

***Verrucaria bernardinensis* in the Joshua Tree National Park (California, U.S.A.)**

Map collection



Verrucaria bernardinensis. Photo by Jana Kocourková.

Kerry Knudsen, Kocourková Jana*

*Czech University of Life Sciences Prague, Faculty of Environmental Sciences, Department of Ecology, Czech Republic

Abstract – *Verrucaria bernardinensis* is only known in western North America. It is a lichenicolous lichen, a juvenile fungal parasite on *Staurothele* species which eventually develops an independent gray lichenized thallus. *V. bernardinensis* was described from San Bernardino Mountains in the southwestern Mojave Desert. It is documented by 10 collections in the Mojave Desert in Joshua Tree. The map of known distribution of *Verrucaria bernardinensis* in Joshua Tree is presented. We compiled a detailed list of records based on GPS data.

Key words – *Verrucaria bernardinensis*, lichens, map of distribution, Mojave Desert, California

Authors – Kerry Knudsen¹, Kocourková Jana²

¹The Herbarium, Department of Botany & Plant Sciences, University of California Riverside, California 92521, U.S.A. – e-mail: Knudsen@ucr.edu

²University of Life Sciences Prague, Department of Ecology, Faculty of Environmental Sciences, Kamýcká 129, Praha 6 – Suchbát, CZ – 165 21, Czech Republic – e-mail: kocourkovaj@fzp.czu.cz

***Verrucaria bernardinensis* Breuss**

DESCRIPTION. – Breuss 2007.

WORLD DISTRIBUTION. – North and South America.

SUBSTRATE. – Lichenicolous on *Staurothele* species, calcareous and non-calcareous rocks.

NOTES. – *Verrucaria bernardinensis* is a lichenicolous lichen, a juvenile fungal parasite on *Staurothele* species which eventually develops an independent gray lichenized thallus. It was described from Cactus Flats in the San Bernardino Mountains in the southwestern Mojave Desert (Breuss 2007) and was reported from the Granite Mountains (Knudsen and Werth 2008). It documented by 10 collections in the Mojave Desert in Joshua Tree. *Placopyrenium noxium* Breuss is very similar and occurs at Cactus Flats in southwestern Mojave with *V. bernardinensis* (Knudsen 2005) and can be hard to separate.

DISTRIBUTION. – Juniper's Flats, Little San Bernardino Mountains (Black Rock, Pushwalla), lower and upper Covington Flats, Queen Valley, Ryan Mountain, Skull Rock, Stirrup Tank, Wonderland of Rocks (Keys Ranch).

