makes it into town. An ass-blaster is on the loose, but where did it come from?

Burt is teaching a wilderness survival course at the time, and hands his students over to Nancy and Rosalita for them to fake something up so they don't have to refund the money. Rosalita demonstrates her style of self-defence, which is to kick them in the cojones (her words), which she demonstrates on one of the unfortunate students. Nancy, being a flower child, teaches them macrame so they know how to make hammocks.

Two men from Las Vegas appear. It turns out that the ass-blaster is the one from TREMORS 3 that was sold to Sigmund and Ray. They named it Messerschmitt. Thieves stole it and thought they could get millions for it in China but found out the hard way it wasn't that simple. After Messerschmitt ate them, it flew back to the valley of its birth. This time around, the outlanders from Las Vegas have the good sense to take advice with Burt, and thus make it to the end credits. They want Messerschmitt alive, not blasted from the sky by one of Burt's heavy weapons.

The first few attempts to trap Messerschmitt fail. It learns from its experiences, so it becomes more and more difficult to entice into range. Finally the hunters rebuild the hang glider of the unfortunate man in the opening teaser, bait it with cooked meat, and tow the glider behind a jeep. It lures Messerschmitt to take the bait and be winched down. Burt forgot to have something to hold it once

on the ground, but his students have the perfect thing. The macrame hammock Nancy made them knit also serves as a good net. And so Messerschmitt returns to Las Vegas.

“Hit And Run” opens in a Las Vegas casino, where two henchmen, Frank and Max, are called in by Kinney, their boss. They are given a safe-deposit box key and told that in a few days a man will deliver \$20 million in bearer bonds to them for which the key is needed. Kinney tells them that in the meantime, to lie low for a couple of days and stay out of the casinos.

The henchmen go sit at a bar and watch the evening news on the bar’s television set while they discuss where they should go hide. There is a news report about a tourist who almost was eaten by El Blanco, with video footage by his fellow tourists. Frank thinks it is a fake. They argue, and decide to go down and take Tyler’s tour to find out for sure.

Meanwhile, Twitchell is reaming out Tyler for almost losing a tourist. He decides to ban the tour because of the incident but Burt talks him out of it. The next group for Tyler’s tour are none other than Frank and Max, still squabbling. Rosalita has an unfortunate encounter with them and is highly suspicious of their behaviour. She met many of their type when she was a casino showgirl. Tyler takes the men out on a tour but El Blanco isn’t to be seen. Frank thinks he and Max were gypped, so the two go back out on their own looking for El Blanco.

They find it, much to Frank’s sorrow because while he got away unscathed, Max is eaten. The problem is that Max had the key. Frank calls Kinney, who does some research on graboids, borrows a harpoon from the Treasure Island Casino, and drives out to Perfection. It is important to the two that they not just kill El Blanco but be able to recover the corpse so they can cut it apart to find the key.

That key is important for the \$20 million in bearer bonds. Kinney is even more worried than Frank because as the man who made the deal he is responsible. They set up an ambush for El Blanco but Burt spoils it by chasing the graboid away before they can harpoon it. They resent that intensely and a gun battle erupts between them and Burt.

With all that noise, El Blanco circles back, and there is much further ado. El Blanco doesn’t actually eat anyone but it accidentally trips the harpoon when it swallows the trigger rope, disemboweling Kinney with his own weapon. El

Blanco takes off, and Frank gets his foot caught in the rope. He is dragged away at full speed. Burt and Tyler track him and find a spot where he apparently managed to get loose and survive. The ending is ambiguous, and we know we will hear more about Frank.

“Night Of The Shriekers” is about a secret project to control shriekers with electronic devices fitted to their brains. They are being trained for search-and-rescue because they can detect thermal signatures not only in the dark but under debris where victims of a disaster might be buried. The tests are being run by Dr. Megan Flint and her research team in Snakebite Canyon just off Perfection Valley. (As the viewer sees in subsequent episodes, all the head scientists of research projects in the valley are good-looking women.)

Megan tells the Perfectionites that the shriekers were captured in the Sahara Desert just after a graboid gave birth to them. They have been treated so that they will not turn into ass-blasters. As long as they have their brain control devices working, they’re safe. Nothing can go wrong. Talk about your ominous forebodings. A lightning storm that very evening fries the central control system for the brain devices, what engineers refer to as a single-point failure. Soon it isn’t just the shriekers who are screaming.

