

New moss record on Kauaʻi Island: *Calymperes fasciculatum*

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In an ongoing project, the National Tropical Botanical Garden is undertaking surveys of bryophytes and lichens from under-explored areas on Kauaʻi to increase our knowledge of their distribution, diversity and abundance. To date one new island record has been identified and is reported here. *Calymperes fasciculatum* has now been collected from the Kawaihau District on the island of Kauaʻi.

Calymperaceae

Calymperes fasciculatum Dozy & Molk.

New Island Record

According to Staples *et al.* (2004), this indigenous species was previously only known from the island of Oʻahu. As described by Bartram (1939), the distinguishing features of this species that separate it from the only other member of the genus in Hawaiʻi, *Calymperes tenerum*, include size of the plants (robust vs. small for *C. tenerum*), the size of the leaves (almost twice as long as in *C. tenerum*), length of the costa, the absence of taeniolae, slightly serrated margins (vs. entire), and incrassate cells. This plant was observed forming a dense cushion (Fig. 1a). Additionally, gemmae were present on the plants, which is common for species of this family (Fig. 1b).

C. fasciculatum was collected from two populations located in the basin of Makaleha Valley on Kauaʻi, in wet, shaded riparian areas in predominantly secondary forest. Both populations were found on large, smooth, volcanic boulders, each about 9 m² in size (Fig. 2). Although this area is a local hiking spot, this trail is unmaintained and challenging to navigate. It is not unreasonable to consider this a natural range extension, especially when considering the relative proximity of Kauaʻi and Oʻahu. California Academy of Sciences' moss specialist, James Shevock has expressed the opinion many times that species currently known only from Oʻahu should be looked for and expected to be found on Kauaʻi (pers. comm.). Considering the secondary nature of the forest in this area, relatively few collections have been made as most botanists prefer to focus on native dominated habitats. The collection of *C. fasciculatum* on Kauaʻi only enforces the need for better, more concerted collecting efforts for bryophytes and lichens from all habitats and elevational ranges throughout the islands.

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Figure 1. A. *Calymperes fasciculatum* cushion on volcanic rock. B. *C. fasciculatum* up close with gemmae present on tips of leaves.



Figure 2. Habitat of *Calymperes fasciculatum*.

Material examined. KAUAI: Kawaihau District, Makaleha Mountains, riparian area along trail on large smooth volcanic rock, *Hibiscus tiliaceus* dominated forest, 212 m, 02 Dec 2022, *Jensen & Flynn KLJ199* (PTBG); loc. cit. 334 m, 04 Jul 2023, *Jensen et al. KLJ392* (PTBG)

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