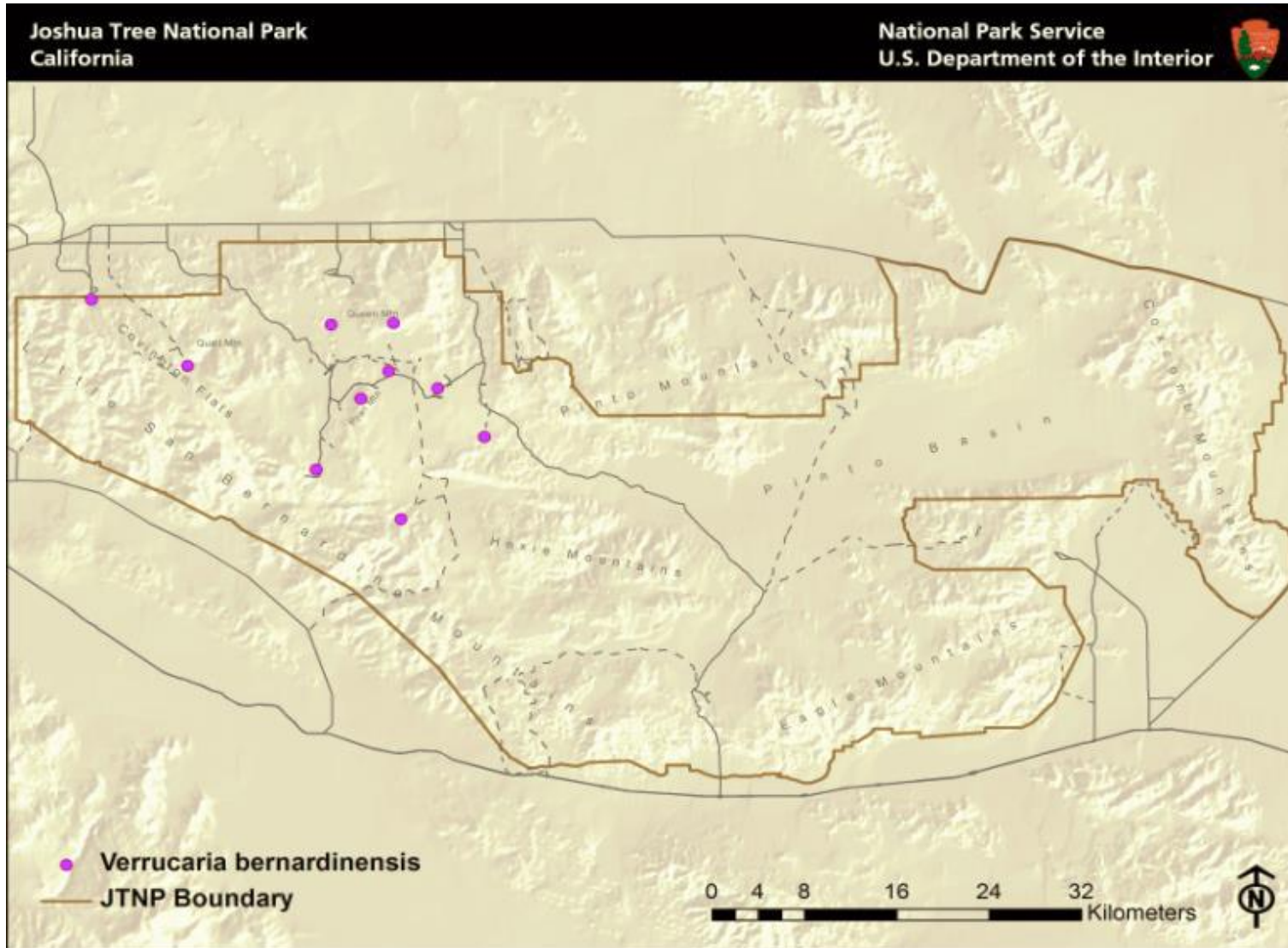
LITERATURE CITED

- Breuss, O. 2007 [2008]. *Verrucaria*. In: T.H. Nash III, C. Gries, and F. Bungartz (eds.) Lichen Flora of the Greater Sonoran Desert Region. 3: 335–377. Lichens Unlimited, Tempe, AZ.
- Knudsen, K. and S. Werth. 2008. Lichens of the Granite Mountains, Sweeney Granite Mountain Desert Research Center, southwestern Mojave Desert, San Bernardino County, California.
- Knudsen, K. 2005. The carbonate lichen flora of Cactus Flats in the San Bernardino Mountains, San Bernardino County, California, USA. *Crossosoma* 31(1): 13–24.

ACKNOWLEDGEMENTS

The work of Kerry Knudsen was funded by a co-operative agreement between Joshua Tree National Park and the University of California at Riverside (UCR). The work of Jana Kocourková was supported financially by the KONTAKT II, Program of International Cooperation in Research and development for scientific cooperation between the CR and USA, LH 11057 from Ministry of Education, Youth and Sports of the Czech Republic.

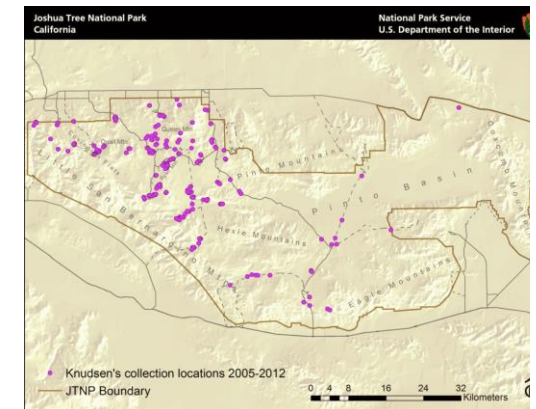
Verrucaria bernardinensis



Known distribution of *Verrucaria bernardinensis* in JTNP.



Location of Joshua Tree National Park in Southern California



All 238 of Knudsen's and Kocourková's lichen collection sites throughout Joshua Tree National Park between the years of 2005 and 2012.

Map collection, maps made in software ArcGIS, 10.1; electronic form, file type pdf.