Megan doesn’t want Burt killing off all the loose shriekers, a conflict which sets the tone for all the excitement that follows. During the final firefight, Megan sabotages Burt’s cleanup operation. She doesn’t have long to gloat over it before being eaten. Burt and company manage to finish off the remaining shriekers. Jodi is disappointed because they were all shredded by gunfire and she can’t get a decent specimen to be stuffed by a taxidermist and put on display in her store.

“A Little Paranoia Among Friends” is set in Toluca, New Mexico, where Burt and Tyler have been sent by Twitchell to investigate a possible graboid appearance. The village is built on bedrock, so the graboid can’t come in, but the surrounding area is unconsolidated sediments. That is where local residents are disappearing one by one.

The citizens are under the influence of a UFO nut and think the disappearances are alien abductions. They have their own listening transmitter which they call the Intergalactic Communicator and are awaiting the imminent arrival of the mother ship.

In the greatest insult Burt has ever received in his life, they think he is a government agent sent in to cover up the UFOs. That's like calling a Communist a bourgeois capitalist. Despite Tyler's best efforts at diplomacy, relations between Burt and the villagers go from bad to worse. Burt's equipment and vehicle are repeatedly sabotaged as he tries to take out the graboid.

It all ends up with the UFO fanatics gathering together out in the desert where they expect the mother ship. They sing "We shall not be moved" and make enough noise in general that the graboid has no trouble homing in on them. They are saved at the last minute by Tyler. The story is revised to the graboid being the alien, which seems to satisfy them, although Burt is still smarting from being called a Fed.

"Graboid Rights" begins with environmentalist protestors invading Perfection Valley and disrupting the residents' life. They are against exploitation of graboids, so they chain themselves to Tyler's tour jeep, and sabotage the seismo geophones. The end justifies the means, holier than thou, etcetera. One of the culprits is Mindy Sterngood, daughter of Nancy, who grew up in the valley and was last seen in TREMORS 3. She disappeared off to college where she fell under the influence of an environmentalist who is exploiting her knowledge of the area for the protests.

One of the researchers associated with the protests decides to strengthen her position that the presence of humans is harming El Blanco, so she begins feeding it with poisoned bait, not to kill it but to make it sick. Her assistant is also setting out bait when El Blanco gets him. Unfortunately for El Blanco, the man had all the poison in his pocket, so the graboid ended up swallowing a lethal dose. It surfaces on the main street in Perfection in the middle of the protestors, and lays there quietly dying. The researcher who poisoned it is found out and helps concoct an antidote. Even a sick graboid is too dangerous to approach, so Mindy uses her college softball skills to lob the antidote down El Blanco's throat.

The ending is a bit cliched. The researcher confesses with a sob in her throat "Yes! I did it! And I'd gladly do it again!" Twitchell shows up with some U.S. Marshals and hauls away the ringleaders. Mindy breaks off with her environmentalist boyfriend. Music up and jump to the end credits.

"The Key" was the final episode and is the sequel to "Hit And Run". Frank is in Las Vegas, suffering from nightmares about the graboid. His girlfriend is

Dolores, a showgirl who used to be Max's girlfriend before he was eaten by El Blanco. She pushes him to go back to Perfection Valley and get that key out of the graboid. Frank has another problem, a bounty on his head, since the Mafia wants to get those \$20 million in bearer bonds out of that safe-deposit box.

Dolores brings in Uncle Helmut (not her real uncle, just a nickname), who invented a sonic-wave gun. He is still bitter that the Department of Defense rejected it, but Dolores thinks it would make a great graboid killer.

Meanwhile, Larry the fanboy is making a video for his Website about Perfection Valley. He explores an abandoned farm building when he is knocked down by an invisible creature. The Perfectionites don't take him seriously, but when he freeze-frames his camera, he sees the ghostly outline of what looks like a cross between a bat and a hummingbird, an obvious Mixmaster creature. He calls it the Invisibat.

Dolores arrives in Perfection. Rosalita recognizes her but not vice versa. She butters up Tyler into giving her a graboid tour but to her annoyance she has to share the ride with a yuppie tourist who pulled into town just after her. Rosalita, flaming with jealousy, also inserts herself into the tour. Frank and Uncle Helmut show up elsewhere in the valley, where they later meet up with Dolores and plan an ambush of El Blanco.

