A brief introduction to finding sudden oak death symptoms on tanoak and California bay laurel

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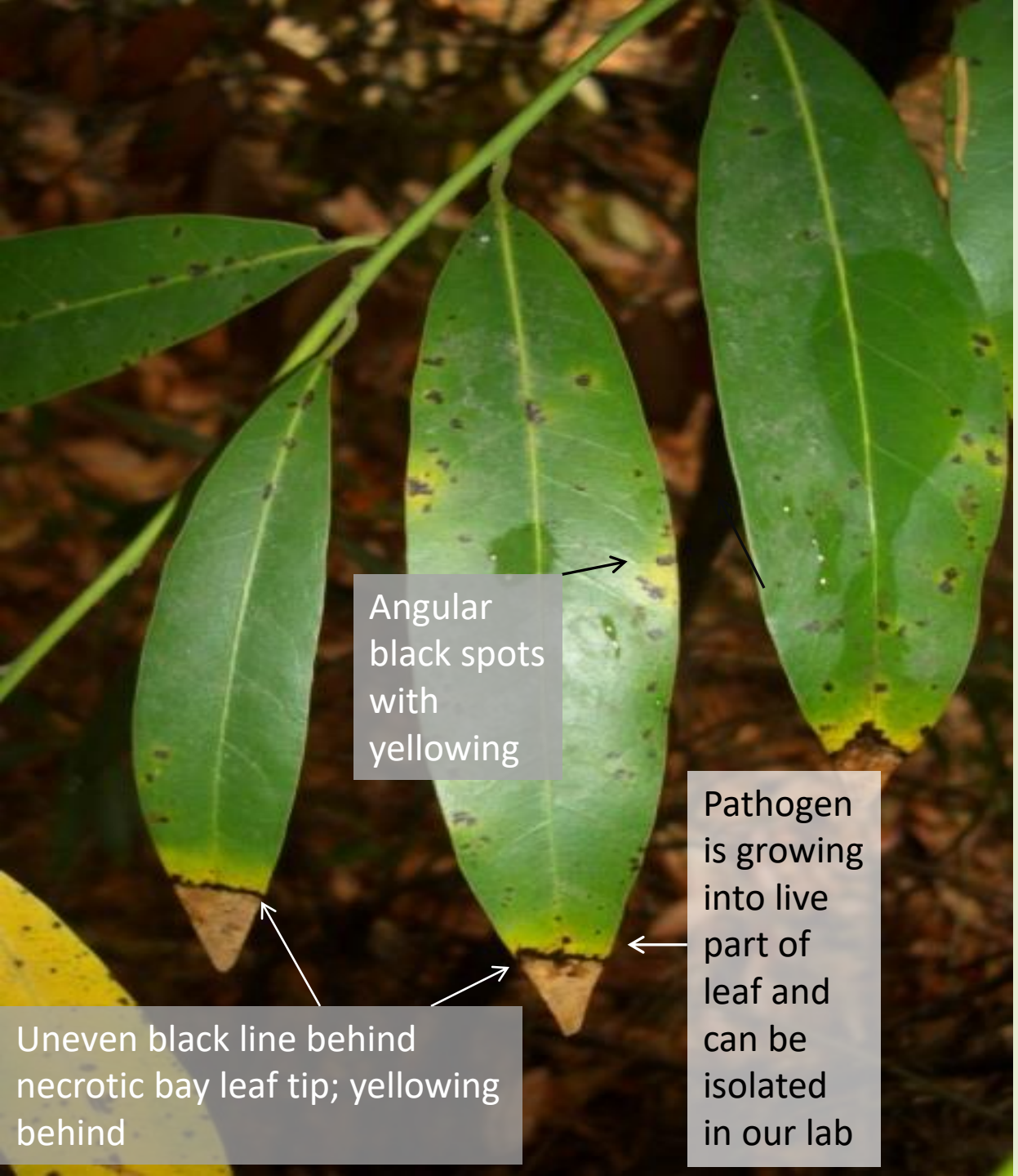
Collecting Procedures for **FREE** SOD testing

