

# Key to the Nests of Pacific Coast Birds

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OREGON STATE COLLEGE  
CORVALLIS, OREGON

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# Key to the Nests of Pacific Coast Birds

## INTRODUCTION

### LURE OF THE BIRD HOME

The homes and the home life of birds are of great interest. Soon after the arrival of the migrants from their winter quarters, all birds take upon themselves the duties of reproduction. The first step in this process is the establishing of "nesting territories," soon followed by the next step of obtaining a satisfactory location for the nest. Some species, such as auklets, petrels, burrowing owls, kingfishers, bank swallows, etc., nest at the end of burrows or holes in the ground. A great many nest on the ground, some laying their eggs on the bare sand, leaves, or rock, while others build nests, either bulky or slight, as suits their respective tastes. Hundreds construct their homes among the highest branches of trees, and others from the ends of the outermost limbs. Some species lay their eggs at the bottom of holes in trees, either natural cavities or holes dug by their own efforts; and others accept the homes constructed by man for them, or avail themselves of the many shelves, crannies, and holes in and about man's edifices.

The study of the eggs (oology) is a most alluring field in itself. The eggs of different species vary through all the tints, from white to blue, green, and brown. Some are unmarked, others beautifully specked, spotted, blotched, or wreathed with different shades of brown, lilac, and lavender. Their sizes vary from the diminutive hummingbird to the California vulture as the largest of the Pacific States eggs, and their appearance varies from a glossy polished finish to one very rough and chalky.

The study of the nests (nidology) is fascinating. The nests vary as greatly as do the eggs. There is the slight depression in the soil of the poorwill, the decaying float of waterweeds of the loon, the rude and slight platform of the herons, grosbeaks, etc., the rough but substantial structures of the robin, and the exquisite architectural creations of the hummingbirds, orioles, flycatchers, bushtits, etc. The work of some of these feathered creatures shows as great a degree of skill and artistic temperament as is seen in the human race.

The nesting season ranges from January with some of the raptors, to August in the case of some of the finches. Most of the species, however, build their nests and lay their eggs during May and June. It is during this season that birds are at their best. Their plumage is the gayest, their voices

are the sweetest and most often heard, and their actions amazing and brilliant. But even after the family has left its home, the nest remains not only as a reminder of the home life of the bird, but as a structure to be marvelled at for the creative ingenuity of its maker. There is no lull season for the nidologist—winter reveals many a fine structure completely hidden during the leafy season.

#### VALUE OF STUDY OF BIRD NESTS

The purpose of this handbook on bird nests is to furnish a reference and a guide to all bird students who may desire to study the homes of birds regardless of the season. Besides presenting an illustrated key to the nests of the summer birds of the Pacific States, it offers many suggestions to make more satisfying and meaningful the study of the birds' homes. The key is designed for use by the layman and juvenile, primarily. This should not detract, however, from the value of the key to the oologist, nidologist, photographer, sketcher, and other bird or nature lovers and students.

From the very beginning man has manifested an interest in the artifacts of birds. Early accounts in literature, folklore, and the artistic sketches by primitive man of bird nests testify to this early interest. Knowledge of bird nests and their contents has contributed directly and indirectly to man's nutritional, aesthetic, and shelter needs.

Early students of ornithology, among them Elliott Coues, John Cassin, J. J. Audubon, Charles Bendire, Alexander Wilson, and Thomas Nuttall, made the knowledge of bird nests an essential part of their work. Their writings show a wealth of information and interest in this phase of bird life.

More recently a renewed interest in birds' nests has developed. Such bird students as A. A. Allen, C. A. Reed, F. M. Chapman, F. H. Herrick, and others have written books in the field. Current literature and bird journals abound with illustrative, descriptive, and narrative revelations on bird nests. More and more people are becoming informed on bird life through the press, class, and club work. Travel and camping in the field, in the mountains, the forest, and along the streams have become major recreational pursuits. Bird nests are everywhere in this out-of-door environment. The skill manifest in the location, construction, and use of the bird nest increasingly amazes man. All of these factors combine to point out the need of a key to unlock the identity of these exquisite creations of the feathered ones.

It has been suggested that a work on bird nests might do more harm than good, since it would add to the knowledge already possessed by the

birds' enemies. At some time the desire to collect something is paramount. It has very frequently culminated in the indiscriminate collecting of birds' eggs or nests in season, merely to gratify a passing whim or to see how large a number could be gotten together, without regard to scientific value. It is not intended that this handbook shall stimulate this desire in the least. But the handbook should be conducive to an increased interest in birds, in their home life, and in an intimate acquaintance with bird structure and habits. With a few exceptions we now have all the information that can be derived from specimens of eggs or birds. Bird nest collections may be made without curtailing the number of birds or harming them in any way, if the collector will confine his activities to the fall and winter months. Photography, sketches, and notes permit the nidologist to operate throughout the year, and also make a contribution to knowledge. Today the need is for data on the habits and peculiarities in life. The nidologists may contribute definitely to this "how and why" stage of biological science.

Besides this contribution to knowledge, there are other values to be derived from the study of bird nests. It provides for open air exercise, which is conducive to physical and mental health. This recreational pursuit is economical and satisfying. Intimate knowledge of the birds' habits, habitats, and home problems makes the observer a more understanding parent and citizen. The home life of the bird roughly parallels that of man, for the birds too have their joys, sorrows, and secrets.

### SUGGESTIONS ON FINDING BIRD NESTS

Effective finding of nests is partly "knack" and partly method. The latter can be described; the former is difficult to express. It is hoped that the revealing of some of the secrets of method may make the problem of the photographer and student of home life easier and not encourage the collecting of eggs. The camera offers a wealth of opportunities, many of which are lost by the egg collector. There are opportunities for making worthwhile observations of the birds and of their home life, opportunities for making a collection of photographs that show not only the beautiful eggs that thrill the oologist and egg collector, but the nest as well, and its setting. If the eggs are left in the nest, photographs may be gotten of the adults and of the young and of many interesting habits and activities of the birds. The collector who transfers the eggs from a discovered nest to his collection misses whole chapters in the life history of each bird. He can show his discoveries to but a few friends. The photographer can do better, for he can share his through the medium of the printed page and half-tone reproductions. All

who are interested can see, without any of the original charm being lost for the photographer.

**EQUIPMENT.** Essential equipment for the bird nest seeker consists of field glasses, a stout staff, a pair of pruning shears and claw saw, collapsible boxes, small cartons, or burlap cloth 3' x 3', a piece of heavy rope 50' long, and top cord. Climbers and the camera are often desirable. The glasses are used to observe the bird or nest at a distance while the seeker is concealed. The staff is convenient to rap or scratch on tree trunks and to part dense vegetation. A loud rap will startle a hawk, crow, or woodpecker from its burrow, but may cause the owl or chickadee to sit closer. In the latter case a scratching sound may cause the birds to stick their heads out, and thus save the collector an unnecessary climb to determine tenancy. The pruning shears and claw saw may be used to cut the limbs, branches, and twigs to which the nest is attached. A suitable container, which may be a box or the burlap or other fiber sheeting, is used to put detached nests in while lowering them to the ground with a top cord, or in transporting the nest. Heavy rope is used as a drag to flush field birds and has its values in climbing large trees.

**How to go.** Nest seekers during the nesting season should go alone or with one or two companions. Speaking should be done in undertones. Light and conspicuous colored clothing should be avoided. Movement should be slow and as quiet as possible, avoiding jerky and sudden motions. The observer should stop often and stand still, listening and looking. Stopping beside a tree trunk or behind a leafy screen helps to conceal the nidologist. If possible, the sun should always be at the back of the observer—against the light any bird and nest appear black. Under such conditions, details of the nest can not be made out. Early mornings and late afternoons when the birds are feeding and active are the best times to go afield. Most birds take a siesta during the middle of the day, even with family responsibilities.

**WHERE TO GO.** Birds nests are everywhere. The more diversified the territory, the greater the number and variety of nesting birds, as a rule. The edges of mixed woods or a brushy stream alternating with open field and orchard offer the greatest variety. Usually birds of many varieties nest about the cultivated gardens of man. Dwellings, fence rows, hedges, shrubs, knot-holes, eaves, bracings, etc., about man's edifices offer excellent opportunities for nest placement and concealment, under better protection and feeding conditions than can be found elsewhere. Old, run-down orchards and dwellings offer an amazing variety of nesting sites. An isolated old orchard is especially attractive to birds. So are isolated islands, rocks, trees, ponds,



marshes, and irregular and pocketed cliffs. Even though certain environments yield a greater number and variety of nests, the dense woodland, vast open fields, and wind-swept rocky stretches too have their nest dwellers. The discovery of the birds' nests in these areas requires more time and work, but is often more satisfying to the nidologist, especially if his is a rare find.

**TIME TO GO.** Nests may be sought at any season of the year. The degree of fruitfulness and satisfaction varies with the season and with the objectives of the nidologist. In general, there are two periods of the year, the non-nesting time, or fall and winter months, and the nesting time, spring and summer. The latter period is usually the more satisfying, in that newly created structures filled with exquisite eggs, or with baby birds, varying in stages from the ugly and out-of-proportion condition to fully feathered young with adult symmetry, may be found.

Though the nests are ensconced in foliage at this season, parental behavior helps to disclose the cradles' whereabouts. This behavior includes songs, calls, alarms, aerial acrobatics, protective and community activities, flushing of incubators, feeding, and other solicitude patterns. The colorful black-headed grosbeak sings on its flimsy nest while relieving its setting mate. The warbling vireo, not so resplendent, indicates the location of its semi-hanging cradle by song. But its actual discovery remains difficult. The western kingbird shouts an alarm when the intruder is near its felted nest. Marsh hawks, hummingbirds, ravens, and others go through characteristic aerial stoops, somersaults, and displays of air mastery. Long-eared owls, falcons, and others attempt to drive off the intruder by dashing at him. Vesper sparrows, horned larks, and meadowlarks are among the birds that flush from the nest with startling and noisy abruptness. Magpie and jay males make feeding trips to their setting mates. Males of many birds remain within their nesting territory, driving off contenders and announcing possession by song. All of these and many other overt manifestations of behavior aid the searcher in the location of the nests.