In a complicated series of events, there are betrayals, Uncle Helmut is eaten by you-know-who, and in turn El Blanco is stunned unconscious by Frank wielding the sonic-wave gun. Various Perfectionites show up, the unconscious graboid is winched onto a truck, and is hauled to that abandoned building for chainsaw dissection by the Vegas gang to get that key. Dolores is careless, being too close to El Blanco when it suddenly revives, and Frank escapes on foot. He manages to flag down a car which turns out to be driven by the yuppie tourist, who turns out to be a hit man from the mob. Fade to black and the sound of a silenced pistol.

In the epilogue, the Invisibat is still loose out in the valley. We see the final scene through its distorted vision, and then the end credits roll. Unfortunately we will never know the resolution because the series was canceled before the next episode was filmed.



**In This Change Is My Invention Spent: Mixmaster.**

“Project 4-12” is the introduction to the Mixmaster series, with Cletus Poffenberger as a mad scientist who has been living a couple valleys over from Perfection (played by Christopher Lloyd, inheriting the mantle of Vincent Price and Boris Karloff). In the opening segment of the episode he is seen desperately searching for blue diamond cholla cactus (an *Opuntia* species), the extract of which he uses to keep his carnivorous Mixmaster beast 4-12 under control. Unfortunately for me, the suspense was ruined because the cactus Poffenberger was inspecting was either *Echinocactus* or *Trichocereus* (difficult to tell without flowers) and nothing at all like a cholla. No wonder he has problems.

4-12 escapes, ravenously hungry, and Poffenberger chases it on foot across the valleys into Perfection Valley. Burt finds him near death from dehydration and brings him into the hamlet. Nancy cleans him up and draws out information about his past. 4-12 arrives in Perfection and begins his attacks. It looks like a giant badger with a rhinoceros horn and hide, big teeth, and is low-slung to the ground. It kills by impaling its prey with its horn, then ripping their guts out with his teeth. It has X-ray vision and is programmed to hunt in a grid.

The back story is filled in when Poffenberger has a talk with Burt while they are out in the valley trying to locate 4-12. Poffenberger worked for the Proud Foot Corporation in the 1960s. They were a rogue operation who sold nasty stuff out the back door until the federal government shut them down and closed their secret underground laboratory. Poffenberger took 4-12, just a pup then, and fled out into the desert. He wasn’t paranoid; he really did have enemies. Burt is miffed. For decades he has been a survivalist suspicious of the government even though they didn’t care about him. Now he has been outdone by someone who really does have the government conspiring against him.

The project that Poffenberger was working on was Mixmaster, a chemical that allowed gene splicing between vastly different species. This was in the 1960s, long before the modern methods of DNA recombination were developed. 4-12 was bred for use in Vietnam, to be dropped into Viet Cong areas where it and its siblings would remorselessly hunt down the enemy.

Even El Blanco can’t deal with 4-12, swallowing it but upchucking it a moment later because it was bred to excrete a foul slime in emergencies. The residents of Perfection are on a new learning curve, since 4-12 doesn’t hunt or attack the same way as graboids, shriekers, and ass-blasters.

4-12 traps the men in a Quonset hut. They have no weapons but improvise with what they can find. Some paint thinner, a portable generator, and a compressed air hose make a passable flame thrower. They burn it to death. Its agonies and death screams are heartbreaking but necessary. Cletus returns to his valley, and Burt begins searching for the abandoned laboratory.

“Ghost Dance” carries on the story. Three bit players going into an abandoned mine don’t even make it to the opening theme music. One of them lives long enough to say there was a ghost. It was a glowing green cloud in the mine, dehydrating whatever it touched in seconds, including the bit players. The plot gets rolling with the usual procedure: denial, reluctant realization, then the horror!, and the final fight to the death.

Burt, Tyler, and Twitchell return to the mine and discover an air ventilation duct descending down. It appears to be the air intake to the abandoned secret lab and is where the green cloud came from. Returning to town, they meet up with two agents claiming to be from the EPA. Twitchell tangles with them about who has jurisdiction and loses. The two agents head to the mine, find the green cloud has grown, and is now outside the mine entrance. They try to kill it with a special spray but fail. The green cloud doesn’t fail; it gets one of the agents and sucks him dry in a few seconds.

