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NEW WEST FEATURE

Climate Change Looms Large for Rare Glacier National Park Bug

Number 260 and waiting: the meltwater lednian stonefly and why it's standing in line for protection.

By Brendon Bosworth, 4-18-11

Montana's Glacier National Park is expected to look quite different in 20 years time. Scientists predict that that the park's remaining 25 glaciers will disappear by 2030, their icy faces having melted as a result of global warming.



Photo courtesy Joe Giersch, USGS.

Along with the depletion of the sanctum's permanent snowfields, the destruction of the glaciers is predicted to take its toll on a lesser-known insect, the meltwater lednian stonefly, which researchers have observed in just 11 of the park's frigid alpine streams.

The Waterton-Glacier International Peace Park, which incorporates Canada's Waterton Lakes National Park and Glacier National Park, is the only place where scientists have documented the rare bug. A handful of Glacier National Park's frosty waters, fed by crisp glacial and snow run-off in the summer time, are well suited to the stonefly's requirements, since it inhabits streams with average summer water temperatures of less than 50 degrees.

In a recent study, scientists from the U.S. Geological Survey predict the stonefly will lose more than 80 percent of its habitat due to melting glaciers and reduced snowpack in the park, which could ultimately result in its extinction. And while the tribulations of this obscure invertebrate might not seem of dire importance, the stonefly's plight speaks of challenges facing other vulnerable alpine insects.

A community of unsung insects lives in Glacier National Park's waters. Some species of caddis fly are only found there and in the Canadian Rockies, while another rare insect - a type of amphipod, which is a little crustacean - has only been found at six locations in the park and nowhere else in the world, said Joe Giersch, an aquatic entomologist at the U.S. Geological Survey and co-author of the study.

Since the late '90s, Giersch has been trekking the park, scouting isolated alpine streams and springs for these insects. He is particularly proud of one caddis fly specimen, which he found only once and had not been seen since the '50s.

"The real take-home message is that we really aren't just dealing with one single species here. We're dealing with a whole ecosystem of interest: a very rare ecosystem that is dependent on very cold and permanent water," said Giersch over the phone from his office at the Northern Rocky Mountain Science Center in Montana.

Once streams fed by snowmelt and glacial melt have dried up or become intermittent, the "last refuge" for the insects would be streams fed by underground springs, he explained.

As the alpine streams the stonefly calls home continue to dwindle, it's likely stonefly populations will become more and more isolated, since the insect is not very mobile, he said.

"They're not very efficient fliers, so we don't think they can travel very far and re-colonize different streams," he said.

Stonefly Number 260 to Hit Endangered Species Waiting List

On April 4, the U.S. Fish and Wildlife Service announced that because of the meltwater lednian stonefly's impending predicament - a loss of its natural

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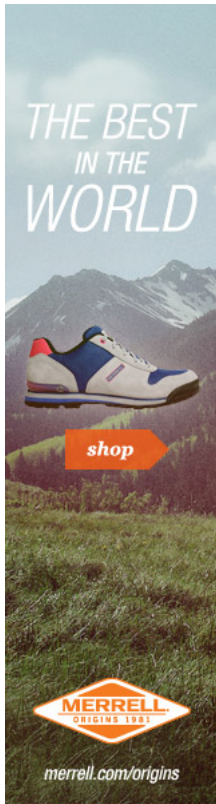
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habitat due to the glaciers melting – the insect warrants protection under the [Endangered Species Act](#). But, since other priority plants and animals need to be addressed, the stonefly will join 259 other species on a [list of candidates](#) for federal protection. The candidate species receive no statutory protection while on the waiting list. However, the Fish and Wildlife Service does provide [grants](#) to states and territories which have entered into a cooperative agreement with the agency to initiate voluntary conservation programs for candidate species on non-federal lands.

Species on the candidate list receive a listing priority number, ranging from 1, highest priority, to 12, lowest priority. The number is given because “there are not enough Service personnel, time, or money to propose all the candidate species for listing,” according to a Fish and Wildlife Service [document](#).

The Fish and Wildlife Service awarded the stonefly a priority number of 4. This does not guarantee a date when the stonefly will graduate to official endangered or threatened species status, since the Service has to process higher priority candidates before dealing with the lowly stonefly.

Some plants and animals have been on the waiting list for over 20 years, explained Tierra Curry, a conservation biologist with the [Center for Biological Diversity](#), a non-profit environmental organization working to protect native species and their habitats.