**IN SEARCHING FOR NESTS.** There are two general methods of procedure, both of which will have to be used: one is by watching and listening, and the other is by hunting. Birds in general establish nesting territories. When the nesting season arrives, each male bird selects the area he considers suitable for nesting, and proceeds to defend it from trespass by his own kind. He spends most of his time in this area and announces his presence by song. Ordinarily the male continues to do this until he has won a mate, the nest has been built, and the eggs hatched. His ardor may cool at any stage after

the mating. By getting out one or more mornings, the seeker of nests can learn just what birds are nesting in the area, the territory defended by each, and the approximate nesting place. Another way of discovering the nesting birds in a given area is by concealing oneself and "squeaking" an imitation of a young bird's call, or of an old bird in distress. This is done by pressing the back of the hand or the crooked index finger against the moistened lips and kissing forcefully. Most of the common birds can be rallied about the squeaker after he has had some practice. Their distress notes will bring up the other birds. Those with food in their bills should be watched as they return to their nests. The general direction of the others coming and going can be marked.

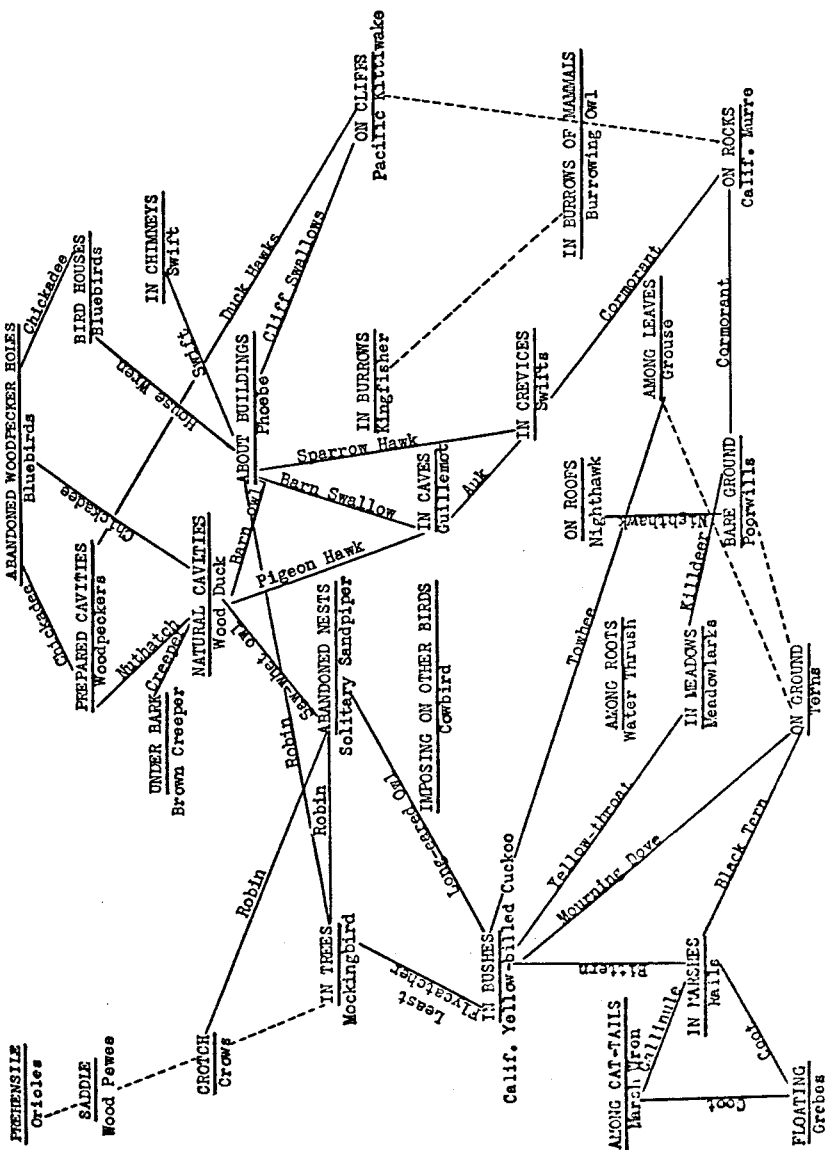
After determining the species of birds nesting in a given area, probable nesting sites should be studied. A. A. Allen's *The Book of Bird Life*, F. M. Chapman's *Handbook of Birds of Eastern North America With Keys to the Species and Descriptions of Their Nests and Eggs*, the nest key in A. A. Allen's *Ornithology, Laboratory Notebook*, and this key help the student to do this. A Diagram of the Typical Nesting Habits of Pacific Coast Birds is included here as an aid in pointing out probable nesting sites.

#### DIAGRAM OF THE TYPICAL NESTING HABITS

After studying these references on possible nesting sites, the real work of finding the nests begins. Sitting still to watch at first pays dividends. A bird carrying food to young will not take long to find the nest. If it knows it is being watched, it ordinarily will not return to the nest. When it is giving alarm notes, it is not likely to go to its nest. Birds not carrying food to young will ordinarily take a little longer to find the nest since the trips of the male to bring food to his mate or to check after her welfare are less frequent than to the young. An incubating female will sooner or later be visited by the male or will come to him. In the latter case, the observer should watch the female. Obviously, a pair of field glasses or binoculars is essential to determine whether the bird is carrying food or merely swallowing all it catches. The glasses also enable the observer to distinguish the nest or follow the bird's path to the nest from a distance.

Birds choose the circumferences of dense thickets and tangles for their nesting places. A field with scattered clumps of shrubbery will contain more bird nests than the same sized field completely covered with bushes. There are two ways of discovering nests in these places. One is for the observer to thrust his head inside the canopy of leaves and scrutinize the inside of the

PREHENSILE  
Oricles  
SADDLE  
Wood Pewee



# A DIAGRAM OF THE TYPICAL NESTING HABITS OF PACIFIC COAST BIRDS

.... Indicates no known bird that nests indifferently in one or the other situation.  
..... Indicates known birds that nest indifferently in one or the other situation.  
..... Modified after Z. P. Metcalf (Econ. Zoo. p. 110).

Modified after Z. P. Metcalf (Econ. Zoo. p. 110).

hollow sphere of foliage. The other is to shake or brush the shrubbery with a staff, at the same time listening and looking for any movement suggestive of a bird leaving the nest. If no noise is forthcoming, a moment or two of waiting may bring an alarm note. Occasionally a bird slips off its nest without being seen. To be certain that there is no nest in the bush, the first method mentioned above must be resorted to.

For discovering the nests of the field birds such as the bobolink, meadowlark, vesper sparrow, or horned lark, a heavy rope 35' to 50' long is convenient. Two seekers with the rope between them can cover a field in a short time. One can do fairly well by pegging one end of the rope and circling the area. Incubating or brooding birds will rarely permit a rope to pass over them without flushing. The rope must be watched carefully for many birds will run some distance before flying. Their nests are difficult to find. Field birds nest more or less indiscriminately over entire fields. Sometimes tufts of grass are preferred places. At another time the area characterized by stunted, sparse grass is favored. Different species of birds prefer different environments. A horned lark would prefer the open grassland, while a bobolink might favor the tussock of grass.

Marsh birds seem to nest most abundantly about the edges of the marsh, or about open water holes farther out. By walking back and forth through the marsh, avoiding or skirting the large patches of reeds or flags and following more or less the borders of streams and pond holes, the seeker will reap best results. Some birds, such as the rails, regularly bend the reeds together over the nest to conceal it. Knowing the habits of birds enables the seeker to find nests more readily.

Nests of warblers, goldfinches, housefinches, and orioles are easily discovered by leaving nesting materials such as cotton, pieces of yarn, string, etc., about. Thus, during nest construction time the birds are easily traced to their domiciles. The willow goldfinch's nest shown in the photograph in the back of this key was discovered by the procedure outlined above.

Ibises and herons that nest in colonies may be traced to their rookeries by lining them up when the flocks leave in the evening and morning for feeding grounds. When young are in the nest, the parent birds keep a more or less constant and telltale path through the sky to the nests.

The first nest of any species is usually the most difficult to find because the seeker is working more or less blindly. Experience, knowing the habits, investigation of alarm notes, observation of birds with nesting material or food in the beak, and listening for song in the nesting territory combine to make nest hunting in the nesting season fruitful.

During the time the nest is occupied, there is usually ample opportunity to discover the identity of the occupants. Some slip away and do not visibly reappear or give any distress calls. Then this nest key is of great value. It is of value also for checking purposes, or if the seeker does not know his birds well. The key has its greatest value in the non-nesting season when the occupants are not about.

### SUGGESTIONS ON COLLECTING NESTS

The best time to collect nests is during the non-nesting season when the leaves have fallen. The nests are easily found and no harm is done by collecting them. Few birds use the same nest a second time. Nests that have been observed through the summer and about which the collector knows the entire history are the most interesting and meaningful. Much can be learned, however, from nests that are discovered in winter for the first time.

In collecting a nest it is usually desirable to cut with a claw saw the branch upon which it rests and preserve them together. The position of the nest upon the branch and its method of attachment are often as interesting and necessary for identification as the materials from which the nest is made. Fine copper wire, or strong threads can be used to bind the nest to the branch. The limb can be made into a stand by adding a base. Wire loops or screw eyes can be fastened to the branch so that it may be hung on the wall or in a cabinet. This provides an excellent means of preserving the nest. If cutting the branch is not feasible, the nest should be carefully taken from the branch and inserted into a collar box, or other box of suitable size. This will hold the shape of the nest and prevent litter. Cellophane or opaque lids may be used. Nests may be mounted and supported by an inverted wire tripod with a base, or in a regular museum habitat mount.

### CARE OF THE NEST

Care should be taken to protect the nests from moths and other destructive insects, or wool, hair, and all other animal substances will be eaten. The best protection for a nest is a spray of a solution of corrosive sublimate. A common atomizer adequately labeled "Poison" may be used.

### NEST DATA

Upon finding a nest, the nidologist should jot down pertinent data called for in the accompanying form. These sheets kept in a loose leaf booklet may prove valuable to ornithology as a contribution to knowledge of nests and their makers.



A label identifying the nest should be affixed to the box. A suggested label is offered.