The surviving agent meets up with Burt and Tyler. He admits the truth, that the bacteria was created in the lab, but it was supposed to be an orange cloud. Burt thinks out loud that it was a Cold War weapon, but the agent tells him no, it was developed as a low-cost food dehydrator for countries without refrigeration. The project failed because the bacteria could not be controlled after they had done their job. As Burt blushes, Tyler reminds him that not everything is an evil plot to destroy the world.

Cletus is brought back and determines the bacteria was contaminated by Mixmaster left behind in the abandoned laboratory. Over the years, the container of Mixmaster must have corroded, made contact with the bacteria, and merged DNA samples into them. The bacterial green cloud sloughs off dead cells onto the ground which are eaten by tiny insects, which are eaten by bigger insects, and so on up the food chain.

The problem is that the Mixmaster compound also spreads up the food chain, producing a progression of mutants. There are countless mutations, although 99% or more are stillborn, die shortly after birth, or are harmless. Cletus says

that Mixmaster was specifically designed not to affect humans, so there is that. But even if only 1% of the mutations survive, some of them will be harmful or actively dangerous. They will make the graboids seem like toy poodles.

The green cloud having left the mine, it is now roaming the valley looking for water, and growing in size with each drop it sucks up. Since Perfection Valley is in the desert, the good luck is that the cloud has trouble finding water. It empties one of Rosalita’s cattle troughs, then heads to Perfection hamlet, which has a large water tower serving the residents.

The surviving Fed made a phone call and tells the Perfectionites that he has ordered a surgical napalm strike on the water tower. One of them asks him to define “surgical”. About four square miles, it transpires. Goodbye to Perfection hamlet. To forestall the strike, Burt and Tyler jury-rig a vacuum cleaner onto a keg and hook it up to the power take-off on Burt’s pickup. They will suck the green cloud into the keg and seal it within. Nancy watches them rig the device and wonders aloud to Cletus if it will work. He replies: *“There’s a thin line between genius and insanity.”*

It works with no seconds to spare, and the Feds haul it away. In the epilogue, everyone is happy but Cletus. He points out that Mixmaster is still loose in the valley. There will be more to the story.

“Flora Or Fauna” does indeed carry on the story of the Mixmaster genes. It starts off with Jodi being annoyed in her store by Larry Norval, an obnoxious fanboy. I know the type, having attended many SF conventions, and do my best to avoid them. From the way in which the scriptwriter perfectly delineated Larry, I suspect the writer went to a few conventions as well.

Tyler needs eight tourists to conduct his graboid tour in order to pay his expenses and make a profit. He gets a booking which turns out to be Larry, who bought eight tickets so he could have Tyler to himself for the tour. Tyler isn’t too thrilled and one can see why. Larry is the epitome of those obsessive fans. He has memorized every detail about graboids and just won’t stop talking. It doesn’t take long for him to annoy everyone in the valley.

More seriously, Dr. Casey Matthews is a geneticist hired by the Department of the Interior to research the effects of Mixmaster on the valley, and in particular to determine if it is airborne. She sets up a portable laboratory in the desert. Two of her researchers go out surveying and become the first victims of

underground plant sacs that spray a huge burst of strong acid when disturbed by vibrations such as footsteps.

Tyler fetches Cletus, and the two men visit Casey and her surviving associates. They have determined in their lab that the remains of the two men are loaded with the Mixmaster compound. She sends two more men out to search for the cause of death at the scene. One of them trips another acid-filled sac but his partner saw how it happened, and now everyone knows what to look for.

The acid was sprayed from hidden sacs that are connected by long roots to a central plant. The sacs cover a huge area. The liquid solution from the dissolved victims soaks into the ground and is absorbed by the plant as nutrients. When Burt, Tyler, and the scientists map the edge of the plant, they find it has spread out over several acres.



Cletus says one component of the gene mix was from the Amazonian pitcher plant. Pause for digression. I don’t keep them anymore because Calgary’s humidity is too low, but back in the 1980s I had a number of carnivorous plant species, including pitcher plants.

The South American genus of pitcher plants is *Heliamphora*, whose digestive juices are extremely weak, meant for insects and arachnids. The juices could not possibly be as

strong as the Mixmaster plant, which dissolved humans down to their skeletons in seconds.