(mail or deliver to address on 1st page)

- Dead leaves and twigs (and even whole trees) are indeed symptoms of the disease, but lab testing requires live plant tissue—the parts where the pathogen is actively growing. The dead parts will help clue you in to infected plants. See the following pictures and descriptions.
- If you use a knife, pruners, etc., to remove symptomatic plant parts, please sterilize them with rubbing alcohol or Lysol before using them again (avoid spread to other plants).
- Keep samples cool—preferably refrigerated—until mailing or delivering them for testing. Be sure they are sealed in a plastic bag to avoid dropping pieces of infected plant material in other places (and potentially causing new infections!!).
- Make some note and/or sketch of where you take samples, so that they can be mapped as closely as possible in the case that they are infected. Coordinates from a GPS are ideal, but any detailed location information is helpful (e.g., mile markers, intersections, streams, etc.)



- This picture shows the most diagnostic (the "best") symptoms for *Phytphthora ramorum*—the pathogen that causes sudden oak death—on California bay laurel leaves.

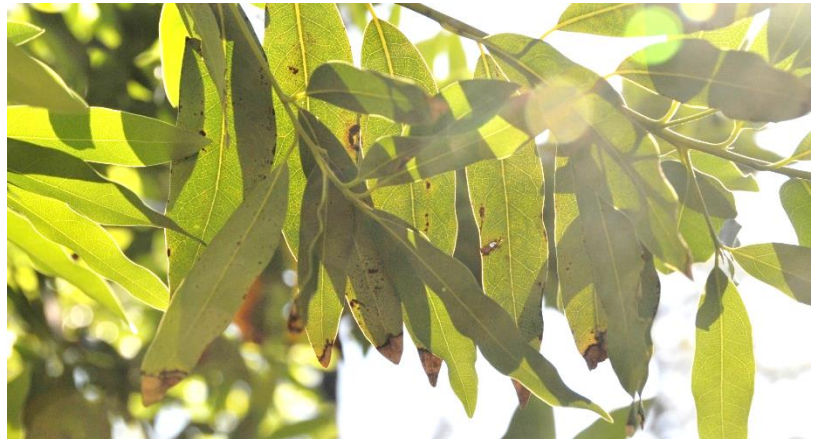
- Other pathogens can produce similar symptoms, so the leaves need to be tested by a lab.

- The disease does not kill bay laurel nor necessarily infect the majority of leaves on an infected tree. These infected leaves, however, support reproduction and further spread of the pathogen.

- Collect at least 10 leaves with such symptoms, where available, for free testing at our lab.

These symptoms can also be characteristic of a different, less virulent, pathogen. However, they may be symptoms of the SOD pathogen, and are worthwhile to collect for testing.

Additional examples of symptoms on bay



Bleeding trunk cankers on tanoak can be caused by *P. ramorum*. However, such cankers can also be caused by many other diseases—some lethal and some not—and sampling trunk tissues to test for *P. ramorum* is less reliable than testing twig lesions or lesions along leaf midribs (see following pages).

Although abundant cankers can help clue you in that sudden oak death might be active in your location, it is best to look for the few symptoms detailed on the following slides to find out whether or not you are really looking at sudden oak death syndrome.

