

**ERYTHEA. A JOURNAL OF
BOTANY,
WEST AMERICAN AND
GENERAL. VOLUME VI**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649471041

Erythea. A Journal of Botany, West American and General. Volume Vi by Willis Linn Jepson

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

WILLIS LINN JEPSON

**ERYTHEA. A JOURNAL OF
BOTANY,
WEST AMERICAN AND
GENERAL. VOLUME VI**

6919-35784

ERYTHEA

A JOURNAL OF BOTANY, WEST AMERICAN
AND GENERAL.

EDITED BY

WILLIS LINN JEPSON,
INSTRUCTOR IN BOTANY, UNIVERSITY OF CALIFORNIA.

VOLUME VI

STANFORD LIBRARY

BERKELEY, CALIFORNIA.

1898

STANFORD LIBRARY

149357

CONTRIBUTORS

TO THIS VOLUME

A. DAVIDSON	A. A. LAWSON
J. B. DAVY	J. G. LEMMON
ALICE EASTWOOD	AVEN NELSON
O. A. FARWELL	GEO. E. OSTERHOUT
M. L. FERNALD	S. B. PARISH
KARL E. HIEN	C. V. PIPER
WILLIS L. JERSON	R. H. PLATT
	W. N. SIKSDORF

NOTES ON THE FLORA OF HONEY LAKE VALLEY.

By JOSEPH BURTT DAVY.

THE VALLEY of Honey Lake is situated in the southeast corner of Lassen County, northeastern California, within a few miles of the Nevada state-line. It lies at the eastern foot of the Sierra Nevada, which forms a dividing wall between the Pacific Slope and the Great Basin, and belongs, botanically as well as topographically, to the latter region.

The Sierra Nevada, forming the south and southwest boundary of the valley, rises some 3,700 feet above the lake level, in Thompson's Peak, and presents a very steep, pine-clad front, with but little stream sculpture. The mountain chain on the north and northeast has a more gradual slope, destitute of timber, and attains its highest point at Hot Spring Peak, some 7,600 feet above the sea. The lake bed is about 4,000 feet above sea level. The floor of the valley dips slightly from all sides towards the lake,—which occupies its southwestern portion,—but has otherwise a very even, almost level surface. The valley is about fifty miles in length, east and west, and some twenty-five in width at its widest part. Though the waters of the lake now occupy an area only sixteen miles long by twelve wide, they appear to have covered the whole of the valley floor at one time, for a series of distinct shore lines is noticeable along the mountain sides. Honey Lake formerly had a channel connecting it with Pyramid Lake, which lies to the southeast, and it appears to be still connected with Eagle Lake and Horse Lake on the northeast, from verbal information obtained in the district; the large volume of clear, swift-flowing water which perennially occupies the comparatively short channel of Willow Creek, one of its tributaries, also indicates such a connection. At the present time it is a natural sink, or evaporating pan, for the waters of Susan River and other streams. It has no outlet, and in seasons of great drought dries up entirely; it was last quite dry in the summer of 1888. This year there is about fourteen feet of water in the deepest part.

Snow lies on Thompson's Peak till late in the summer; but little enters the valley, however, though a fall of about twenty-four inches has been noted.

ERYTHEA, Vol. VI, No. 1 [3 January, 1898].

I have prepared the following synopsis of the winter temperature of the valley from data furnished by the Honey Lake Land and Water Co., and taken by Mr. L. H. Taylor, C. E. These readings were taken thrice daily, viz.: at 7 A. M., 12 M. and 7 P. M., only during the 63 days from December 25, 1890, to February 25, 1891:—

Mean temperature of the period (F.).....	33°
Mean temperature of the warmest day, Feb. 22.....	48.3°
Mean temperature of the coldest day, Jan. 10.....	19.3°
Maximum temperature, Dec. 25.....	60°
Minimum temperature, Jan. 12.....	7°
Range.....	53°
Greatest daily variation, Dec. 25 and Jan. 9.....	33°
Least daily variation, Jan. 7.....	3°
Mean daily range of temperature.....	19.6°
Mean lowest temperature of the period.....	24.4°
Mean highest temperature of the period.....	44.1°

The valley floor consists of a deep deposit of alluvial soil of a light yellowish color, largely charged with salts, of which sodium carbonate apparently forms a very considerable proportion. As in other parts of California, the "alkali" salts are not uniformly distributed through the soil, but occur in patches, often of large extent, and sometimes, but by no means always, efflorescing at the surface. A "hardpan" of concentrated salts occurs, usually between 2 and 3 feet below the surface, especially where Greasewood, *Sarcobatus vermiculatus*, grows.

The mountains to the south and southwest are granitic; those to the north and northeast form part of the great lava deposit which covers almost the whole of northeastern California. Several springs, at least eight in number, throw up hot, sulphurous water, in geyser fashion, several inches above ground, accompanied by much steam. Springs and streams of water are otherwise scarce on the north and east sides of the valley.

At the extreme west end of the lake a delta of rich, blackish, alluvial soil has been deposited by the joint waters of Susan River and Willow Creek. Its sloughs and the shallower parts of the lake abound with "tules" (*Scirpus lacustris occidentalis*), from which the delta has acquired the name of "The Tules" or "The Tule Confederacy." It is well watered from the many sloughs by which the river empties itself into the lake, and produces a flora entirely different from that of the arid north and northeast portions of the valley.

The sparse population of Honey Lake Valley, almost restricted to the western and southern portions, depends upon agriculture for its support. The principal industry is that of grazing and hay production, fine cattle and horses being raised. The sage-brush covered hills on the north and east, though apparently destitute of any nourishing vegetation, furnish spring and autumn pasturage to many thousand head of cattle, horses and sheep. In summer the stock are driven into the higher pine-clad mountains around Eagle and Horse Lakes, where native grasses are said to grow in greater abundance. In winter they are corralled and fattened on "wild hay," cut from the "wild meadows" of the Tule Confederacy in the summer. Excellent apples, pears, plums, gooseberries and other small fruits are also produced, and on the west side, where the Sierra affords shelter from cold winds and provides numerous springs and small streams, peaches are grown to some extent.

Presumably the whole region for many miles north and east of Honey Lake Valley is similar to it as regards topography, geology and botany. Mr. Marcus E. Jones, of Salt Lake City, Utah, who recently crossed the divide north of Susanville, to Horse Lake, writes that "Horse Lake Valley is a duplicate of the region about Honey Lake." It has an elevation about 1,000 feet greater than the latter.

A brief reconnoissance of the summer flora of this interesting alkali region, was made by the writer, under directions from the Department of Agriculture of the University of California, between June 17 and 24 of this year. Only about 300 specimens were collected, it being impossible in the limited time and with the facilities at hand, to make specimens of every species seen, especially as the showery weather prevented rapid drying. Two and a half days were spent at Amedee, the railroad terminus, near the hot springs on the north side of the valley. The balance of the time was devoted to the Tule Confederacy, some ten miles west of Amedee, including most of the valley lying west of the lake, to within 11 miles of Susanville. Time would not allow a visit to the interesting slopes of the Sierra Nevada, south of the lake.

FLORA OF THE VALLEY FLOOR.

The floor of the valley is covered with a growth of more or less gray-colored spiny shrubs, varying from two to four, and in