The contractive tissues that squeeze the sac and spray the acid are said to be from the Venus flytrap, but their leaf traps cannot hold anything stronger than a fly. The Mixmaster plant has a rudimentary nervous system that may have come from a lizard or snake. It seems more likely to be the source of the muscles on the sac.



There is also the revelation that the plant has a circulatory system, which the characters speculate also came from reptiles. Actually all plants above the level of algae have not one but two circulatory systems; xylem (which moves water) and phloem (which moves sap), so it wasn't necessary to invent that.

Burt, Tyler, and the scientists spot the central plant from which all the roots and sacs radiate. If they kill it, they will kill all the sacs as well. The problem is that to reach it they must traverse a minefield of acid spraying sacs.

As they debate how to do it, Larry, making himself troublesome as usual, finds them and comes running up to them to see what they are doing. He was on the other side of the plant, and somehow managed to run across the field without being dissolved by any sacs. God protects fools, as the saying goes.

A spent sac and part of its root are taken back to the lab. While doing tests on it, the sac extrudes a seed pod which a few hours later opens and fires thousands of seeds into the air. The seeds have fluff on them to help dispersal on the winds, like poplars or dandelions. Fortunately the lab can be sealed and vacuumed. Unfortunately the plant out in the field can't. The crew walk outside and see thousands of seed pods ready to burst. The central plant must be poisoned before that happens.

No one can walk across to the central plant, not even Larry, who wouldn't be lucky the second time. Driving a truck wouldn't work, as the vehicle tires and drivetrain would be dissolved by acid sacs before it was halfway, plus it would burst open seed pods driving over them.

The scientists have several tethered weather balloons, so they combine them to make a man-carrying balloon that can be roped across to the central plant. With the usual alarms, Tyler makes it and injects the poison into the central plant, killing it and all the seed pods. The plant screams in agony as it dies, but better it than humanity. Another Mixmaster crisis solved.

But not for long. Melvin Plug reappears in "Water Hazard", where he is just about to put Phase 1 of Oasis, his new development, on sale in a valley near Bixby. It is a golf course community with a large pond, although Plug doesn't like it when people call it that. He insists that it's a lagoon. Since it is in the desert, the problem is filling it with water. Nearby Perfection Valley is a tempting place to steal water from, via an underground well. A well that turns out to be contaminated by Mixmaster.

Rosalita is looking for a job because her ranch isn't paying well. She meets Mel at the pond, pardon me, lagoon, but the job interview is cut short when they find a chewed-up body in the water. On shore there is a giant scale and some tracks. The monster of the week is a man-sized shrimp, courtesy of Mixmaster.

After a few more fatalities, Mel decides to solve the problem by "accidentally" dumping 1,000 gallons of diesel from a tanker truck that was left parked overnight on the shoreline of the pond. It doesn't kill the critter, which instead crawls out of the water, goes overland, and soon finds a canal.

From there it swims downstream towards the reservoir. It must be stopped before then because the crew will never find it in the reservoir, and if it dies in there, its Mixmaster will be released into the water and create who knows how many more chimeras.

They can't shoot it in the canal because that would release Mixmaster through the bullet holes, so they jury-rig a barrier out of fence sections. They then get a large supply of dry ice (don't ask) and dump it in so as to freeze the giant shrimp to death.

Cheers all around at a job well done. Except for Mel, whose pond is now a Superfund site that will cost him \$500,000 to clean up. Rosalita knows he stole the Mixmaster water from Perfection Valley, so she blackmails him for a large sum that will pay a more than a few bills.

"The Sounds Of Silence" introduces Dr. Donna Debevic, a female version of Burt. He, by the way, is not in the episode. Tyler tells her Burt is in Idaho. Donna has the loan of Dr. Casey Matthews's laboratory in the valley, Casey being back at the university. Donna's project is recording the sounds made by El Blanco. While doing so, something else emits a loud ultrasonic shriek that knocks out her system and the seismo system in the valley.

But there's even worse trouble in the valley. Larry the fanboy shows up again, only this time he means to settle in Perfection. No graboid or Mixmaster beast caused as much alarm and worry. The Perfectionites try to evict him but Donna, having clashed with Tyler, hires him as her driver just to spite them.

