

Rare Plant Status Review: *Dacryophyllum falcifolium*
Kristi Lazar (CNPS) and Roxanne Bittman (CNDDDB)
August 31, 2006

Background

Dacryophyllum falcifolium is a moss that is considered a member of the Hypnaceae. *Dacryophyllum falcifolium* is a newly described species that is most similar to the *Taxiphyllum* genus. It is currently known in California from 10 collections made from Monterey and Santa Cruz Counties, with 7 of these collections in or near state parks or reserves. This species is endemic to California and has been found most commonly on calcareous substrates and rock outcrops in coast redwood forests between 50 and 275 meters in elevation. Since this is a newly discovered species, more occurrences may be found upon further search of the coast redwood forests in Monterey and Santa Cruz Counties; however, it is hypothesized that this moss can not grow north of San Francisco nor away from the coastal canyons due to its narrow moisture requirements and increased competition from other bryophytes as one moves north. This species is known in California from approximately 10 occurrences and requires review for inclusion in both the CNPS Inventory and the CNDDDB.

Recommended Actions

CNPS: Add to CNPS List 1B.3

CNDDDB: Add to CNDDDB as G2G3 / S2S3

Please review the draft CNPS Inventory record below, respond Yes or No on the proposal to add this species to the Inventory and CNDDDB, and provide any edits/comments. If responding No, please provide supporting information.

Draft CNPS Inventory Record

Dacryophyllum falcifolium Ireland

Hypnaceae

List 1B.3

Monterey, Santa Cruz

320B [Partington Ridge/36121B6], 320D [Lopez Point/36121A5], 344D [Big Sur/36121C7], 387E [Santa Cruz/36122H1], 408D [Felton/37122A1]

Coast redwood forests / calcareous substrates; elevation 50-275 meters.

Moss.

Known in California from approximately 10 occurrences in Monterey and Santa Cruz Counties.

See Novon 14: 70-74 (2004) for original description.

Relevant E-mails (oldest to newest):

8/30/2006:

Hi Jim,

My name is Kristi Lazar and I am the rare plant botanist for CNPS. I am currently researching *Dacryophyllum falcifolium* for possible addition to the Inventory and am having trouble deciding whether it should be proposed as a List 1B (rare, threatened, or endangered in California and elsewhere) or a List 3 (need more information).

I was hoping that maybe you had a better sense than I do as to whether this species has so few occurrences (~10) because of how recently it was described (2004) or because it really is rare and is not likely to be found in too many other places. I know that this is a hard judgement to make (i.e. whether you think it will be found in many other places or not) but I would appreciate any insight that you may have into this issue. Thank you.

Sincerely

Kristi Lazar
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8/30/2006:

Hi Kristi:

You probably have not seen the paper just published about *Dacryophyllum* by Ken Kellman and me in the most recent issue of *Evansia*. I've attached the paper for your files.

Dacryophyllum is an endemic genus to California. It is rare and likely to remain so. Yes, it definitely should be on the CNPS Inventory. Threats at this time are lessened since we have now located it on state park lands and since we wrote this paper we have located one occurrence on the Los Padres NF.

-jim- (See attached file: *Dacryophyllum Evansia* 23, 2006.pdf)

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9/1/2006:

Kristi:

I'm a bit of a loss why you did not attach the pdf I sent you of the recently published (2006) *Dacryophyllum* paper to provide more context for review for this taxon. If you read that article, there is some uncertainty of the family placement, either *Dacryophyllum* is in the Hypnaceae or the Neckeraceae. We await further DNA testing for this to be decided since

Sent to CW Review Group, 8/31/06

sporophytes remain unknown for this species. Either way, this is a highly localized endemic (genus) and worthy of Inventory status. Some of these occurrences are measured in "square meters" in size so 10 occurrences can give the impression that there is lots of it. This species will not be confused with any other moss in California. Fortunately, most occurrences are not threatened, but it remains rare and is unlikely to be found beyond its current range due to lack of habitat/substrate specificity.

-jim-

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9/1/2006:

Hi Jim,

Generally when we send out status reviews we try to summarize all of the information we can gather on a species and don't want to "bog down" people with numerous article attachments. The article you attached was extremely helpful and I included some of that information in the species summaries. However, I would be more than happy to post the article on the Status Review Forum for people to look at.

I know that there is some uncertainty as to the family placement; however, I was under the impression that for now it is in the Hypnaceae. If this were to change in the future upon results from the DNA testing, then it would be a fairly easy thing to change in the CNPS Inventory because it would have no effect on the rarity of the species. However, thanks for bringing up this issue as it is probably a good thing to comment on in the Notes section (i.e. that "the family this species belongs to is still uncertain" or something to that effect).

I mentioned in the status review that this species was known from approximately 10 occurrences; however, we will not know officially how many occurrences until the CNDDDB gets the data and maps the coordinates (I think if the occurrences are more than a 1/4 mi apart then they are considered separate occurrences). It is difficult for me to tell how far apart they are from each other, and once they are mapped by CNDDDB the total number of occurrences may be fewer than 10. Regardless, 10 occurrences is extremely rare and I don't think that this will give people the impression that there is a lot of it.

I would like to post your e-mail on the Forum and with it I can include the article on *Dacryophyllum falcifolium*. Please let me know if this is okay as I think it would be good for people to know your opinion on the rarity of the species. Thanks and I hope that I was able to address the concerns that you mentioned in your e-mail.

Kristi

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