

**A POPULAR CALIFORNIA
FLORA, OR MANUAL OF
BOTANY FOR BEGINNERS**

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A Popular California Flora, or Manual of Botany for Beginners by Volney Rattan

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**A POPULAR CALIFORNIA
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A POPULAR
CALIFORNIA FLORA,

OR

MANUAL OF BOTANY FOR BEGINNERS.

CONTAINING

DESCRIPTIONS OF EXOGENOUS PLANTS GROWING IN CENTRAL CALIFORNIA, AND
WESTWARD TO THE OCEAN.



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SAN FRANCISCO.

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PREFACE.

THIS little book contains brief descriptions of over five hundred species of plants known to grow in the region bounded on the west by the coast line from Monterey Bay to Mendocino County, and on the east by the foothills of the Sierra Nevada. Only polypetalous and gamopetalous exogens are described, and of these the orders Umbelliferae and Compositae, with a few inconspicuous plants of other orders, are omitted, being considered too difficult for beginners.

The descriptions are mainly abridged from the large work on California Botany published in uniformity with the Geological Survey Reports. The Analytical Key is essentially the one prepared for that work by Dr. Asa Gray. Several names are changed and a few descriptions modified in accordance with "Gray's Synoptical Flora of North America."

Usually only contrasting characteristics of species are retained, since anything more is confusing rather than helpful to the beginner. The *habitat* of plants is given only when it would be of assistance in determining species.

All established common names are given. Fortunately our most beautiful plants are well known by their proper generic names.

A Second Part devoted to the Apetalae and Edogenous plants, with an Introduction to Systematic Botany will probably be issued within a year.

Correspondents will confer a favor by pointing out errors and omissions.

V. R.

SAN FRANCISCO, February, 1879.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and financial management. The text notes that without reliable records, it becomes difficult to track expenditures, assess performance, and identify areas for improvement.

2. The second part of the document addresses the challenges associated with data collection and analysis. It highlights that gathering comprehensive data from various sources can be a complex and time-consuming process. However, the benefits of having a robust data set are significant, as it allows for more informed decision-making and the identification of trends and patterns. The document suggests that investing in data management systems and training staff can help overcome these challenges.

3. The third part of the document focuses on the role of technology in enhancing operational efficiency. It discusses how digital tools and software can streamline processes, reduce errors, and improve communication. For example, the use of cloud-based systems can facilitate data sharing and collaboration across different departments. The text also mentions that automation of routine tasks can free up resources for more strategic and value-added activities.

4. The fourth part of the document explores the importance of continuous learning and professional development. It argues that in a rapidly changing environment, individuals and organizations must stay updated with the latest knowledge and skills. This can be achieved through various means, such as attending workshops, conferences, and taking courses. The document encourages a culture of learning and innovation, where employees are encouraged to share their knowledge and learn from each other.

5. The fifth part of the document discusses the need for strong leadership and governance. It states that effective leaders are those who can inspire and motivate their teams, set clear goals, and ensure that the organization is aligned with its mission and vision. Good governance is also crucial for ensuring that the organization operates in a fair, transparent, and ethical manner. The document provides several key principles for effective leadership and governance, such as communication, integrity, and accountability.

6. The sixth part of the document addresses the issue of risk management. It explains that every organization faces various risks, and it is essential to identify these risks and develop strategies to mitigate them. This involves a thorough assessment of the organization's internal and external environment. The document suggests that a proactive approach to risk management can help prevent potential crises and ensure the organization's long-term sustainability.

7. The seventh part of the document discusses the importance of stakeholder engagement. It notes that organizations do not operate in a vacuum and are often affected by the actions of various stakeholders, including customers, suppliers, and the community. Engaging these stakeholders and listening to their concerns can help organizations make better decisions and build stronger relationships. The document provides several strategies for effective stakeholder engagement, such as regular communication and transparency.

8. The eighth part of the document discusses the role of ethics in business and public administration. It emphasizes that ethical behavior is not only a moral imperative but also a practical one. Ethical organizations are more likely to attract and retain top talent, build trust with their stakeholders, and achieve long-term success. The document outlines several key ethical principles, such as honesty, integrity, and respect for others, and provides guidance on how to apply these principles in various situations.