The source of the ultrasonic sounds is eating fence posts, as in vanishing them completely and leaving the barbed wire untouched. Rosalita is the first to see them when they swarm her garage while she is in the car. The garage

disappears under the mouthparts of the swarm. Rosalita drives away and heads into Perfection. A few of the swarm were crushed by the windshield wipers.

Using them as samples, Donna determines they are a Mixmaster blend of cicada, termite, and maggot. That last one is dangerous because maggots eat flesh. It's not a long time before the swarm gets its fill of wood and switches over to meat, such as a herd of cattle.

Donna has recordings of mating calls of various insects. She and Tyler set up a stereo system in the trunk of Larry's car, and the three use the broadcast sounds to lure the swarm away from Perfection and into a trap down the road where they will burn the swarm. The swarm only travels at a fast walk, so they putter down the road in first gear. Larry remarks that it is the world's slowest car chase. But all ends well, and the swarm is eradicated.

**Epilogue.**

The series was canceled after thirteen episodes, which was a shame. It had lots of dry humour, and good continuity. The scientific basis for various events was sometimes handwaving and pay-no-attention-to-the-man-behind-the-curtain, but there was an obvious effort to provide reasonable explanations. Well recommended.

**IT WAS FUN WHILE IT LASTED**  
photos by Dale Speirs

The Calgary Flames fizzled out on May 10, losing Round 2 of the Stanley Cup finals to Anaheim in four games to one. The jerseys and flags will be put away until next year. Here are a few photos I took around town during Round 2.

Stores dressed up for the games, the example below at the 8 Avenue South pedestrian mall downtown. Kanata, by the way, is the original pronunciation of Canada, and is a popular name with businesses (as are Adanac and Canuck).



Car flags are common in the sports season.





Like most professional sports teams, the Flames change their colours every few years so they can sell more jerseys and knickknacks to fans.

Gott mit uns.



Flames banners on 12 Avenue SW in the Beltline district.

## LETTERS TO THE EDITOR

[Editor's remarks in square brackets. Please include your name and town when sending a comment. Email to [opuntia57@hotmail.com](mailto:opuntia57@hotmail.com)]

FROM: Milt Stevens  
Simi Valley, California

2015-05-10

Much of OPUNTIA #303 is devoted to Ferguson's book on alternative history. The number of alternative histories may not truly be infinite, but they are large enough that we can kick the subject around for as much of forever as we are going to occupy. The most general question in alternative history is "Where are you going to cut the salami?" I've seen good arguments presented that the origins of the world wars of the 20th century were in the Thirty Years War.

[I'm inclined to agree that the Thirty Years War of 1618 to 1648 was the real World War One, since the Europeans were fighting each other in the Americas, Africa, and Asia, as well as the home continent.]

When I was in high school, history classes taught that US entry into WW1 was a great idea. Since that time, historians have changed their minds, and US entry into WWI is now considered a terrible idea. When I was in high school The Spanish-American War wasn't even mentioned. Most of us kids knew that schools only taught us what they wanted us to believe. We knew about the Spanish-American War, and we knew it was an example of naked imperialism. That war made us an imperial power. The next step in our national development was to show we could play with the big kids. We would have been in WW1 earlier than 1917, but it took us that long to think of a self righteous excuse.

[We were taught in Alberta schools that because of the way the British treated Canadian forces in WW1, as native auxiliaries rather than an independent nation, it led to the insistence during the next war that Canada would fight as an independent force, which it did.]

In OPUNTIA #305, we have pictures from a 100,000 person comic con in Calgary. 100,000 people...Wow. The city government couldn't very well miss an event of that size. I can accept the appeal of actors and costumes and stuff. Those things don't interest me, but I know there are people who like them. It's the magnitude of the thing that astounds me. I've always thought of worldcons

being fairly popular, but this comic con was twenty times the size of a Worldcon. Jeez.

[The Calgary comic con is a medium-size show compared to some of the big American events such as San Diego and New York. This year it took over about two-thirds of the Stampede rodeo grounds. I wouldn't be surprised if they found a way to use the livestock barns and rodeo infield next year. (Maybe the furies could have their events in them.) SF Worldcons are small potatoes in the convention industry. Some of them have been held in cities where they weren't even the biggest convention that weekend.]