A. O. U. No. \_\_\_\_\_ Scientific Name \_\_\_\_\_  
 Private No. \_\_\_\_\_ Common Name \_\_\_\_\_  
 \_\_\_\_\_ Method of Determination \_\_\_\_\_  
 Inside Diameter \_\_\_\_\_ Depth \_\_\_\_\_  
 Outside Diameter \_\_\_\_\_ Depth \_\_\_\_\_  
 Composed of \_\_\_\_\_  
 \_\_\_\_\_  
 Location \_\_\_\_\_  
 \_\_\_\_\_  
 Collector \_\_\_\_\_ Date \_\_\_\_\_  
 or \_\_\_\_\_  
 Of Whom \_\_\_\_\_ Date \_\_\_\_\_  
 Color of Eggs \_\_\_\_\_ Avg. No. of Eggs \_\_\_\_\_

#### DATA ON NESTS

Date \_\_\_\_\_ Locality \_\_\_\_\_

- I. Species of nest
  1. Method of determination
- II. Site of nest
  1. General location
  2. Height
  3. Protective conditions
    - a. Shelter
    - b. Concealment
  4. Ecological surroundings
  5. Specific location
- III. Materials of nest
  1. Main bulk
  2. Minor bulk
  3. Lining
- IV. Size of nest
  1. Depth
  2. Inner diameter
  3. Outer diameter
- V. Eggs
  1. Number
  2. General size and shape
  3. Color and markings
- VI. Protective or defensive action of parents
- VII. Extra notations
  1. Number and species of nests in close vicinity

Bird nests are often brought into the classroom by the curious juvenile for identification. A collection of nests may be started cooperatively or indi-

vidually at school or at home. Ordinarily these nests lie about until they are later disposed of as a meaningless litter. If these nests were properly identified, mounted artistically, cared for, and a place designated for their display, they could well make a valuable asset to education.

### USE OF THE KEYS

Variation is the rule of nature. Although nests of the same species vary, especially when found in the winter in different states of preservation, the general type of nest built by each species is fairly constant. One or more of the differentiating factors—location, architecture, materials, egg number and color, habitat, and dimension—will distinguish the identity of the nest's maker. In developing this key, every characteristic that might make identification more effective was selected.

Birds are opportunists. Specific materials of which the nest is constructed often vary according to the kind and amount available. A chipping sparrow might have a nest scantily lined with horsehair in one place and at another place have a heavy lining, depending upon the available supply, and possibly other factors. The location is fairly constant in most species, but variations do occur. The Brewer blackbird's nest might be found anywhere from a ground position to the top of a tree, depending upon conditions of environment. The least variable differentiating factor is the internal dimension of the nest cavity. Crowded conditions alter this. Occasionally nests are discovered that defy identification by even the specialist. The key will prove practical only for such nests as are fairly well preserved.

To determine the identity of the nest under observation, first refer to the master key, which will lead directly to one of the minor keys. The keys are dichotomous, that is to say, at every step the nests are divided into classes, which have or do not have, a given characteristic, (has a layer of mud, or has no mud), or fits or does not fit a certain situation (in the ground, or on the ground). At each step of the key a number with "a" and "b" are used to set apart the two classes. Excerpt from the Master Key:

- 3a Hanging or semipensile nests.....C
- 3b Not hanging or semipensile nests.....4

The letter following the statement refers to a subkey that must be turned to before further progress can be made. Thus if the nest is a hanging type, the observer turns to the key captioned, C—Hanging or Semipensile Nests. The number directs the observer to number 4 of the Master Key. After turning to the subkey the observer is again confronted with statements indicating alternate conditions, 1a or 1b. After determining the statements that

best fit, the others are ignored. Thus a marsh wren's nest would fall into the C group. Then, is the nest located

- 1a In low swamp vegetation.....2
- 1b In upland bushes or trees.....4

It is located in 1a. Then the pair of descriptive statements marked 2 are referred to.

- 2a Open above .....3
- 2b Opening on sides, .8 inch hole; coconutlike ball of tule and other plant stems, tule down lined; 4" by 6" in outside dimensions .....MARSH WREN

(5-7 eggs, Pale chocolate, spotted)

The nest is obviously a marsh wren's. Architecture, materials, location, dimensions, and egg characteristics combine to lead to the nest's identity.

In some cases a check is desired for certainty. In rare cases the nest is unidentifiable by means of the key. Nests of subraces, variations, and subspecies of the main species of birds of the Pacific coast states have not been included. Otherwise, the key includes all birds listed by Ralph Hoffman in *Birds of the Pacific States*.

# A KEY TO THE NESTS OF THE SUMMER RESIDENT BIRDS OF THE PACIFIC STATES

(The key includes most of the birds listed by Ralph Hoffman  
in *Birds of the Pacific States*)

## MASTER KEY

1a	In the ground, or on the ground and in tussocks of grass.....	2
1b	Above ground; in bushes or trees, on cliffs, or about buildings.....	3
2a	In the ground (in burrows).....	A
2b	On the ground or in tussocks of grass.....	B
3a	Hanging or semipensile nests.....	C
3b	Not hanging .....	4
4a	In holes in trees, cliffs, or in bird boxes.....	D
4b	Not in holes.....	5
5a	Containing sticks or large twigs.....	E
5b	With no sticks .....	6
6a	Felted nests of cottony materials, not lichen covered.....	F
6b	Not felted, or lichen covered if felted.....	7
7a	Having a layer of mud.....	G
7b	Containing no mud .....	8
8a	Covered with lichens .....	H
8b	With no lichens .....	9
9a	Mostly of bark, fibers, and rootlets, with or without horsehair lining.....	I
9b	Mostly of grasses, rootlets, straws, and leaves, usually with horsehair in the lining .....	10
10a	Not spherical .....	J
10b	Spherical nest .....	K

## A. IN BURROWS IN THE GROUND

1a	Chiefly inland .....	2
1b	Ocean promontories, shores, cliffs, and rocky islands.....	5
2a	Nesting in colonies in banks; few feathers and grass stems; 2"/12" deep, 2.5"/1.2"*.....	BANK SWALLOW (3-6 White)†
2b	Nesting singly .....	3
3a	Self-made burrow; 4'-6' in perpendicular banks; no nest at end.....	BELTED KINGFISHER (5-7 White)

\* 2"/12" deep, 2.5"/1.2". Numerator refers to diameter of opening; deep means deep or into;  
2.5" in inside diameter and 1.2" inside depth of brooding cavity.  
† Number of eggs in set and coloration.

3b Utilizing some other burrow.....	4
4a In bank (masonry); 2"/6"-12" deep; rootlets, grasses, usually feathers and strings; 2.5"/1.4"*.....	ROUGH-WINGED SWALLOW (3-6 White)
4b In level areas; 4'-10' from surface; horse dung and feather shreds used .....	BURROWING OWL (6-11 White)
5a In burrows and frequently crevices; scantily lined with grasses and rootlets.....	6
5b In burrows or crevices; containing no nesting material.....	8
6a In burrows, 2'-6' deep.....	7
6b In burrows, 5'-15' deep on steep sides of islands off Washington....	RHINOCEROS AUKLET (1 White, brown spotted)
7a Islands off N. California and S. Oregon.....	FORK-TAILED PETREL (1 White, light purple spotted)
7b In steep banks on islands along coast; often in crevices.....	CASSIN AUKLET (1 White)
Burrow 2'-5' long.....	ANCIENT MURRELET (2 Buff, light brown marked)
8a Islands off Southern California.....	BLACK PETREL (1 White)
Crevices or under boulders.....	ASHY PETREL (1 White, lilac speckled)
Short twisted burrow, 2' deep.....	SOCORRO PETREL (1 White, lilac speckled)
8b On islands and occasionally on the mainland north of Ventura, California; 2'-3' under turf.....	BEAL PETREL (1 White, lilac spotted)
Burrows or crevices.....	PIGEON GUILLEMOT (1-2 Pale bluish gray, dark marks)
In burrow, 3'-4' deep.....	TUFTED PUFFIN (1 White)

## B. ON THE GROUND OR IN TUSsockS OF GRASS

1a In fields, weed patches, and under bushes or logs.....	2
1b On shores of streams, lakes, or oceans.....	38
2a No nesting materials; bare flat ground.....	POORWILL (2 White)
Sometimes on rock or city flat roof.....	NIGHTHAWK (2 Grayish white, gray marked)
2b Nesting materials used .....	3
3a Some nesting materials in a depression.....	4
3b Well-defined nests in depressions or on the ground.....	19
4a Nest of leaves chiefly; near water.....	5

\* Numerator refers to diameter and denominator refers to depth of brood cavity.



4b Nest not chiefly of leaves.....	6
5a On or near the ground; bulky and compact; mosses and grasses; 2.2"/1.5", 5.5"/4"-6"* .....	RUSSET-BACKED THRUSH (3-5 Greenish blue, brown spotted)
5b Not so bulky; 2.3"/1.5", 4"/3.5".....	WILLOW THRUSH (4-5 Bluish green)
6a Leaves or grasses; 6"-8"/.5"-1.5"†.....	RING-NECKED PHEASANT (7-15 Greenish buff)
6b Leaves, grasses, and ventral feathers.....	7
7a In arid (desert) regions; 4.5"-5.5"/.5"-3.5".....	GAMBEL QUAIL (10-17 Buff, brown blotched)
7b Elsewhere .....	8
8a In valleys and foothills.....	9
8b In the mountains or marsh-lands.....	13
9a In sagebrush areas, principally.....	10
9b Elsewhere .....	11
10a Nest 6+ "/1"; grasses and rootlets; eastern Oregon and Wash- ington.....	COLUMBIAN SHARP-TAILED GROUSE (10-15 Buffy drab, brown speckled)
10b Nest 8+ "/2±"; grasses and rootlets; under shrub (sage).....	SAGE-HEN (7-9 Greenish drab, reddish brown spotted)
11a Under 5" inside diameter.....	12
11b Over 5" inside diameter; scantily lined; 5.5"/2".....	HUNGARIAN PARTRIDGE (10-12 Grayish green)
12a Nest 4.3"-6"/.5"-2"; often under rock, log, or bush.....	CALIFORNIA QUAIL (6-28 Buff, brown blotched)
12b Nest 4"/.5+"; stubble often used; semihooded; Oregon and Washington; 4.5"/1.7", 5"-7"/2.2".....	BOBWHITE (12-18 Dull white)
13a In marshy areas .....	14
13b In the mountains .....	15
14a Grasses and sedges; 8"/3".....	MARSH HAWK (4-6 Pale bluish white)
14b Grasses and sticks, scanty and loosely put together.....	SHORT-EARED OWL (4-8 White)
15a Under 5" inside diameter.....	16
15b Over 6" inside diameter.....	17
16a Sparingly lined; 4.5"/1"; high Cascades in Washington.....	WHITE-TAILED PTARMIGAN (4-7 Creamy, chestnut brown speckled)

\* First figure: numerator refers to inside diameter, denominator refers to the inside depth; second figure: numerator refers to outside diameter, denominator refers to the outside depth.  
† Inside diameter and depth of brood cavity: 6"-8" across, .5"-1.5" in depth.