Twenty-four species have gone extinct or missing – defined by the Center’s researchers as “not having been recorded in 10 years despite survey efforts,” while idling on the candidate list, according to a [Center for Biological Diversity report](#). One such species is the [shortnose cisco](#), a salmon not seen since 1985 in the three Great Lakes – Michigan, Ontario, and Huron – it used to inhabit, chiefly due to overfishing.

Curry criticized the Obama administration for not doing enough to protect imperiled species.

“Obama’s endangered species record is terrible. He’s dragging his feet,” she said. “It’s extremely disappointing to those of us who were hoping for hope and change, because he hasn’t improved the Fish and Wildlife Service very much over the second Bush administration.”

“He’s done better than George W. Bush, but that’s no record to be proud of,” she said. “George W. Bush didn’t put a single species on the Endangered Species list that wasn’t court ordered.”

The Center for Biological Diversity has monitored government efforts to award endangered species protection dating back to 1974. The Obama government has given Endangered Species Act protection to 58 species so far. By contrast, President Clinton, somewhat of a champion of preservation, awarded federal protection to about 65 species per year, for a total of 522 protected species. George W. Bush listed 62 species during his two terms in office.

Stonefly Not Left Stranded

The status of candidate species is reviewed each year. While the stonefly waits in line, biologists from the Fish and Wildlife Service will be working with the USGS and academic scientists to get a better understanding of the stonefly’s dispersion, genetics, lifecycle and habitat needs, said Beth Dickerson, a Fish and Wildlife Service wildlife biologist, based at the Montana Field Office, who is responsible for updating the stonefly’s record each year.

It’s possible the stonefly might be found in other places in the Rocky Mountain area, she said.

“I would imagine it is going to show up, at least a little bit farther north and a little bit farther south,” said Giersch.

The scientists will be running experiments to identify the lethal limits of the temperatures the stonefly can survive. They will also be trying to figure out what the insects eat. Along with genetic research, this will provide a better idea of the stonefly’s ability to survive in the face of climate warming, Giersch explained.

Stonefly Not Alone in Facing Climate Change

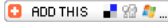
The Fish and Wildlife Service has identified climate change as the primary threat to the stonefly’s continued existence. But other candidate species in the Rocky Mountain West may also be affected by climate warming. The 2010 [Candidate Notice of Review](#), a Fish and Wildlife Service report providing updated information about all candidate species, mentions climate change as a potential threat to 19 candidate species. Nine of these species, including the Rio Grande Cutthroat trout – native to Colorado and New Mexico and found in the drainages of the Rio Grande, Pecos and Canadian rivers – reside in the Rocky Mountain West.

“Climate change is the number one future threat to biodiversity,” said Kassie Siegel, director of the Center for Biological Diversity’s Climate Law Institute,

over the phone from Los Angeles, where she was attending a conference on the Clean Air Act at the University of California, Los Angeles. "In the past it was habitat loss and introduced species, but climate change is going to overtake those – it's the largest threat we've ever faced."

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By **Brendon Bosworth**, 4-18-11 | [comments \(6\)](#) | [email](#)
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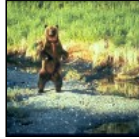
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Comments

By Craig Moore, 4-19-11

I thought the stoneflies were discussed here:
http://www.newwest.net/topic/article/protection_sought_for_rare_stonefly_found_only_in_glacier_national_p/C41/L41/

By bearbait, 4-19-11

Hard to be philosophical, a provocateur, a harbinger of the long, hot summer, when you are dealing with the coldest March on record. By this date, in my neck of the woods, we should have had 17 days of 60 degrees or warmer. We have had three. One in March, and two since April Fools Day. A vineyard operator told me last friday he had registered three (3) degree days of warming so far this season.

No spring chinook rushing up the Columbia River to their summer holding pools where they sit using little energy until the September spawning season. They are hung up in tide water and waiting for warmer water to move. We had a nice day today, albeit cold but sunny. The prognosticators are giving us wednesday through saturday, and then its a few days of warm rains, and then back to Chuchki Sea air and low elevation snow until May. I saw my third bumble bee of the year today. My first tree swallow. Nary a Vaux's swift to trace its circles in the evening sky. Cold sombitch. My son, now running yarder (the "drag queen" in today's lingo), says that windshield wipers, and a good heater are a welcome change from a life heretofore spent chasing chokers up and down the cow's face. He had snow, hail, rain, and hard assed cold wind all in one afternoon following a nice, sunny morning. Welcome to global warming. And bring your longjohns, rain gear, and your White's pack boots.