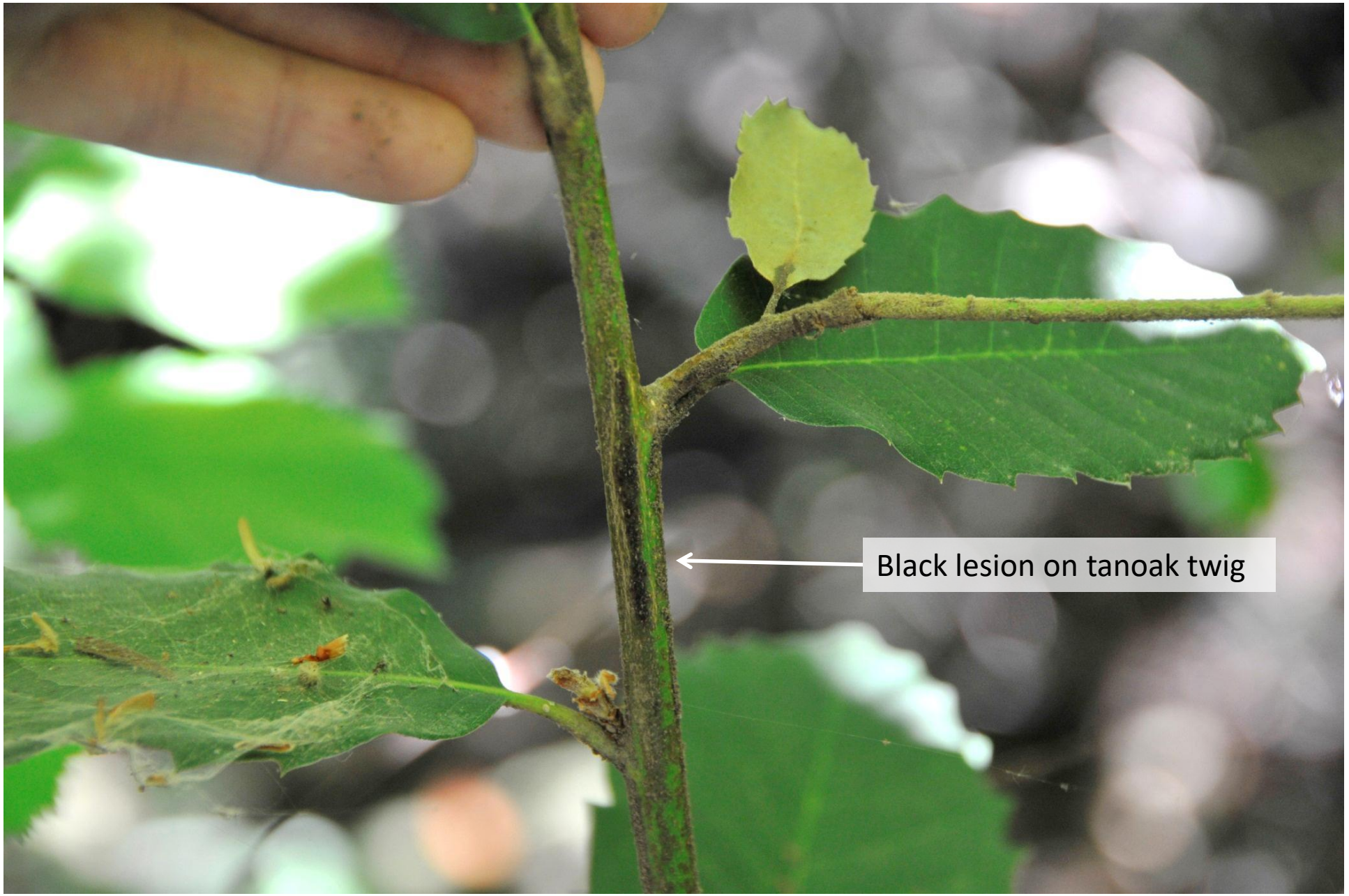
Leaf tip dieback on tanoak sprouts. Look for lesions on stems/twigs (see later pictures) at the base of and among the dead/dying leaves; for symptom collection, trim twig sections including the lesions and live tissue on either side of lesions.

