

Schmid, Rudolf & Mena Schmid. 2012. *Sequoiadendron giganteum* (Cupressaceae) at Lake Fulmor, Riverside County, California. *Aliso* 30(2):103-107. [Issued 12 Mar. 2013.]

SEQUIADENDRON GIGANTEUM (CUPRESSACEAE) AT LAKE FULMOR, RIVERSIDE COUNTY, CALIFORNIA

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ABSTRACT

A GPS census made on 19 Jun 2012 of the Lake Fulmor area, northwestern San Jacinto Mountains, Riverside County, California, revealed seven trees of the Sierra Nevada endemic *Sequoiadendron giganteum* (Cupressaceae). The trees occur in a 234-meter-long narrow strip along the northwestern side of the lake. The population appears to be naturalizing. The largest tree (45 cm DBH, about 20 m tall), planted in 1980, is reproductively mature. Its six offspring to the northeast and southwest are 3–5 m tall and do not presently bear cones.

Key words: big tree, Cupressaceae, giant sequoia, Lake Fulmor, naturalized species, Riverside County, *Sequoiadendron*, *Sequoiadendron giganteum*, southern California.

INTRODUCTION

Schmid and Schmid (2011, 2012) documented by GPS census on 1 May 2009 a naturalized population of at least 157 individuals of *Sequoiadendron giganteum* (Lindl.) J. Buchholz at 2036–2236 m el. in the upper Hall Canyon area on the southwestern flank of Black Mountain (summit el. 2369 m) in the San Jacinto Mountains, Riverside Co., California. In 2009 this Sierra Nevada endemic was regenerating prolifically on Black Mountain, as revealed by multiple age classes, from juveniles (seedlings and saplings) about 20–60 cm tall to young adult trees over 6 m tall, up to about 40 years old, and reproductively mature. The naturalized population (<7 ha in 2009) is also spreading from its initial limited revegetation introduction (<2 ha in 1974) by the United States Forest Service after the 1974 Soboba fire.

Keeler-Wolf (1986, 1989 unpublished, but summarized in 1990, 2004) did the environmental analysis of Hall Canyon that resulted in its establishment in 1990 as a “Research Natural Area” (RNA; see Keeler-Wolf 1990, 2004) of the Forest Service. His 1990 and 2004 publications and, especially, the 1986 unpublished report (p. 59, quoted in full by Schmid and Schmid 2012: 31–32) mention *Sequoiadendron* J. Buchholz. Between 21 Nov 2009 and at least 21 Jun 2012 Calflora (2012) had been citing Keeler-Wolf (1986, 1989, 2004) for Riverside Co. for the Hall Canyon RNA as an unvouchered observation of *Sequoiadendron*, stating “Natural Status wild,” and giving without elevation a “Point Location 33.8064, –116.779[0].”

From 16–19 Jun 2012 we revisited the San Jacintos and stayed at the James Reserve at the base of Hall Canyon (Hamilton 1997; James San Jacinto Mountains Reserve 2012). One purpose of our revisit was to clarify the nature of the Keeler-Wolf reference by Calflora (2012).

METHODS

Schmid and Schmid (2012) give methodology, terminology, and criteria to characterize the naturalization of introduced plants. Our study site is shown in Fig. 1; for maps of this site

and the surrounding area see Hamilton (1997). We used a GPS receiver to create waypoints for individuals of *S. giganteum* encountered (“r” denotes a cone-bearing tree). Voucher collections will be deposited at RSA, UC, UCR, and the James Reserve.

OBSERVATIONS

Investigating the Calflora (2012) location of “33.8064, –116.779[0].” we found 35 m to the southwest at 33.8061, –116.7792, 1632 m el., a large tree of *S. giganteum* (Fig. 1, tree #2r) near the northeastern end of Lake Fulmor (1625 m el.). The tree, vouchered as *R. Schmid and M. Schmid 2012-4*, is about 20 m tall, 45 cm DBH, and reproductively mature (Fig. 2–3). Some unreachable lower branches bore unopened female cones. We collected from the ground shed, opened seed cones, some of which still contained a few seeds (for a comparable collection see Schmid and Schmid 2012: Fig. 7–8).

We reconnoitered for additional individuals of *Sequoiadendron*: we walked around Lake Fulmor, thoroughly crisscrossed the narrow slope between the northwestern side of the lake and the access road to the gated James Reserve, and also transected the lower part of the large slope northwest of the access road. Our reconnoiter located six young adult trees of *Sequoiadendron*, 3–5 m tall, and all entirely vegetative, lacking both male and female cones:

- a tree 5 m tall (*R. Schmid and M. Schmid 2012-2*) at 33.8068, –116.7786, 1635 m el. (Fig. 1, tree #1; Fig. 4),
- a tree 3.5 m tall (12 cm DBH) (*R. Schmid and M. Schmid 2012-6*) at 33.8052, –116.7803, 1634 m el. (Fig. 1, tree #3; Fig. 5), and
- four trees 3–4 m tall (unvouchered) clustered at 33.8055, –116.7799, 1633 m el. (Fig. 1, trees #4–#7).

All seven trees of *Sequoiadendron* located in our GPS census of 19 Jun 2012 occur in a 234-meter-long narrow strip on the slope between the lake and the access road (Fig. 1). We did not see any seedlings or saplings of *Sequoiadendron*, that is, juveniles <1.4 m tall.