- 16b More heavily lined with leaves, pine needles, or grass; under rock or log; 4.5"/1".....MOUNTAIN QUAIL  
(5-15 Pale reddish buff)
- 17a Nest 7"/1.5"; scantily lined with grasses, leaves, and twigs; under logs, brush, or rocks.....SOOTY GROUSE  
(5-10 Creamy buff, reddish brown spotted)
- 17b Nest 6"-6.5" inside diameter.....18
- 18a Nest 6"/2"; against stump or log; northeastern Oregon and northern Washington.....FRANKLIN'S GROUSE  
(5-9 Brown buff, rich brown spotted)
- 18b Nest 6.5"/1"; under shelter of rock, log, or tree trunk.....RUFFED GROUSE  
(6-10 Brownish buff)
- 19a On the ground; less than 2" inside diameter; bark strips, weed stems, grasses, etc.; 1.8"/1.4", 4"/2".....CALAVERAS WARBLER  
(3-5 White, reddish brown speckled)  
1.9"/1.2", 4"/1.7".....LUTESCENT WARBLER  
(3-5 White, reddish brown speckled)
- 19b More than 2" inside diameter; on inland cliffs, rocky masses, etc.....20
- 20a Inland cliffs and rocky masses.....21
- 20b On the ground, in bushes or small trees.....24
- 21a Saucer-like; feathers and grasses glued to rock; 2.7"/1.2", 4.2"/2"; longer than wide.....WHITE-THROATED SWIFT  
(4-5 Dull white)
- 21b Not as above.....22
- 22a Cup of grasses and mosses; in cliff niches or under a boulder above timber lines; 2.6"/1.5", 4.5"/3".....ROSY FINCH  
(4-5 White)
- 22b Below timber line.....23
- 23a Grasses, rootlets, etc.; pebbles leading to nest opening; under rock; 2.4"/1.2", 4.5"/3".....ROCK WREN  
(5-8 White, brown speckled)
- 23b Twigs and mosses; spider webbed about buildings near streams; 2.3"/1.2", 7"/3.3".....CANYON WREN  
(3-6 White, lilac and brown blotched)
- 24a On the ground.....25
- 24b In low bushes, small trees, and occasionally on the ground.....36
- 25a Nest of grasses.....26
- 25b Nest of grasses, plant stems, and twigs chiefly.....32
- 26a Arched nests.....27
- 26b Not arched; in the mountains, or open country.....28
- 27a Heavily arched; 2.2"/1.8", 4.5"/3".....WESTERN GRASSHOPPER SPARROW  
(4-6 White, reddish brown speckled)
- 27b Often arched; 3.4+ "/2+ ", 7"/5".....WESTERN MEADOWLARK  
(3-7 White, brown and purplish speckled)  
4"/.5".....BOBWHITE  
(12-18 Dull white)

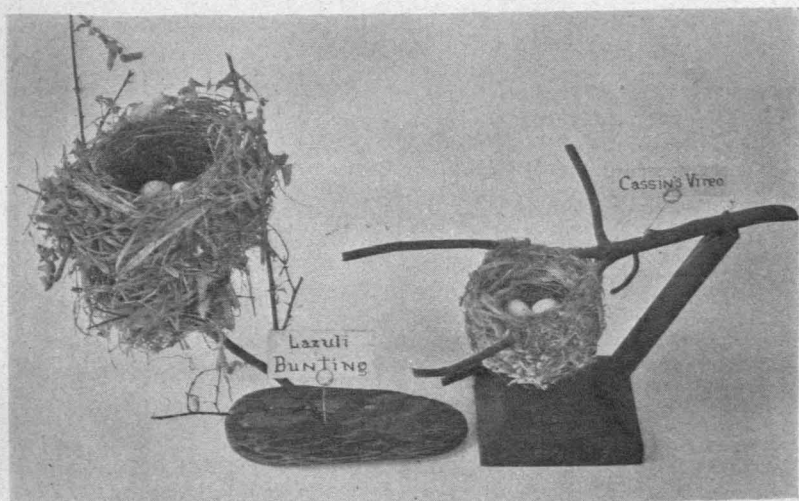
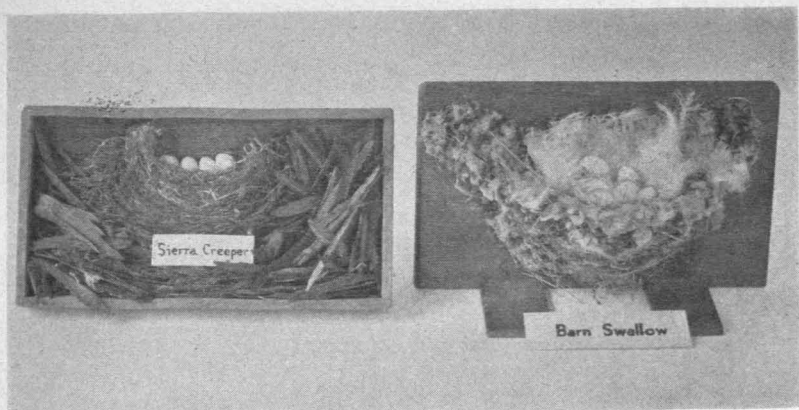


Plate 1. A. Sierra Creeper and Barn Swallow.  
B. Lazuli Bunting and Cassin's Vireo.

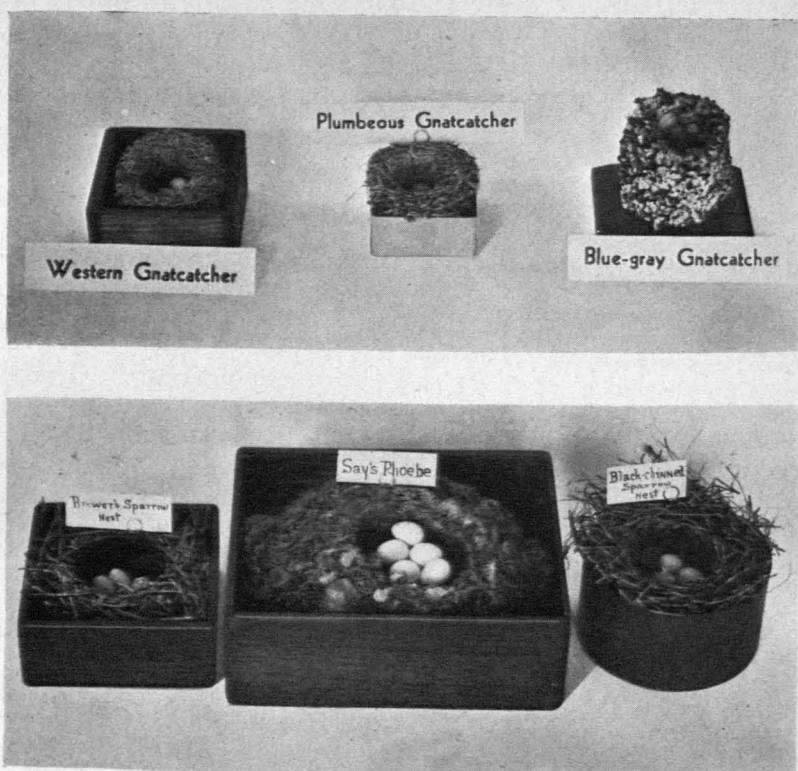


Plate 2. A. Western, Plumbeous, and Blue-gray Gnatcatchers.  
 B. Brewer's Sparrow, Say's Phoebe, and Black-chinned Sparrow.



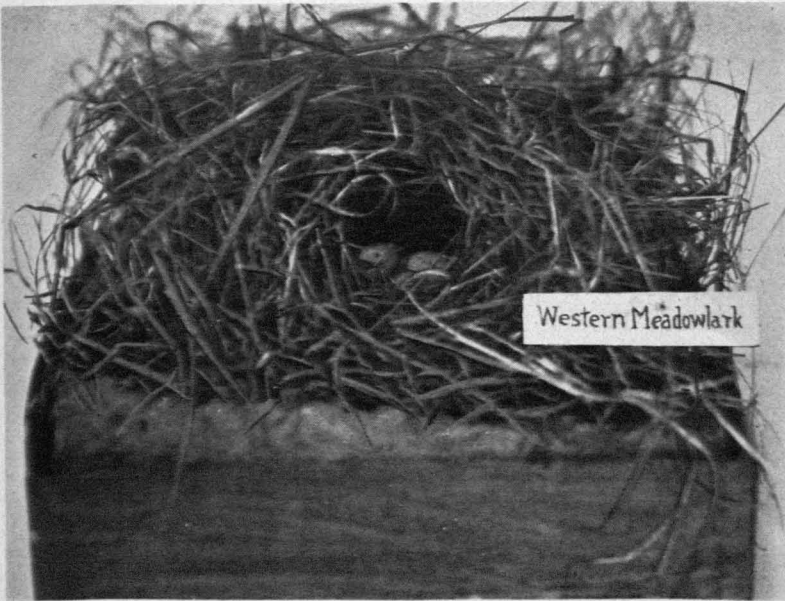


Plate 3. A. Cedar and Bohemian Waxwings.  
B. Western Meadow Lark.