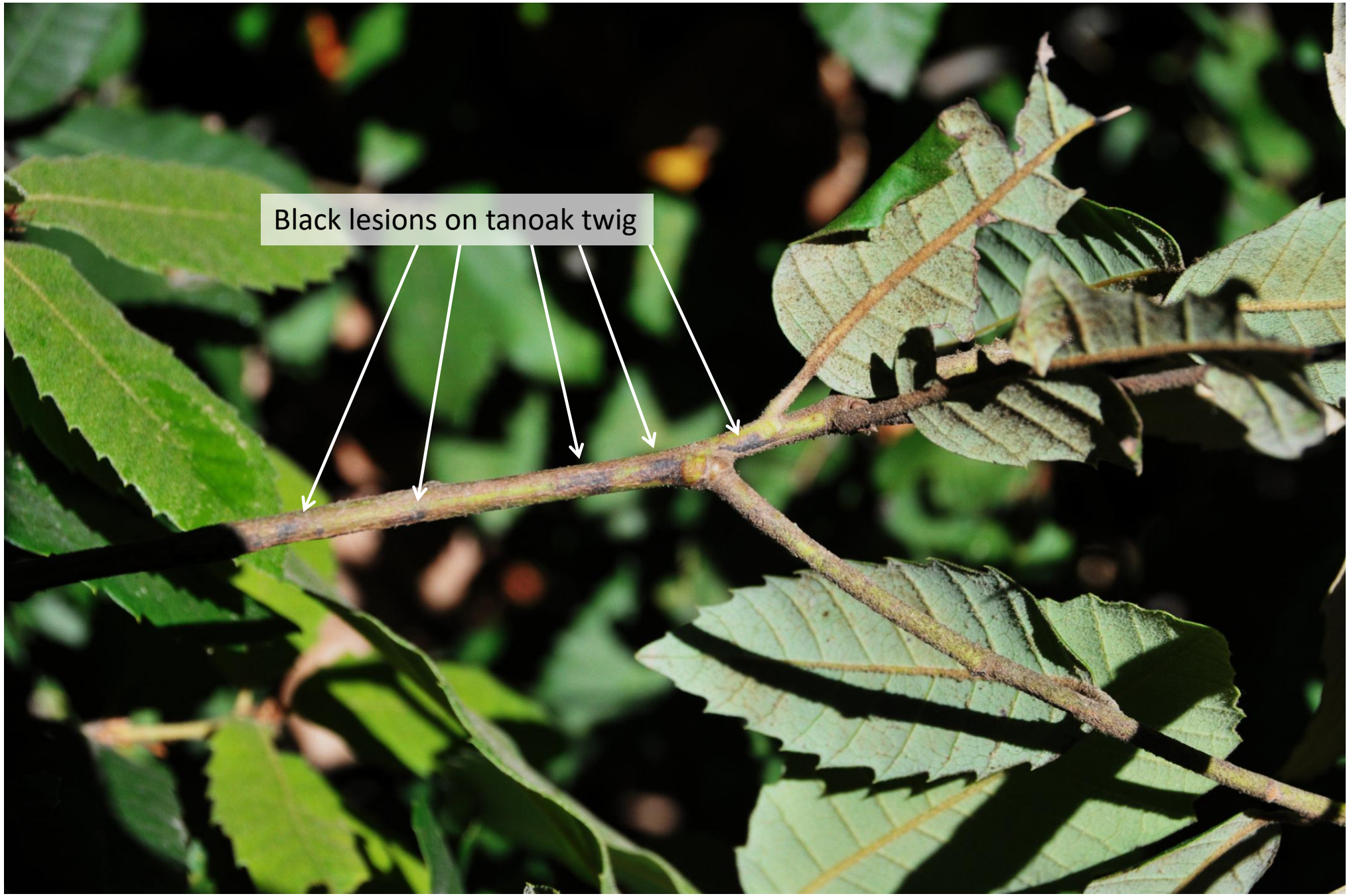
Curved branch tips, a.k.a. “shepherd’s crooks”, are often found past lesions on the stems. These are easily noticed in the field and can key you in on infected plants.

Recent tip dieback on tanoak branches often presents with olive-brown color of the dying leaves. Dead leaves like this will not, themselves, produce the pathogen in the lab, but look at the stem among the dying leaves and towards the plant base from them to find black lesions (see following pictures).

