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Subject: Re: Rob Nicholson speaking at the Torreya Symposium
Date: January 26, 2018 at 2:29 PM
To: Rob Nicholson rnichols@smith.edu
Cc: Jason Andrew Smith jasons@ufl.edu, Jared Westbrook jared.Westbrook@acf.org
Bcc: Janet Marinelli jmarinelli@earthlink.net

CB

Rob -

Great to hear that you will be doing a talk on "the distribution of Torreya over geological time and human interactions with the genus over time."

I get a sense that the group at the symposium will be **wrestling with the seemingly ever-present tension between a paleoecological vs a pathological perspective** on the plight of Florida Torreya. Another way of looking at that dispute is this: Is Fusarium the ultimate cause of Torreya's decline, or is it rather a proximate cause in which climate change (glacial relict, left-behind status) is the ultimate cause?

Whether or not you personally agree with the actions Torreya Guardians has been taking for a dozen years, I am confident that you will do a great job conveying the paleoecological perspective — which was front and center back when the 1984 ESA posting happened and the 1986 initial recovery plan. By the time your 1990 essay "Chasing Ghosts" was published in Natural History magazine, it is evident that you yourself were weighing the two competing perspectives.

My request is that, as you review the science resources in prep for your talk, you consult two items I make available on our website. One is my own long document, initially posted in 2010 (following my disappointment in the 2010 recovery plan update for Torreya) and that I have been ever-revising with new evidence and ideas. Title: **"Paleoecology and the Assisted Migration Debate: Why a Deep-Time Perspective is Vital"** (Torreya taxifolia as exemplar). Find it here:
http://www.torreyaguardians.org/assisted_migration_paleoecology.html

Also, I have been filling in the gaps in the "History of Torreya Guardians webpage" as a kind of one-stop-shop in an otherwise vast website. Do an internal "Find" there for "Delcourt", as Hazel Delcourt was part of the same early e-communications you were part of. In fact, she produced a draft paper for possible group co-authoring. It focuses on the paleo perspective (as, indeed, her book, Forests in Peril, is what incited me to get the discussion going). She titled this draft **"Is the Current Range of Torreya taxifolia Its True Native Range"** and you can click on that title to read it. So here is the History page where you can find it:
<http://www.torreyaguardians.org/guardians.html>

As I recall, her approach for species recovery was still too timid for the likes of me and Paul Martin, so we just went ahead and wrote our own radical advocacy paper and that is what Wild Earth published on the pro-side. Alas, Paul Martin is dead, Hazel Delcourt has disappeared, and so I have been left as the sole advocate of the paleo perspective. It deserves another round of attention I submit.

Along those lines, take a second look at the "Why Torreya Is Endangered" webpage. A volunteer is helping me go thru the website to ensure that all documents are available and linked. Well, your **"Chasing Ghosts" 1990 essay** was not linked. He found a humungous year-long Nat Hist pdf, so I grabbed stills off that of your essay pages, repackaged them, and made a new pdf (plus I drew upon more quotes from it, re glacial relict status, where I link to it on the extinction page. So go here and find it:
<http://www.torreyaguardians.org/extinction.html> Then download it and put that pdf onto your Smith College website and add it into your list of publications, too.

Three other topics I'd be grateful for you to think about as you frame your talk:

1. HOW FAR NORTH DOES FUSARIUM ATTACK TORREYA? I think there may be an evidential dispute that is crucial, and yet may not be resolvable at the meeting, absent field trips. That is, my personal experience in the Torreya grove at the Biltmore and at Harbison House in Highlands NC showed none of the stem/canker diseases that are so evident and ugly along the Apalachicola. Yet I think Jason Smith has some documentation otherwise on that (so I have cc-d him on this email). Obviously getting solid data on that question will be crucial for determining whether T. taxifolia is in the same boat as American Chestnut (e.g., hopelessly attacked by an exotic pathogen, no matter where we try to move it) or whether its plight is akin to the conifers in the climate-devastated mountain west that are succumbing to entirely native bark beetles.

2. EXTINCTION IN THE WILD v. EXTINCTION IN ITS HISTORICALLY NATIVE RANGE: The Torreya Symposium webpage states, "Although the species has been subject to extensive conservation interventions, its extinction in the wild is imminent." In my view one population "in the wild" is doing just fine near Highlands, NC. The 90-year-old, untended grove is naturalizing next-generation plants entirely on its own there. Please consult this webpage (where you can also "visit" that grove via my own video work):
<http://www.torreyaguardians.org/highlands.html> As well, in recent years Torreya Guardian volunteers have conducted a lot of "free-planting" of seeds directly into regrowth forest in northward states and getting some very promising results. (Soon I will post video footage I took in November of free-planted seeds become seedlings in the 232 acres of our newest volunteer: Cumberland Plateau TN, in very wild settings (notably, deep ravines).

3. SITE VISITS TO THE HARBISON GROVE AND TO WILD CALIFORNIA TORREYA SITES: In 2005 I visited 5 sites (Sierras, Santa Cruz, Napa Valley Coast Range) where I could walk among wild California Torreya's. I did not know enough back then to have documented as much as I would now, but I did get plenty of photos (accessible from our homepage) and a gestalt sense of (a) how rugged and resilient this species is, (b) how it often excels on the steepest slopes, and (c) how, just like our Eastern Hemlock, it has no difficulty hunkering down for decades, even centuries, beneath a dense canopy, waiting for a tree-fall for a chance to sprint skyward. My concern is that I may be the only one who has visited the California cousin specifically with the goal of ascertaining the

skyward. My concern is that I may be the only one who has visited the California coast specifically with the goal of ascertaining the habitat preferences our own Florida species likely has, as we experiment not only with "ex-situ" preservation plantings in botanical gardens but also with rewilding plantings — that is, seeds going directly into the tangled bank of wild forests in the southern Appalachians and Cumberland Plateau.

Thank you for your attention to these resources and these topics.

For Torreya,

Connie Barlow