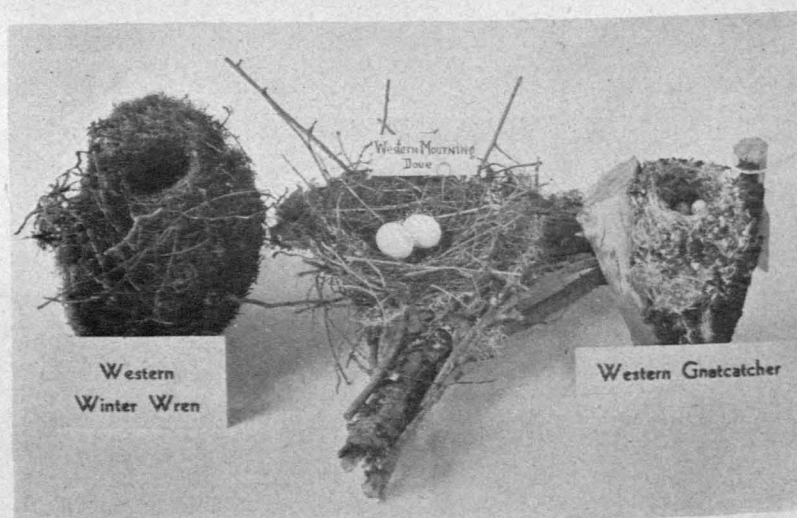
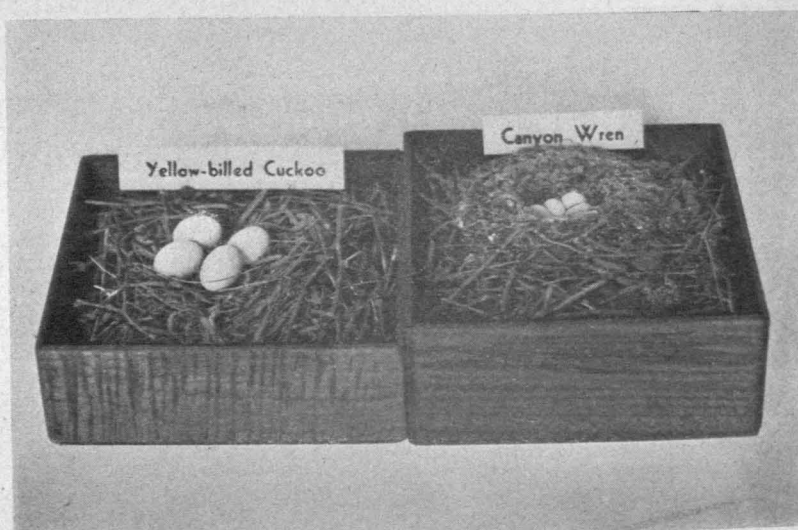


Plate 4. A. Yellow-billed Cuckoo and Canyon Wren.  
B. Western Wren, Mourning Dove, and Gnatcatcher.

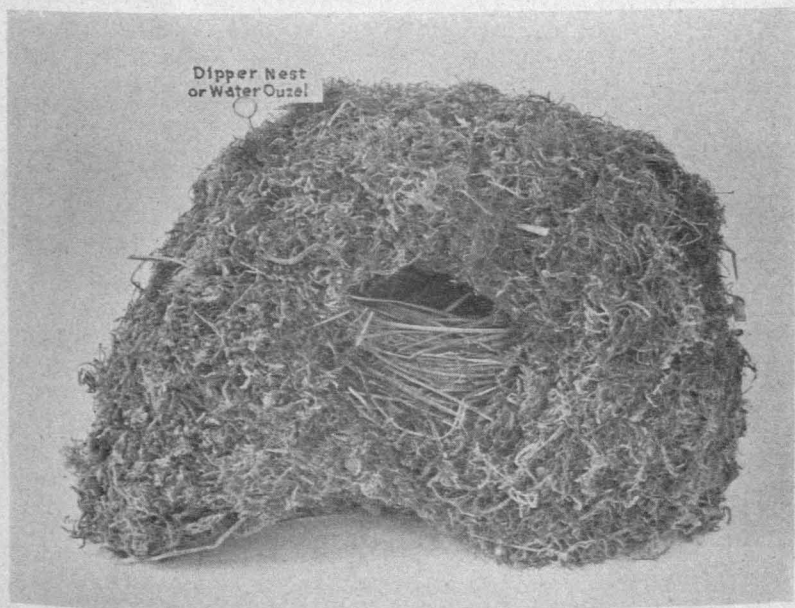


Plate 5. *A.* Verdin.  
*B.* Water Ouzel.

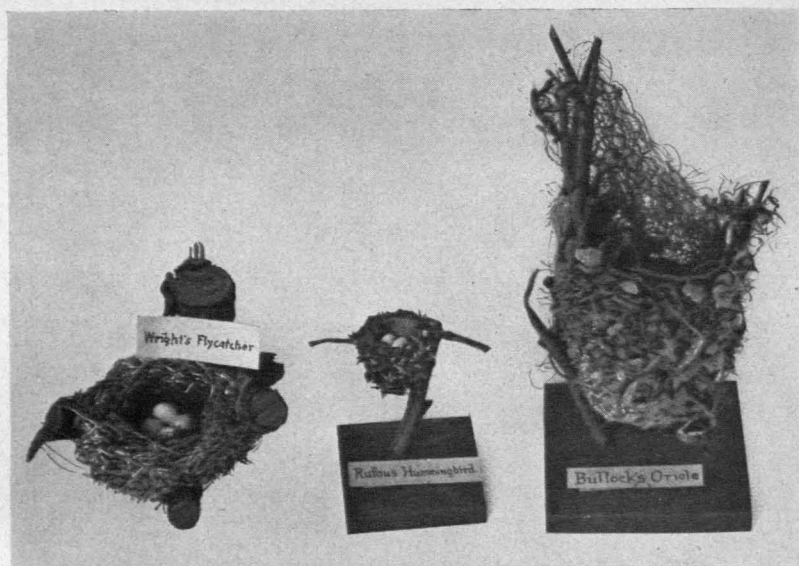


Plate 6. A. Wright's Flycatcher, Rufous Hummingbird, and Bullock's Oriole.  
B. Western Tanager, Bewick Wren, and Summer Tanager.



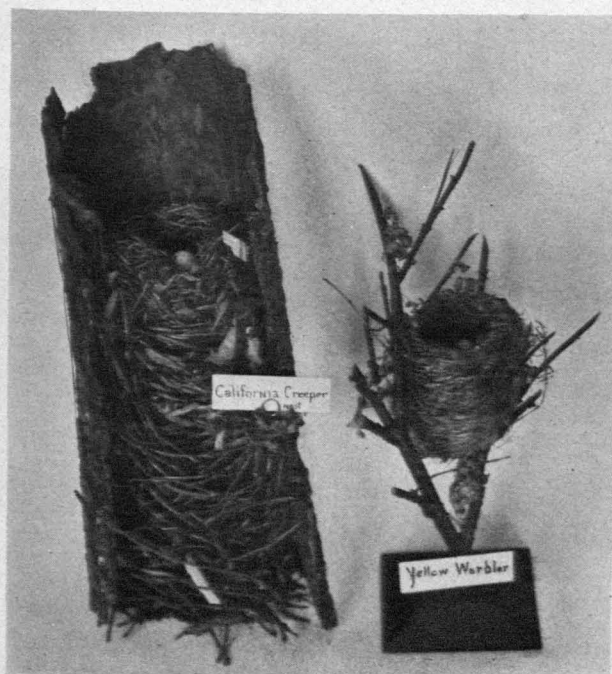
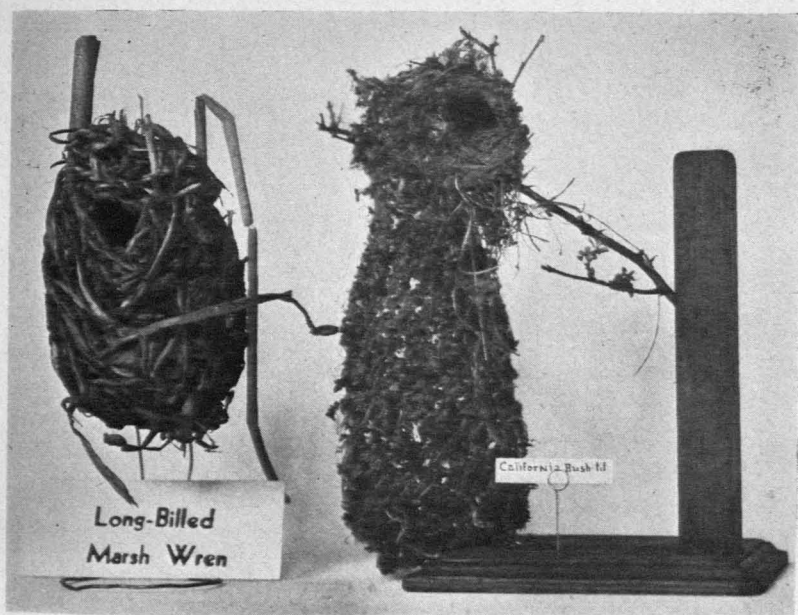


Plate 7. A. Marsh Wren, Bush-tit.  
B. Creeper and Yellow Warbler.



Plate 8. *A.* Nest and eggs of Eared Grebe. (Photograph by Alex Walker.)  
*B.* Farallon Cormorant Nests at Klamath Lake. (Photograph by Ira N. Gabrielson.)



Plate 9. *A.* Nest and eggs of Treganza's (Blue) Heron. (Photograph by Alex Walker.)  
*B.* Nests of California (Blue) Heron. (Photograph by J. C. Braly.)





Plate 10. *A.* Nest and eggs of American Bittern. (Photograph by Ira N. Gabrielson.)  
*B.* Nest and eggs of Least Bittern. (Photograph by Ira N. Gabrielson.)



Plate 11. A, Nest and eggs of Cinnamon Teal. (Photograph by Alex Walker.)  
 B, Nest and eggs of Redhead. (Photograph by Alex Walker.)



