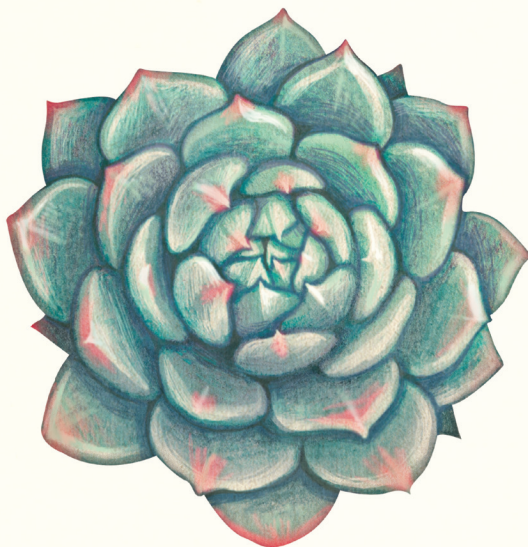




SUCCULENTS



A FIELD GUIDE

BY KIT CARLSON, PhD, AND AARON CARLSON
ILLUSTRATED BY VLAD STANKOVIC

A PDF COMPANION TO THE AUDIOBOOK

Succulents: A Field Guide

Copyright © 2023 by Appleseed Press Book Publishers LLC.

This is an officially licensed book by Cider Mill Press Book Publishers LLC.

All rights reserved under the Pan-American and International Copyright Conventions.

No part of this book may be reproduced in whole or in part, scanned, photocopied, recorded, distributed in any printed or electronic form, or reproduced in any manner whatsoever, or by any information storage and retrieval system now known or hereafter invented, without express written permission of the publisher, except in the case of brief quotations embodied in critical articles and reviews.

The scanning, uploading, and distribution of this book via the internet or via any other means without permission of the publisher is illegal and punishable by law. Please support authors' rights, and do not participate in or encourage piracy of copyrighted materials.

13-Digit ISBN: 978-1-64643-453-4

10-Digit ISBN: 1-64643-453-6

This book may be ordered by mail from the publisher. Please include \$5.99 for postage and handling. Please support your local bookseller first!

Books published by Cider Mill Press Book Publishers are available at special discounts for bulk purchases in the United States by corporations, institutions, and other organizations. For more information, please contact the publisher.

Cider Mill Press Book Publishers
"Where good books are ready for press"
501 Nelson Place
Nashville, Tennessee 37214
cidermillpress.com

Cover and interior design by Melissa Gerber
Typography: Adobe Caslon, Caslon 540, DIN 2014, Evelecht
Clean Thin, Fontbox Boathouse Filled

Printed in Malaysia

23 24 25 26 27 OFF 5 4 3 2 1

First Edition

GLOSSARY

- ACAULESCENT:** A stemless plant, or one appearing to be stemless.
- ACUMINATE:** Tapers to a point, such as the tip of a leaf.
- ADVENTITIOUS ROOT:** Roots that grow from non-root tissues, such as stems or leaves.
- AMORPHOUS:** Lacking a defined shape or form.
- APPRESSED:** Lying flat and pressed closely together.
- AREOLE:** A structure unique to the Cactus family that is essentially a reduced and compressed shoot from which the spines grow. It typically looks like a small, raised disc.
- ASCIDIA:** A flask-shaped structure or appendage on a plant.
- AXIL:** The location on a shoot or stem where leaves develop.
- BLOOM:** A delicate, powdery coating.
- BRACTEOLE:** A small bract.
- BULBIL:** A small bulb-like structure produced above ground on a plant for asexual reproduction.
- CAUDEX:** A short, thickened stem at the base of a plant.
- CILIATE:** Conspicuous hairs along a leaf margin.
- CLADODE:** A flattened, leaf-like stem.
- COMPOSITE FLOWER:** The type of flower present in the Aster (daisy) family, consisting of multiple small, simple flowers that appear to be a single flower.
- CORYMB:** A flower cluster with a convex or flattened top.
- CUNEATE:** Wedge-shaped, with a pointed end at the leaf base.
- CYME:** A type of flower cluster in which the terminal flower develops and opens first, followed by additional flowers developing below it.
- DELTOID:** A triangular shape, usually with the bottom two corners rounded off.
- DICHOTOMOUS:** When a shoot or stem branches into two.