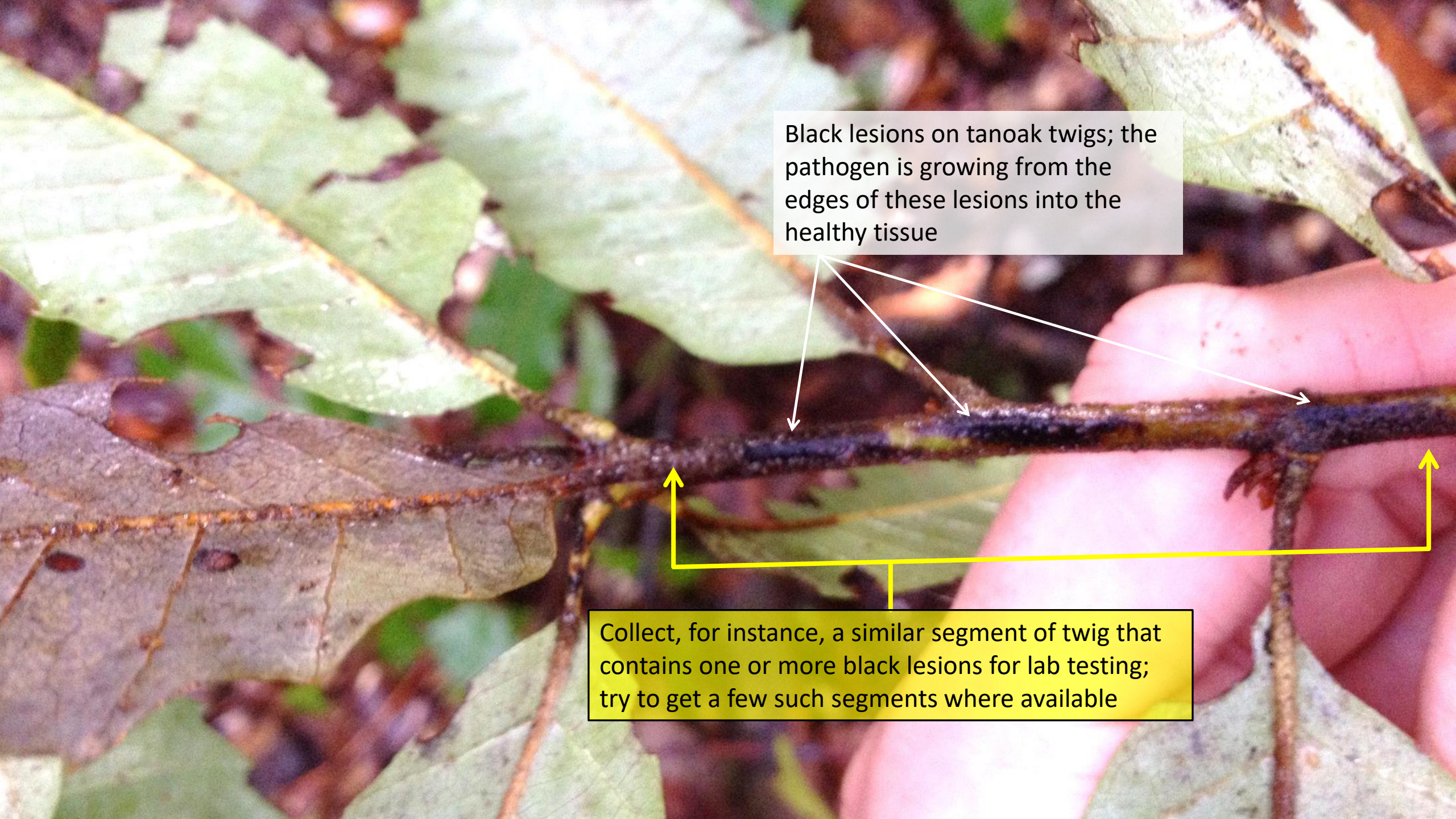

Black lesion on tanoak twig


Black lesions on tanoak twig

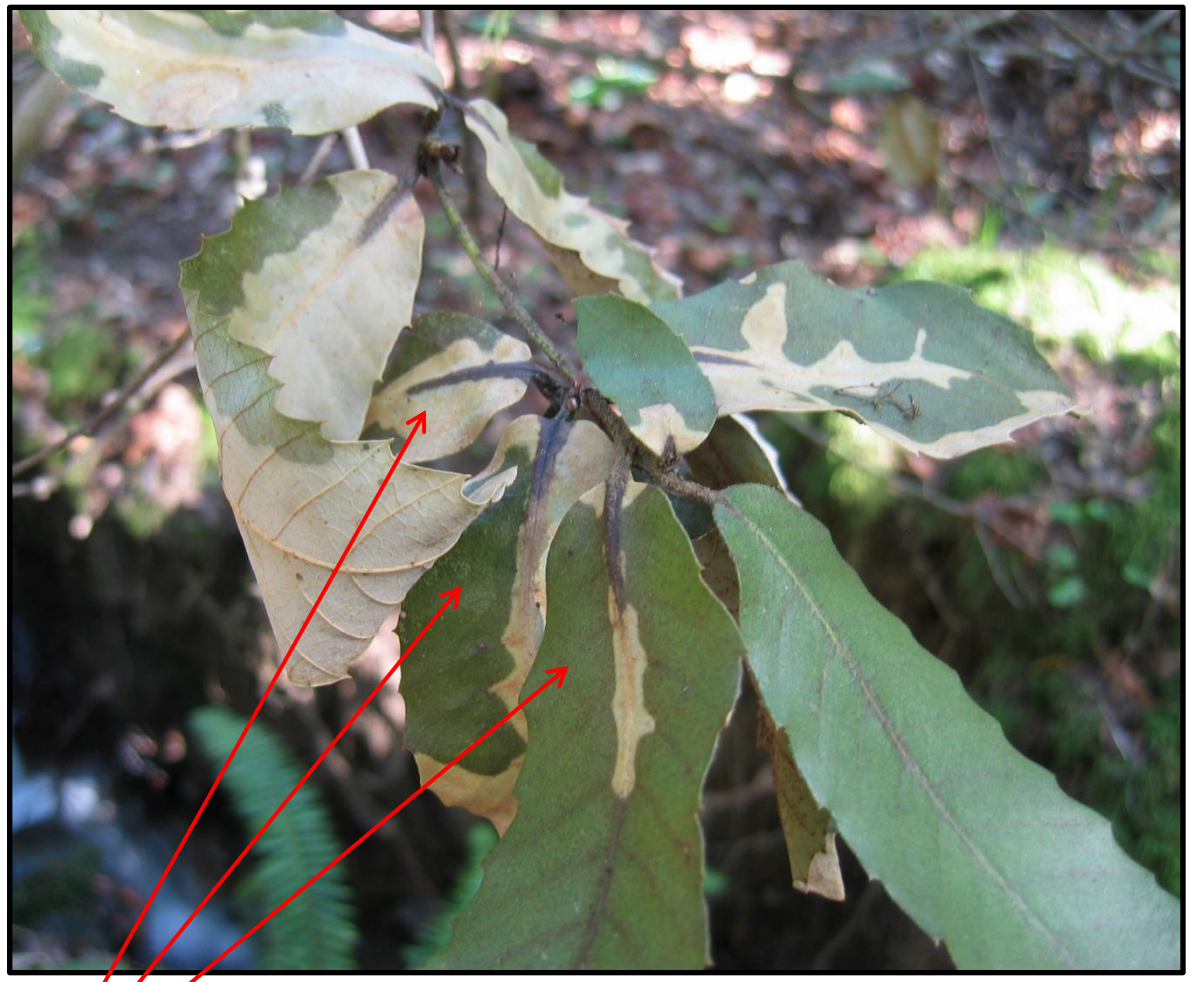

Black lesion on tanoak twig


Black lesions on tanoak twig

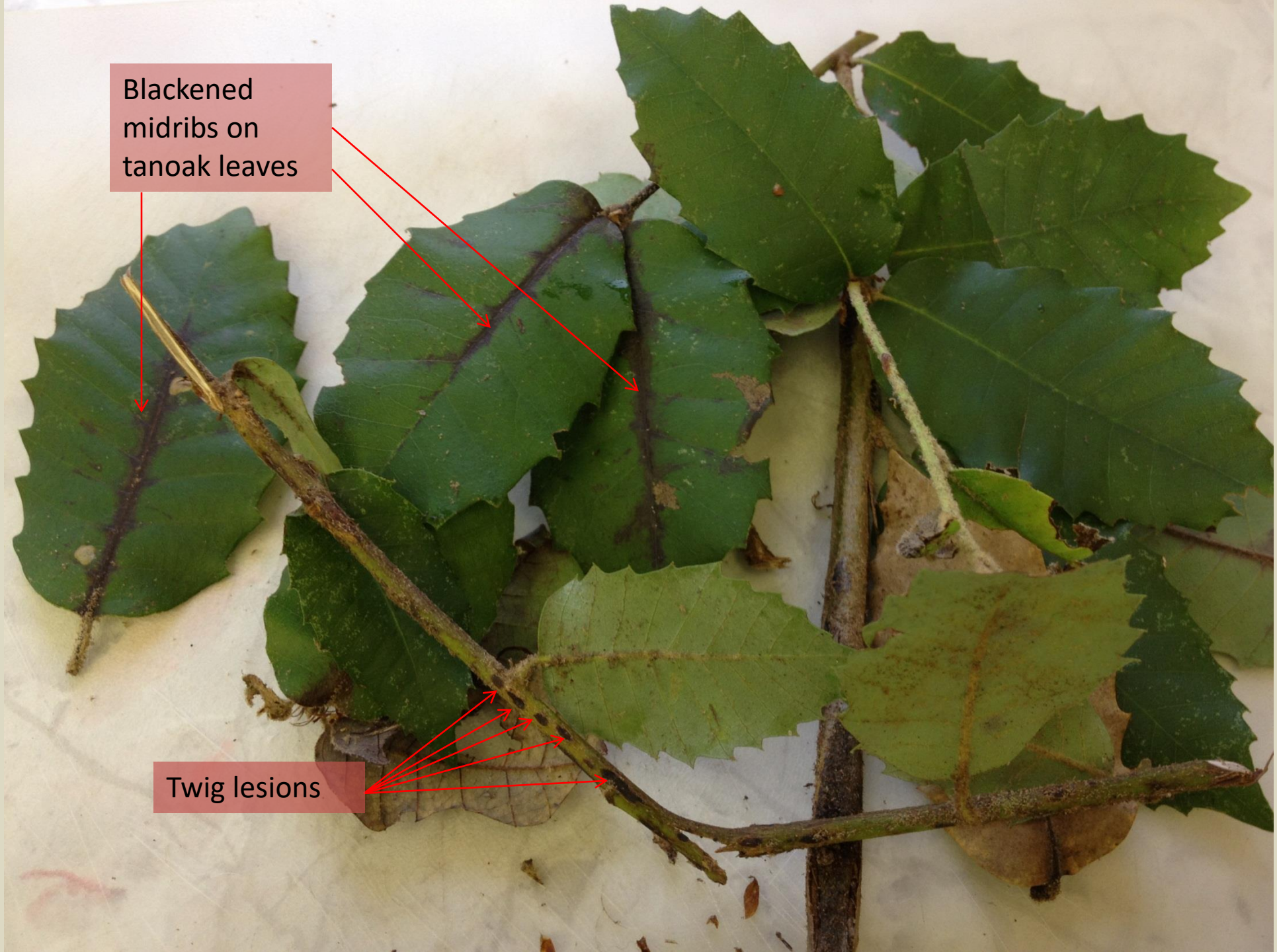
Sometimes twig lesions are obscured by hairs


Black lesions on tanoak twigs; the pathogen is growing from the edges of these lesions into the healthy tissue
Collect, for instance, a similar segment of twig that contains one or more black lesions for lab testing; try to get a few such segments where available


Black lesion on tanoak twig
Collect segments with twig lesions that include some healthy, green tissue on either side of the lesion(s)



Tanoak leaves with blackened midribs are good symptomatic tissues to collect for lab testing


Blackened midribs on tanoak leaves
Twig lesions