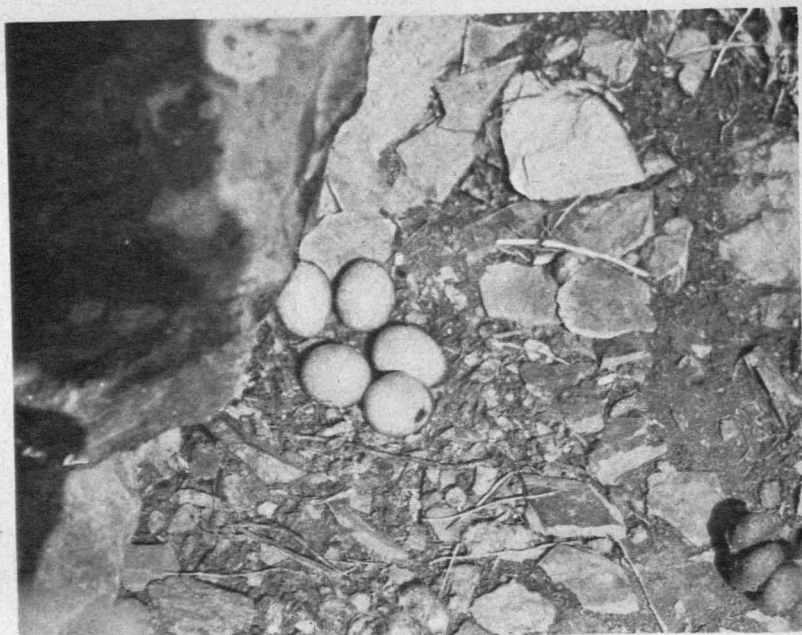


Plate 12. *A.* Nest and eggs of Prairie Falcon.  
*B.* Nest and eggs of Red-tailed Hawk.



Plate 13. A. Nest and eggs of Sooty Grouse. (Photograph by Alex Walker.)  
 B. Nest and eggs of Oregon Ruffed Grouse. (Photograph by Reed Ferris.)



Plate 14. Nest and eggs of Mountain Quail. (Photograph by Alex Walker.)





Plate 15. - *A.* Nest and eggs of Sandhill Crane. (Photograph by Alex Walker.)  
*B.* Nest and eggs of Sora Rail (Photograph by Alex Walker.)



Plate 16. *A.* Nest and eggs of Killdeer. (Photograph by Alex Walker.)  
*B.* Nest and eggs of Western Gull. (Photograph by Alex Walker.)

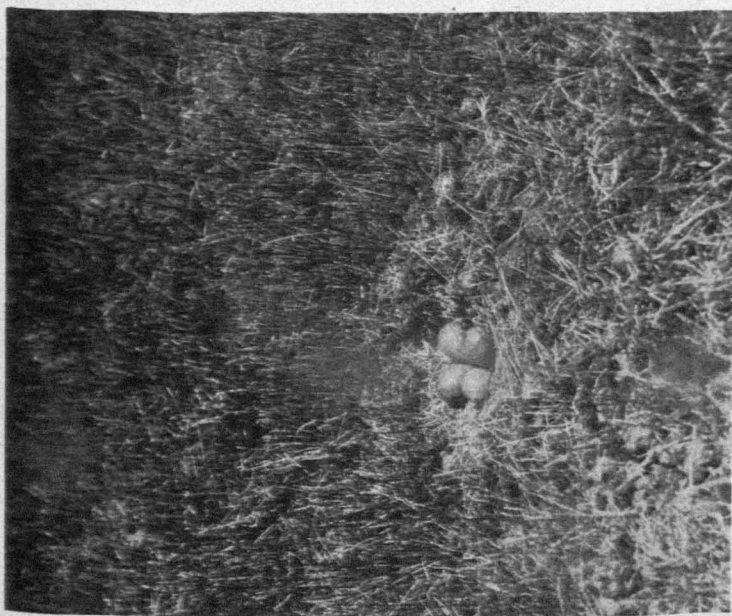


Plate 17. A. Nest and eggs of Long-billed Curlew. (Photograph by S. G. Jewett.)  
 B. Nest and eggs of Upland Plover. (Photograph by S. G. Jewett.)







Plate 18. *A.* Nest and eggs of Avocet. (Photograph by Alex. Walker.)  
*B.* Nest and eggs of Black-necked Stilt. (Photograph by Wm. L. and Irene  
 Finley.)



Plate 19. *A.* Nest and eggs of Ring-billed Gull. (Photograph by Alex Walker.)  
*B.* Nest and eggs of California Murre. (Photograph by Alex Walker.)





Plate 20. *A.* Band-tailed Pigeon Squab on Nest. (Photograph by Alex Walker.)  
*B.* Nest and eggs of Short-eared Owl.



Plate 21. A. Nest and eggs of Nuttall's Poorwill. (Photograph by Alex Walker.)  
 B. Nest and eggs of Arkansas Kingbird. (Photograph by Wm. L. Finley and H. T. Bohlman.)



Plate 22. A. Nest and eggs of Western Wood Pewee. (Photograph by Alex Walker.)  
 B. Nest and eggs of Long-tailed Jay. (Photograph by Alex Walker.)





Plate 23. *A.* Nest and eggs of Raven on cliff face.  
*B.* Nest and eggs of Green-tailed Towhee.



Plate 24. Nest and eggs of Sage Thrasher. (Photograph by Alex Walker.)



Plate 25. *A.* Nest and eggs of American Pipit. (Photograph by S. G. Jewett.)  
*B.* Nest and eggs of Audubon's Warbler. (Photograph by Alex Walker.)





Plate 26. Nest and eggs of Macgillivray's Warbler. (Photograph by Alex Walker.)



Plate 27. *A.* Nest and eggs of Brewer's Blackbird on ground. (Photograph by Alex Walker.)  
*B.* Nest and eggs of Willow Goldfinch. (Photograph by Alex Walker.)





Plate 28. A. Nest and eggs of Brook's Savannah Sparrow. (Photograph by Alex Walker.)  
 B. Nest and eggs of Western Vesper Sparrow. (Photograph by Alex Walker.)



Plate 29. Nest and eggs of Shufeldt's Junco. (Photograph by Alex Walker.)



Plate 30. *A.* Nest and eggs of Western Lark Sparrow. (Photograph by Alex Walker.)  
*B.* Nest and eggs of Rusty Song Sparrow. (Photograph by Alex Walker.)





Plate 31. Nest and eggs of Puget Sound Sparrow. (Photograph by Alex Walker.)



Plate 32. *A.* Nest and eggs of Western Robin. (Photograph by Alex Walker.)  
*B.* Nest and eggs of California Purple Finch. (Photograph by Alex Walker.)

- 28a In moist meadows of mountain areas; 2.2"/1.2", 3.7"/1.8" .....  
 ..... LINCOLN SPARROW  
 (4-5 Greenish white, chestnut blotched)
- 28b In the open country and on hillsides.....29
- 29a On dry hillsides, California; 2.2"/1.3", 4"/1.9".....  
 ..... RUFOUS-CROWNED SPARROW  
 (3-4 Bluish white)
- 29b In the open country, or woodland.....30
- 30a Nest of grasses mostly; often lined with rootlets and hair;  
 2.2"/1.4", 4.5"/1.8".....  
 ..... VESPER SPARROW  
 (4-5 Whitish, brown splashed)
- 2.2"/1.5", 4"/2" ..... SAVANNAH SPARROW  
 (4-6 Grayish white, dotted and blotched)
- 30b Nest of grasses and other materials.....31
- 31a Mosses, lined with feathers and hair; bulky; high mountains.....  
 ..... PIPIT\*  
 (4-6 Gray, dark spotted)
- 31b Grass stalks, often hair; well-defined nest in the open; 2.5"/1.9", 4+ "/3"  
 .....  
 ..... HORNED LARK  
 (3-4 Olive buff, lavender sprinkled)
- 32a Near the water .....33
- 32b Elsewhere .....34
- 33a In marshes; nest of grasses, weed stems, hair, and feathers; 6" above the  
 ground; 1.8"/1.2", 3.2"/1.7".....  
 ..... BELDING SPARROW  
 (3-5 Grayish white, brown splashed)
- 33b Near a stream; nest of twigs and mosses; on the ground or rocky slopes....  
 ..... TOWNSEND SOLITAIRE\*  
 (3-5 Grayish white, brown spotted)
- 34a In open valleys; 3.1"/1.8", 5"/2".....  
 ..... BOBOLINK  
 (5-7 Grayish white, brownish spotted)
- 34b In open woodlands .....35
- 35a Nest of plant stems and grasses; 2.1"/1.3", 4.2"/1.7+ ".....  
 ..... JUNCOS  
 (4-5 White, brown speckled)
- 35b Nest of leaves, twigs, and vines; lined with rootlets and grass stems;  
 3"/1.5", 5.2"/2.6".....  
 ..... SPOTTED TOWHEE  
 (3-5 Pinkish white, brown spotted)
- Bulky; often in low bushes (sage); 2.5"/1.5", 5.7"/3".....  
 ..... GREEN-TAILED TOWHEE  
 (3-4 Bluish white, brown spotted)
- Deep cup; horsehair may be in lining; 3.1"/2", 6"/3.5".....  
 ..... ABERT TOWHEE  
 (3-4 Bluish green, black marked)
- 36a In alpine meadows; some twigs used; 2.5"/2", 6"-9"/6".....  
 ..... WHITE-CROWNED SPARROW  
 (3-5 Pale greenish blue, brown spotted)
- 36b Elsewhere .....37

\* Not enough nests measured to establish a mean, brood cavity obscure, or nest rarely found.