9. The ninth part of the document discusses the importance of innovation and creativity. It states that innovation is a key driver of growth and competitive advantage. Organizations that foster a culture of innovation are more likely to develop new products, services, and processes that meet the needs of their customers and the market. The document provides several strategies for promoting innovation, such as encouraging experimentation and rewarding creative ideas.

10. The tenth part of the document discusses the importance of sustainability. It explains that sustainability is not just about environmental protection but also about social and economic well-being. Organizations that adopt sustainable practices are more likely to be resilient and successful in the long run. The document provides several strategies for promoting sustainability, such as reducing waste, conserving resources, and supporting the local community.



DIRECTIONS FOR THE LEARNER.

At first study only those plants which have large flowers. Do not attempt to determine the name of a plant unless you have specimens which show not only the flowers, but the buds, the fruit (at least, partly grown), the leaves from all parts of the stem, and the roots. If you cannot readily distinguish the parts of the flower and their relations to each other, lay it aside until the study of easier plants has given you more skill.

If the small veins of the leaves do not form a network, and the organs of the flower are all in threes, the plant is probably an endogen and, therefore, not described in this book. If the calyx and corolla are not both present the flower is said to be apetalous. A few such flowers are described, and the orders are to be sought under the last division of the Analytical Key. *Clematis*, *Allotropa* and *Glaux* are apetalous genera having the calyx corolla-like.

It will be best to write out a description of the plant before attempting to analyze it. Some good text-book, such as Gray's "How Plants Grow," should be constantly referred to in search of the proper descriptive terms. Suppose the following to be a description of the plant in hand, the words in parentheses indicating a more concise way of telling the same thing: A hairy plant one or two feet high, with opposite leaves and no stipules (exstipulate); the leaves narrow and blunt, broader near the upper end (spatulate); the small pinkish flowers growing on short stems (pedicels) close together along one side of the main stem for several inches to the end (in a close raceme); the calyx of 5 sepals united to form a narrow tube (tubular, 5-lobed) nearly half an inch long, marked by 10 ridges (nerves); the 5 petals distinct from each other and very nar-

row inside the calyx (clawed), the part outside (blade) short and rounded, broadest near the end (obovate); two little teeth standing up on each petal just where it bends outward from the calyx (blade 2-appendaged at the base); the petals twisted so as to make one edge higher than the other; stamens 10; pistil one, with three short straight styles and a short stem below the ovary (stipe) on which the petals and stamens grow; the seed pod (capsule) ovoid and rough, containing seeds which grow fast to a central part (placenta).

Turning to the Analytical Key, we determine that it belongs under Division 1, because the petals are separate. Since our plant cannot belong under A, the stamens being only 10, we turn to "B. Stamens 10 or less," etc.; under this head we read: "1. Ovary or ovaries superior," etc., which is the case with our plant; then follows: "* Pistils more than one and distinct;" but there is only one pistil in our flower, so we pass on to "* * Pistil only one," below which is "+ Simple, i. e., of one carpel, as shown by single style," etc., but there are three styles in the pistil of our flower, so we try "+ + Pistil compound," etc., which suits our case; then we read the next line, but upon looking up the word "placenta," conclude that our plant cannot be found under that head; the next line of the same length does not suit because our pod is not "2-celled;" but the third reads: "Ovary and capsule 1-celled, seeds on a central placenta," which applies to our seed pod; in the next line "Sepals 2; fleshy herbs" is wrong, so we try "Sepals 5 or 4; leaves opposite," etc., which leads us to ORDER CARYOPHYLLACEÆ, p. 27. The description of the order is satisfactory. Evidently our plant belongs to the first genus named in the Synopsis of Genera, viz.: *Silene*; and the first species under that genus is our plant, the proper name of which is *Silene Galica*. We find, too, as we always shall, that some things were omitted in our description; also, that all the characteristics of the plant are not given in this book. Having determined the name, you should next write out a description, as nearly complete as possible, and make drawings showing the outlines of the leaves and the separate parts of the flower.