In the grand scheme of things, really, who gives a rat's ass about a phenotype of stonefly? Especially one in as preserved an environment as a National Park. Nature abhors a vacuum. What will take the meltwater lednian's place in the water column? No glacier is not a dried up stream, I will bet. There are still snow fields every year for 8 months or more. Just how anal is the American public supposed to be?? The habitat is preserved. Do you really think you are going to stop the Chinese from burning coal to grow their economy?? What regulation will "save the stonefly" while not harming someone's life or lifestyle?? Here. In the USA.

Take the same energy being used to champion a stone fly's life expectancy, and continuance as a species, and find a way to solve the

home ownership debacle in this country that has killed mobility, the ability to move to where fitting jobs are, for anyone who was ambitious, hard working enough, to have substantial equity in a home, once, who now cannot sell it, nor afford to abandon it, to go to where a fitting job might be. That is what killed our economy and continues to strangle it, and dump our collective ass deeper and deeper into the maw of irreparable credit default. The chance that cyclical climate anomalies might harm an insect has no positive economic impact. None. To study it is to take money from taxes via government, or to take taxes from government indirectly through tax forgiven income of a tax dodging trust or foundation. The stonefly is a taker. A public welfare client. So do you feed a homeless kid or preserve a stonefly with your taxes?? You can't do both today. Just like habitat for the stonefly cannot be preserved any more than it already is. We be \$14 Trillion in the hole, as a country, and stonefly aid ain't on the radar. Time to get real.

By big sky, 4-21-11

Agreed, Bearbaid, Agreed.....

Time to scrap the ESA.....

By Warren, 4-22-11

This global warming has to stop. We've simply got to get back to the Ice Age.

By bearbait, 4-22-11

The ESA is not the problem. The problem is a society so specialized that inordinate energy is devoted to a stone fly in a glacial stream in a National Park. Expecting an outcome of changing how people live worldwide is beyond the pale. And, all the global warming issue is so strange when Green Bay just had its greatest, latest snow fall (9"), the midwest is drowning in a succession of T storms on top of frozen ground, and the Far West is colder than a nun's habit in Lent.

Yes, we do use an inordinate amount of fossil fuel, and for the last thirty years, that is because we are afraid of nuclear power, abhor hydroelectric, and haven't really figured out solar panel ranches are not good habitat for anything that needs sunlight, and you had better have a good slant on them in snow country. Wind turbines are a blight on the countryside. A frigging blight. And work maybe 25% of the time, and then they are only there because of the vast government subsidies that we no longer can afford at a time when we need to raise the debt ceiling to more than \$14 frigging trillion dollars. Nobody, really, can understand \$14 Trillion dollars. Nobody. Not even Al Capp and his schmoos. And we are to be concerned with a stone fly phenotype in a stream already with the maximum protection government can give it in these United States of America??? Not withstanding our government's proclivity to start wars around the world, we really don't have even a Monroe Doctrine leg to stand on to stop Asian countries from burning fossil fuels, if that is, in fact, the reason for glacial recession and imminent danger to a form of stone fly.

What ever happened to "shit happens?" We live in this cosmic world, this universe, and have little control over sun spots and galaxy formations, black holes, dark stars and whatever. Change is the unintended consequence of living. Things, stuff, and people change, and so does all of the earth. Ask the Japanese who a century or more erected stone markers to note where the last huge tsunami had reached. Some of those stone markers were lost on this last one. And one whole village was without any impacts because no houses or homes were allowed below the stone that marked the point where the last "big one" had wiped homes off the landscape.

Volcanoes, earthquakes, tsunamis, cyclones and hurricanes, droughts and wet periods. All part of the nature of this planet, and its continuing change. The change I would like to see is our government quitting spending money it does not have. And Obama, he of "change", is not about to do that. So, I really don't give a rat's ass about melting glaciers. I do have to worry about stuff I can change, or control, or direct. Glaciers are not on that list. Adios, stone fly. Go dance with mammoths, dire wolves, and all the rest who just did not have the wherewithal to continue their existence. And, just maybe, that is our fate, too. We just might not be tough enough to outlast the cockroach.

By reality22, 4-25-11

Spend millions upon millions on wolves..... And when a creature

comes along that may need help with the ESA they find a weakened law that was severely abuses by anti-hunting groups!

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