37a	Coast; well-built cup of grasses, weed stems, etc.; 2.5"/1.7", 4"-7"/3.2".....	NUTTALL SPARROW (3-5 Pale greenish blue, brown spotted)
37b	Generally distributed; grasses, plant stems, and fibers; 2.5"/1.2", 4"/1.5".....	LARK SPARROW (4-5 Bluish white, brown spotted)
38a	On shores and islands.....	39
38b	Floating, or in tules.....	57
39a	Near saline water.....	62
39b	Near fresh water.....	40
40a	On bare, sandy, or gravelly areas.....	41
40b	In marshy areas of lakes, sloughs, and slow-moving streams.....	57
41a	With or without a little lining of grasses, pebbles, shells, etc.; 4"/.7".....	KILLDEER* (4 Drab, black spotted)
	Always in the open.....	SNOWY PLOVER (2-3 Pale buff, black scratchy dots)
	Often uses tuft of grass or small bush.....	SPOTTED SANDPIPER (4 Buff, dark spotted)
41b	With more nesting material used.....	42
42a	In depressions.....	44
42b	Not in depressions.....	43
43a	Grasses, straws, reeds, etc., not well concealed.....	BITTERN (3-6 Brownish drab) CALIFORNIA GULL (2-3 (4)† Grayish brown, dark blotched) RING-BILLED GULL (2-3 Gray, brown marked)
43b	Large structure; Great Basin area.....	SANDHILL CRANE (2 Brownish buff, brown blotched)
44a	On lakes, streams, islands, and shores.....	45
44b	On meadow or prairie land.....	48
45a	With rim or platform of grasses.....	46
45b	With a definite lining.....	47
46a	Large; with a rim 4" or 5" high of plant matter.....	WHITE PELICAN (2-3 Chalky white)
46b	Smaller; with rim or platform of grasses.....	AVOCET (4 Greenish buff, dark marked)
47a	Lined with straw and rubbish; islands.....	CASPIAN TERN (2-3 (4)† Grayish buff, brown marked)
47b	Lined with down.....	49
48a	In moist meadows; lined with grass.....	WILSON SNIPE (3-4 Olive gray, dark marked)
	About lakes east of Cascade divide.....	WILSON PHALAROPE (3-4 Brownish buff, dark marked)

\* Brood cavity is not easily measured on birds laying eggs on bare surfaces.

† (4), Rare record of 4.





57a	In growing tules; of dry tules 1+ feet above water.....	WHITE-FACED GLOSSY IBIS (3-4 (5) Greenish blue)	58
	In southern California.....	FLORIDA GALLINULE (6-13 Buff, chestnut blotched)	59
		FORSTER TERN (2-5 Brown, buff spotted)	60
57b	Floating; reeds and other aquatic vegetation.....		58
	58a Under 5" inside diameter.....		59
	58b 5" or over in inside diameter.....		60
59a	Nest 3+"; mass of rubbish.....	BLACK TERN (3 Greenish brown, dark blotched)	61
59b	Nest 4.5"/1+"; mass of rubbish; in colonies.....	EARED GREBE (3-5 Whitish stained)	62
	Not in colonies; anchored to or built around green or dead reeds or tules.....	PIED-BILLED GREBE (3-10 Deep buff)	63
	60a Nest 5"; may be built up in tules; not concealed.....	COOT (6-15 Gray, black specked)	64
	60b Nest over 6" inside diameter.....		61
61a	Nest 6+"; mass of rubbish; usually built in thick vegetation in water 3'-4' deep; Washington.....	HOLBOELL'S GREBE (4-5 Whitish, buff stained)	62
61b	Nest 8+"/1+"; mass of reeds, flags, and stringy vegetable matter.....	WESTERN GREBE (3-5 Chalky bluish white)	63
	62a On bare shelves, slopes, beaches, and in niches.....		64
	62b Among marsh plants.....		70
63a	In niches or crannies.....		64
63b	Elsewhere .....		65
	64a Materials glued .....	BLACK SWIFT (1 White)	66
	64b Materials not glued.....	WESTERN GULL (2-3 Greenish buff, spotted)	67
65a	In hollows in the sand on beaches above high tide.....	LEAST TERN (2 Buffy, umber spotted)	68
	Usually on mound; tracks abundant about.....	SNOWY PLOVER (2-3 Pale buff, black scratchy dots)	69
65b	Usually not in hollows, niches, or crannies.....		66
	66a On bare rock; no nesting materials.....	CALIFORNIA MURRE (1 Greenish blue, brown markings)	67
	66b Some nesting materials.....		67
67a	Dry grasses; on steep cliffs of rocky islands; 8+"/3+".....	BAIRD CORMORANT (3-5 Bluish white)	68
67b	Seaweeds used extensively .....		68

- 68a On rocks and in trees; inland; pondweed, seaweed, and sticks;  
10"/2" ..... FARALLON CORMORANT  
(3-4 Green or bluish white)
- 68b On slopes or shelves.....69
- 69a Eelgrass or seaweed; 11"/2" ..... BRANDT CORMORANT  
(3-6 Bluish white)
- 69b Seaweed mostly; on slopes or rocky sides of islands.....  
..... GLAUCOUS-WINGED GULL  
(2-3 Greenish buff, brown spotted)  
..... WESTERN GULL  
(2-3 Greenish buff, brown spotted)
- 70a Bulky structure of sticks on the ground among low bushes; on  
ocean islands..... CALIFORNIA BROWN PELICAN  
(2-3 (5) Chalky white)
- 70b Well concealed by tall marsh plants.....71
- 71a Nest of *Salicornia* or reeds, or both and among same; 5"/.5+", 7"/1.3"  
..... CALIFORNIA CLAPPER RAIL  
(6-12 Buff, brown spotted)  
In southern California..... LIGHT-FOOTED RAIL  
(6-12 Buff, brown spotted)  
Coast marshes of California and Lower California.....  
..... FARALLON RAIL  
(4-8 Creamy white, brown speckled)
- 71b Of grasses, reeds, tules, etc.....72
- 72a On wet ground; 3.5"/2"; California..... YELLOW RAIL  
(7-9 Buff, brown speckled)
- 72b Not usually on wet ground..... VIRGINIA RAIL  
(5-12 White, brown speckled)  
Anchored to growing vegetation..... SORA (CAROLINA) RAIL  
(4-15 Buff, brown spotted)

#### C. HANGING OR SEMIPENSILE NESTS

- 1a In low swamp vegetation.....2
- 1b In upland bushes or trees.....4
- 2a Open above .....3
- 2b Opening on sides; coconutlike ball of tule and other aquatic plant  
stems, tule down lined; 4"/6" outside measurement; .8" hole,  
diameter ..... MARSH WREN  
(5-7 Pale chocolate, spotted)
- 3a Platform of tules, slightly hollowed..... LEAST BITTERN  
(3-6 Pale bluish white)
- 3b Deeply hollowed; tules and grasses; over or near water; 1'-3' over sur-  
face ..... YELLOW-HEADED BLACKBIRD  
(3-5 Grayish white, brown spotted)  
Low in shrubs and tules, even on the ground.....  
..... RED-WINGED BLACKBIRD  
(3-5 Bluish white, dark markings)

- In central and southern California.....TRICOLORED RED-WING  
(3-5 Bluish white, dark marked)
- 4a Inside depth less than 2" .....5
- 4b Larger, over 2" deep inside.....12
- 5a Fully suspended (no support below; fastened at rim only).....6
- 5b Deep; semipensile; partly supported; grasses and fibers; in high desert  
plants, usually sage.....GRAY FLYCATCHER  
(3-4 White)
- 6a Cup consisting of fine materials.....7
- 6b Cup consisting of bark and other plant fibers.....10
- 7a Cup of plant fibers in bushes.....8
- 7b Cup consisting of moss and cottony material.....9
- 8a In chaparral belt; California; low, loose construction.....GRAY VIREO  
(3-4 White, brown specked)
- 8b Along streams; low in pendant willow and thicket twigs; Cali-  
fornia .....LEAST VIREO  
(3-4 White, brown specked)
- 9a In low hanging limbs; 2.2"/1.75", 3"/2.75"\*.....HUTTON VIREO  
(3-4 White, brown specked)
- 9b In tree tops or outer branches; high, 1.8"/1.5", 3"/3".....  
.....WESTERN WARBLING VIREO  
(4-5 White, brown spotted)
- 10a Usually along streams; low; 2"/1.5", 3"/2.3".....RED-EYED VIREO  
(3-4 White, dark specked)
- 10b Not near water usually.....11
- 11a Low trees of lower mountain slopes, or forested lowlands; decorated with  
petals or paper; 2.1"/1.5", 3.7"/2.2".....CASSIN SOLITARY VIREO  
(4-5 White, brown specked)
- 11b In dense sprays of conifers; bulky structure of bark, feathers, and moss;  
1.9"/1.5", 3.5"/3".....WESTERN GOLDEN-CROWNED KINGLET  
(5-11 Gray, brown or lilac spotted)
- Partly hanging; 1.9"/1.6", 3.3"/3.3".....  
.....RUBY-CROWNED KINGLET  
(5-9 Gray, brown spotted)
- 12a Basketlike .....13
- 12b Hanging bulky pouch of moss, lichens, and cottony materials;  
8"-12" long, 3"-4" diameter; opening on side near top, .8",  
4.5" deep .....BUSH-TIT  
(5-9 White)
- Uses sage leaves; smaller.....LEAD-COLORED BUSH-TIT  
(5-9 White)
- 13a Nest of vegetable fibers, and usually lined with hair; in deciduous trees;  
2.8"/4", 4.5"/5"-9" .....BULLOCK ORIOLE  
(3-6 Bluish white, dark lines and spots)

\* First figure: numerator refers to inside diameter, denominator refers to inside depth; second figure: numerator refers to the outside diameter, denominator refers to outside depth.

**13b** Usually not lined with hair; not in deciduous trees.....**14**

**14a** Nest of fibers fastened to limbs of yucca; 3"/2.4", 5"/3.2".....  
SCOTT ORIOLE  
(2-4 Bluish white, dark markings)

**14b** Nest of palm fibers with inner felting of vegetable down or feathers, hung from twigs or fronds of palms; 3"/3".....  
ARIZONA HOODED ORIOLE  
(4-6 White, purplish brown spotted)

#### D. IN HOLES IN TREES OR CLIFFS, OR IN BIRD BOXES

1a	Nesting in colonies.....	2
1b	Nesting singly .....	4
2a	Small twigs glued to side, 2.2"/1", 3.2"/1.6"*.....	VAUX SWIFT (3-5 White)
2b	No glue used .....	3
3a	Grasses, feathers, and plant fibers; cup-like; 2.5"/1.4", 5.3"/2.8".....	TREE SWALLOW (4-7 White)
	Often about human edifices.....	
	.....NORTHERN VIOLET-GREEN SWALLOW	(4-6 White)
3b	Grasses, twigs, and plant fibers.....	WESTERN PURPLE MARTIN (3-5 White)
4a	Drilled holes; no nesting materials in bottom.....	5
4b	In old woodpecker holes, or in natural cavities of similar size.....	15
5a	Entrance hole 2" or less in diameter.....	6
5b	Entrance hole more than 2" in diameter.....	11
6a	Entrance hole 1.5" in diameter.....	7
6b	Entrance hole more than 1.5" in diameter.....	8
7a	Often in aspens, in live and dead conifers or living deciduous trees.....	RED-BREASTED SAPSUCKER (5-6 White)
	.....RED-NAPED SAPSUCKER	(4-5 White)
7b	Not in aspens; rare in conifers; opening 1.25",.....	DOWNY WOODPECKER (subspecies) (4-7 White)
8a	Entrance hole 1.75" in diameter; depth 8" (±).....	9
8b	Entrance hole 2" in diameter; depth 10" (±); in dead and living trees.....	CALIFORNIA WOODPECKER (4-6 White)
9a	In high mountains.....	10

\* First figure: numerator refers to inside diameter, denominator refers to the inside depth; second figure: numerator refers to outside diameter, denominator refers to outside depth.