In OPUNTIA #306, I very much enjoyed your article on the paperback magazines. The paperback magazines sounded like a good idea at the time. However, they didn't really appeal to me in the way some magazines did. My habit patterns were already established, and the paperback magazines didn't appeal to those habits.

Incidentally, I've never been fond of science articles in SF magazines. I wanted fiction, and they were giving me science article fillers. From reading old SF magazines, I learned there was nothing more worthless than an old science article. I could get more out of old fanzine reviews and letter columns.

[Bear in mind though, that a magazine publisher doesn't care what posterity thinks of an issue; it is the current sales figure that matters. The science fact articles were cutting edge at the time, even if now obsolete, and that attracted many readers such as myself. I try to skim the current literature, hence my "Seen In The Literature" column. I can't read everything and hence rely on some of the popular science magazines for breaking news, then backtrack to the original paper in the peer-reviewed literature.]

FROM: Charles Rector  
Woodstock, Illinois

2015-05-11

Is there any chance that you will be following up your Nero Wolfe review with more about the eccentric detective? Such as for instance about the William Conrad/Lee Horsley TV series from the early 1980's?

[Not the television series, but the book reviews will continue as I get time to write them.]



Interesting focus on the Calgary Flames this issue given how they could not possibly have held their own against the Blackhawks in the Western Conference Finals if they had somehow outlasted the Ducks. What is it about Calgary and Canada in general that they can support hockey, but not minor league baseball or even a decent pro football league?

[In a word: winter. In Canada, high school or university baseball and football leagues have a very short season in autumn and a brief season in spring. Without a source of junior players, such professional leagues cannot thrive here. On the other hand, every Canadian suburban neighbourhood has dozens of backyard hockey rinks and park rinks in winter where kids can play anytime.]

While we're at it, the lack of any mention of the Calgary Comics Expo was particularly glaring. Was the expulsion of the Honey Badger Brigade that much of an embarrassment?

[As I have mentioned in previous issues, I don't go to commercial conventions such as comic cons, and so have never been to the Calgary event. The parade was a public event through the downtown core, so I took photos. The petty squabbles of fandom, whether cosplayers or Hugo awards, are of little interest to me. I leave it to others to record who said what to whom in whatever blog.]

## WORLD WIDE PARTY ON JUNE 21

Founded by Benoit Girard (Quebec) and Franz Miklis (Austria) in 1994, the World Wide Party is held on June 21 every year. 2015 will be the 21st year of the WWP.

At 21h00 local time on June 21, everyone is invited to raise a glass and toast fellow members of the Papernet around the world. It is important to have it exactly at 21h00 your time. The idea is to get a wave of fellowship circling the planet. Rescheduling it to a club meeting or more convenient time negates the idea of a wave of celebration by SF fans and zinesters circling the globe.

Raise a glass, publish a one-shot, have a party, or do a mail art project for the WWP. Let me know how you celebrated the day.

## SEEN IN THE LITERATURE

Dell'Anno, A., C. Corinaldesia, and R. Danovaro (2015) **Virus decomposition provides an important contribution to benthic deep-sea ecosystem functioning**. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 112:E2014–E2019

Speirs: In the abstract below, prokaryotes are single-celled microbes that do not have nuclei or organelles. Their DNA floats freely in the cell plasma and is not protected inside a membrane. Lysis is the destruction of a cell by the reproducing virus, when it bursts open and releases the replicated viruses.

Authors' abstract: *“Viruses proliferate at the expense of their hosts. After cell death the released viruses can infect other hosts or undergo decomposition processes. Here we show, for the first time to our knowledge, that in deep-sea ecosystems, the largest biome of the biosphere, approximately 25% of viruses released by lysed prokaryotic cells are decomposed at fast rates. We show that, given the huge viral biomass of the ocean seafloor and the high rates of this process, virus decomposition provides a major source of labile organic compounds able to sustain the microbial food webs and nutrient cycling at a global scale. ...”*