- DIOECIOUS:** When male and female flowers are produced on separate plants.
- DISTICHOUS:** Leaves arranged in two rows on opposite sides of the stem.
- DIVARICATE:** When branches diverge at wide angles from each other.
- ELLIPTICAL:** An oval leaf shape with the widest point at the middle of the leaf, with both ends tapering equally.
- ENSIFORM:** Sword-shaped.
- ENTIRE:** A leaf margin that is smooth, lacking teeth or indentations.
- EPIPHYTE:** A plant that grows on another plant for support.
- FARINA:** A flour-like mealy coating, usually on leaves.
- FASCICLE:** A closely-crowded cluster, such as leaves or flowers.
- FENESTRATION:** A hole, slit, or translucent area on a plant—usually leaves or petals.
- FOLLICLE:** A dry fruit containing one compartment with at least two seeds and opening along a suture.
- FUSIFORM:** A leaf shape that resembles a spindle, i.e., is widest in the middle, with both ends tapering to a point.
- GEOPHYTE:** A plant with an underground water and energy storage structure.
- GLABROUS:** A hairless, smooth surface.
- GLANDULAR HAIR:** Hairs on a plant that produce a secretion.
- GLAUCCOUS:** A surface with a blue-to-gray-colored waxy or powdery coating that easily rubs off.
- GLOBOSE:** Circular.
- GLOCHIDIA:** Small hair-like spines, often barbed or hooked, that grow from the areoles of some types of cacti.
- HERBACEOUS:** A plant that lacks woody tissue.

HETEROPHYLLIC: Having different sizes and shapes of leaves on one plant.

IDIOBLAST: A cell that differs in form and function from the surrounding cells.

IMBRICATE: Having overlapping margins, similar to shingles on a roof.

INFLORESCENCE: The complete flowering part (or parts) of a plant.

INTERGENERIC: Occurring between two different genera.

KEEL: Having a ridge-like structure, similar to the bottom of a boat.

LANCEOLATE: A leaf shape that is longer than wide, with a broad base that is wider and tapers to a pointed tip.

LAX: A form or arrangement that is scattered or distant, the opposite of crowded.

LITHOPHYTE: A plant that grows directly in or on solid rock.

MATTE: A surface that is smooth and not shiny.

MONOCARPIC: A plant that flowers and fruits only once in its lifetime, after which it dies.

MUCRONATE: When the tip of a structure (usually a leaf or bract) has a small, sharp point.

MYRMECOPHILOUS: An organism that has an association or relationship with ants.

NODE: The location on a stem or shoot where branches form or a leaf is attached.

NUTLET: A small nut, which is a dry single-seeded fruit.

OBLANCEOLATE: An inversed lanceolate leaf, where the base is the narrower, pointed part.

OBLONG: A leaf shape that is widest in the middle, with two parallel margins.

OVATE/OVOID: A symmetrically curved leaf, with the widest part below the middle, like an egg.

PANICLE: A multibranched cluster of flowers, with each flower attached to a pedicel.

PAPILLATE: A surface with tiny bump-like projections.

PEDICEL: The stalk on which a flower is attached to the central axis or stem of an inflorescence.

PEDUNCLE: The stalk on which an inflorescence is attached to the stem.

PENDANT: A structure that is hanging or suspended.

PLICATE: A structure folded multiple times longitudinally, similar to a fan or corrugated cardboard.

POLLINIA: A cohesive cluster of pollen grains.

PROCUMBENT: A plant that grows horizontally along the ground and does not produce any adventitious roots from its stems.

PROTUBERANCE: Any visibly raised part on the surface of a structure, similar to a swelling or lump.

PRUINOSE: A dusty or powdery frost-like coating on the surface of a structure.

PUBESCENT: A surface covered by short hairs.

RACEME: A type of inflorescence in which the flowers are on short stalks of equal length, equally distant from each other, with the lowest flowers opening first.

RHIZOME: An underground stem that grows horizontally.

SCALLOPED: An edge or margin of a structure with short, rounded teeth.

SEPAL: The outer parts of a flower that enclose and protect it during development.

SPATULATE: A leaf shape broadly rounded at the tip and tapers to a narrow base.

STAMINODE: A rudimentary and sterile stamen, thus not producing pollen. They often appear petal-like and produce nectar.

SUBSHRUB: A small shrub-like plant that is primarily herbaceous, with a woody base.

TENDRIL: A modified stem or leaf that is threadlike and coiled and used by vines for climbing and attachment purposes.

TEPAL: The sepals and petals of a flower when the two are indistinguishable.

TERETE: A structure that is round in cross section and usually tapered and both ends.

TESSELLATED: An appearance characterized by a pattern of repeated shapes that do not overlap and do not have any gaps between them, such as a checkerboard or honeycomb.

TRAILING: A plant with stems that grow along the ground and produce adventitious roots.

TRIGONUS: A structure that is triangular in cross section.

TUBER: A thickened underground stem used for food or water storage by a plant.

TUBERCULE: A round, wart-like projection on the surface of a structure.

UMBEL: A type of inflorescence where a cluster of flower stalks all emerge from the same location, similar to the ribs of an umbrella.

UMBILICATE: A usually circular depression on the surface of a structure, similar to a belly button.

URCEOLATE: A type of flower that is tubular, with a swollen base that narrows to an opening, resembling an urn.

VARIEGATED: A structure with two or more colors in irregularly shaped patterns.

VIVIPAROUS: When the seeds of a plant germinate while still attached to the parent plant.

WHORL: When three or more leaves grow from a single node, usually equidistant from each other around the stem.