*“Viruses are key biological agents of prokaryotic mortality in the world oceans, particularly in deep-sea ecosystems where nearly all of the prokaryotic C production is transformed into organic detritus. However, the extent to which the decomposition of viral particles (i.e., organic material of viral origin) influences the functioning of benthic deep-sea ecosystems remains completely unknown. Here, using various independent approaches, we show that in deep-sea sediments an important fraction of viruses, once they are released by cell lysis, undergo fast decomposition. Virus decomposition rates in deep-sea sediments are high even at abyssal depths and are controlled primarily by the extracellular enzymatic activities that hydrolyze the proteins of the viral capsids. We estimate that on a global scale the decomposition of benthic viruses releases about 37–50 megatons of C per year and thus represents an important source of labile organic compounds in deep-sea ecosystems. Organic material released from decomposed viruses is equivalent to  $3 \pm 1\%$ ,  $6 \pm 2\%$ , and  $12 \pm 3\%$  of the input of photosynthetically produced C, N, and P supplied through particles sinking to bathyal/abyssal sediments.”*

Breure, A.S.H. (2015) **The sound of a snail: two cases of acoustic defence in gastropods.** JOURNAL OF MOLLUSCAN STUDIES 81:290–293

Author's abstract: “Recently, G. Woehl and a colleague, while collecting amphibians at night in Brazil, recorded the sound of a snail by serendipity. The snail was found in leaf litter in Araucaria forest at Itaiópolis, Santa Catarina State, on 16 November 2013, where it had been attacked by a predator (presumably a mammal) shortly before. When they found the snail, it also secreted an orange mucus, possibly as a defensive mechanism. According to Woehl (personal communication) “the snail was moving and foaming”. In other words, it was alternately retracting after the shell was touched and then emerging and producing mucus. Moreover, the snail repeatedly emitted a sound when touched, of which one instance was recorded with a Sony voice recorder ICD-PX312.”

Speirs: This article reminded me of the comic strip "B.C." which had a running gag about clams trying to keep it secret that they had legs, only to have cavemen spotting them and shouting “Clams got legs!” You nature lovers who go exploring in the swamps and forests can now try touching any snails you find and listening closely for sounds.

Waters, M.R., et al (2015) **Late Pleistocene horse and camel hunting at the southern margin of the ice-free corridor: Reassessing the age of Wally’s Beach, Canada.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 112:4263–4267

Authors' abstract: "The only certain evidence for prehistoric human hunting of horse and camel in North America occurs at the Wally’s Beach site, Canada. Here, the butchered remains of seven horses and one camel are associated with 29 nondiagnostic lithic artifacts. Twenty-seven new radiocarbon ages on the bones of these animals revise the age of these kill and butchering localities to 13,300 calibrated yB.P. The tight chronological clustering of the eight kill localities at Wally’s Beach indicates these animals were killed over a short period. Human hunting of horse and camel in Canada, coupled with mammoth, mastodon, sloth, and gomphothere hunting documented at other sites from 14,800–12,700 calibrated y B.P., show that 6 of the 36 genera of megafauna that went extinct by approximately 12,700 calibrated y B.P. were hunted by humans. This study shows the importance of accurate geochronology, without which significant discoveries will go unrecognized and the empirical data used

to build models explaining the peopling of the Americas and Pleistocene extinctions will be in error."

Speirs: Wally’s Beach is in southwestern Alberta on the Saint Mary River reservoir shoreline. The area was covered by the continental ice sheet 16,000 years ago, but 4,000 years later was open land when the humans who butchered horses and a camel at this site were there. The megafauna of North America, such as camels, horses, mastodons, and sloths were hunted to extinction over the next few centuries by humans.

Benitez-Llambay, P., et al (2015) **Planet heating prevents inward migration of planetary cores.** NATURE 520:63-65

Authors' abstract: "Planetary systems are born in the disks of gas, dust and rocky fragments that surround newly formed stars. Solid content assembles into ever-larger rocky fragments that eventually become planetary embryos. These then continue their growth by accreting leftover material in the disk. Concurrently, tidal effects in the disk cause a radial drift in the embryo orbits, a process known as migration. Fast inward migration is predicted by theory for embryos smaller than three to five Earth masses. With only inward migration, these embryos can only rarely become giant planets located at Earth’s distance from the Sun and beyond, in contrast with observations. Here we report that asymmetries in the temperature rise associated with accreting infalling material produce a force (which gives rise to an effect that we call ‘heating torque’) that counteracts inward migration. This provides a channel for the formation of giant planets and also explains the strong planet-metallicity correlation found between the incidence of giant planets and the heavy-element abundance of the host stars."