- 9b Usually not in high mountains; usually in dead trees; 10" deep.....  
 ..... HAIRY WOODPECKER (subspecies)  
 (3-5 White)
- 10a In mountains east of Cascades.....  
 ..... AMERICAN THREE-TOED WOODPECKER  
 (4 White)
- 10b Usually in stumps or stubs; usually not above 8'.....  
 ..... ARCTIC THREE-TOED WOODPECKER  
 (4 White)
- 11a Entrance hole more than 2" in diameter, but not more than 2.5".....12
- 11b Entrance hole 3"-3.5" in diameter; high; usually facing east; 12" (±)  
 deep ..... WESTERN PILEATED WOODPECKER  
 (3-5 White)
- 12a Entrance hole 2.3" in diameter; 10" (±) deep.....13
- 12b Entrance hole 2.5" in diameter; 12" (±) deep.....14
- 13a In both giant cacti and trees..... GILA WOODPECKER  
 (3-5 White)
- 13b Usually in trees..... LEWIS WOODPECKER  
 (6-8 White)
- 14a In giant cacti..... GILDED FLICKER  
 (2-5 White)
- 14b In other woody plants..... RED-SHAFTED FLICKER  
 (5-10 White)
- 15a Nest at bottom of cavity; frequently use bird houses.....16
- 15b No nest built; birdhouses not used.....17
- 16a Nest of twigs and sticks; lined with feathers 2.1"/1.5", 4.5"/2"---  
 ..... WESTERN HOUSE WREN  
 (5-8 White, brown spotted)
- 2.2"-3"/1.2"-1.8", 5"/2"--- BEWICK WREN (subspecies)  
 (5-7 White, brown wreathed and spotted)
- 16b No sticks or twigs.....17
- 17a Nest entirely of grasses; 2.2"/1.2"..... WESTERN BLUEBIRD  
 (4-6 Bluish white)
- 2.2"/1.3" ..... MOUNTAIN BLUEBIRD  
 (5 Greenish white)
- 17b Nest of grasses and other materials.....18
- 18a Lined with rootlets, grasses, hair, and feathers; occasionally  
 snake skins ..... ASH-THROATED FLYCATCHER  
 (3-6 Buff, brown and splotched)
- 18b Not lined with rootlets and no snake skins.....19
- 19a Nest of straws and feathers; spherical or partly arched; 2.4"/1.5", 4.5"/1.8"  
 ..... ENGLISH SPARROW  
 (4-5 Greenish blue, dark specked)
- 19b Nest of plant fibers, moss, wool or fur, and feathers.....20



- 20a Mostly in stumps and stubs; below 30'; 1.5"/1", 4.2"/2".....CHICKADEES  
(5-9 White, brown marked)  
NUTHATCHES  
(Pygmy 6-9, Slender bill 5-7, Red breasted 4-6 White, brown specked)
- 20b Usually in live trees; 2.2"/6", 4.3"/1.5".....PLAIN TITMOUSE  
(6-8 White, brown spotted)
- 21a In large woodpecker holes and cavities of similar size.....22
- 21b In other than woodpecker's old holes.....23
- 22a In giant cacti.....ELF OWL  
(3 White)
- 22b In other woody plants.....SPARROW HAWK  
(4-5 (3-7) Buffy, brown blotched)
- In timbered areas.....SAW-WHET OWL  
(3-6 White)
- Prefer open woodlands.....SCREECH OWLS  
(2-3 White)
- PIGMY OWL  
(3-5 White)
- 23a In crevices, bark warps, and other small openings in trees and stumps.....24
- 23b In larger natural cavities in trees or cliffs.....26
- 24a In stumps or roots; nest of moss and twigs; feather lined;  
1.3"/2.3", 4.8"/6.2".....WESTERN WINTER WREN  
(5-7 White, brown spotted)
- 24b Nest of other materials and not in roots, or very low.....25
- 25a Nest of grasses mostly; lower Colorado river.....LUCY WARBLER  
(3-5 White, brown specked)
- 25b Twigs, feathers, and fibers used; behind strip of loosened bark 1.3"-  
2.5"/1.7", 3.5"/6" .....CREEPERS  
(5-8 White, brown spotted)
- 26a No nesting materials used.....BARN OWL  
(5-7 White)
- SPOTTED OWL  
(2-3 White)
- PIGEON HAWK  
(4-5 Brownish buff, chestnut blotched)
- TURKEY VULTURE  
(1-2 (3) Creamy white, brown spotted)
- CALIFORNIA CONDOR  
(1 Ashy gray)
- 26b Nesting materials utilized.....27
- 27a Holes in trees near water; 6'-75'; lined with feathers.....WOOD DUCK  
(10-15 Buff)
- BUTTER-BALL  
(8-12 Dull buff)
- AMERICAN MERGANSER  
(6-10 (17) Creamy buff)

	HOODED MERGANSER (10-12 Grayish white)
	BARROW GOLDEN-EYE (6-15 Grayish green)
27b May also utilize a used nest.....	HORNED OWL (2-4 White)

## E. CONTAINING STICKS OR LARGE TWIGS

1a Bulky nest in trees, or on ledges or cliffs.....	2
1b Small nest, less than 15" outside diameter.....	16
2a Large, 25"-60" outside diameter.....	3
2b Smaller, 13"-25" outside diameter.....	8
3a Nearly flat; 35"-60" outside diameter.....	4
3b Hollowed and lined; smaller, 25"-35" outside diameter.....	5
4a Inland; large trees or cliff ledges; 14"/1" ( $\pm$ )*.....	GOLDEN EAGLE (2-3 Buffy white, dark marked)
4b Near shores and stream banks; on cliff, shelf or tall trees.....	BALD EAGLE (2 White)
3'-4'/3'-7' outside diameter; flat topped.....	OSPREY (2-3 (4) Cream, chestnut blotched)
Loosely constructed.....	GREAT BLUE HERON (3-6 Greenish blue)
5a Inland; not near water.....	6
5b Marshy areas and along stream courses.....	7
6a Lining of bark.....	GREAT-HORNED OWL (2-4 White)
Old nests of crow, etc., used.....	LONG-EARED OWL (3-6 White)
Often bulky; high.....	RED-TAILED HAWK (2-5 White, brown blotched)
Usually in cottonwood or juniper.....	SWAINSON HAWK (2-5 White, brown splashed)
6b Lining of dry or fresh leaves.....	HAWKS
Often uses old crow, hawk, or squirrel nest; 8"-11"/2.5", 20"/18" .....	COOPER'S (4-5 Bluish white)
Colorado river and Imperial valley.....	HARRIS (2-4 White)
Often bulky; high; 8"-10"/2", 3' long by 2' wide/3"-11" .....	RED-TAILED (2-5 White, brown blotched)
Usually in cottonwood or juniper; 2'/1' outside measure- ment .....	SWAINSON'S (2-5 White, brown splashed)

\* Numerator refers to diameter, denominator refers to depth of brood cavity.



- 15b Usually in broad-leafed trees; 7"-8"/3"-4", 15"/7".....WESTERN CROW  
(4-8 Bluish white, brown marked).....17
- 16a Platform; very shallow.....17
- 16b Deeply hollowed .....20
- 17a No lining .....18
- 17b Lined with rootlets and grasses; 4"/- , 7"/1.8".....CALIFORNIA YELLOW-BILLED CUCKOO  
(3-4 Light greenish blue).....19
- 18a Close to the ground.....19
- 18b Higher, 8'-40' on a horizontal limb; 4"-6" brood spot, 4.5"/1.5,"  
6.5"/2.5" .....BAND-TAILED PIGEON  
(1 White).....19
- 19a Usually in mesquite or trees along the Colorado River.....WHITE-WINGED DOVE  
(2 White).....20
- 19b Usually in low shrubs, trees, or on the ground; 4"/1", 6±"/2±".....MOURNING DOVE  
(2 White).....21
- Southern California.....MEXICAN GROUND DOVE  
(2 White).....21
- 20a In thickets or scrubby trees.....21
- 20b Low, bulky, of sticks and grasses.....30
- 21a Lining of leaves, rootlets, and bark strips.....22
- 21b Lining of bark and wool; 3.1"/2.3", 5+ "/4.5".....CALIFORNIA SHRIKE  
(4-7 Grayish white, yellow brown blotched).....22
- 22a Inside diameter 2.8"-3"; lined with strips of bark; in bushes or  
low trees; 3"/2", 5.2"/3.1".....CATBIRD  
(3-5 Bluish green).....23
- 22b Inside diameter 3.5" or more.....23
- 23a Inside diameter 3.5" (±).....24
- 23b Inside diameter 3.7" (±).....28
- 24a Twig or rootlet lined.....25
- 24b Lined with feathers, moss, shreds of bark, or other fine material.....26
- 25a Rootlet lined; cow or horse hair used; 4.6"/2.2", 8"/5".....CALIFORNIA JAY  
(3-6 Bluish green, brown spotted).....26
- 25b Twig lined; in bushes; east of Cascade-Sierra divide.....WOODHOUSE JAY  
(3-6 Bluish green umber spotted).....27
- 26a Lined with feathers.....27
- 26b Lined with fine material; 3.5"/2.7".....MOCKINGBIRD  
(4 Greenish blue, brown spotted).....27
- 27a Shreds of bark fibers, with heavy lining of feathers; 3.1"/1.8", 8"/3.6"  
.....WHITE-HEADED JAY  
(3-6 Greenish gray, lavender spotted).....27
- 27b Moss and feather lined; generally in conifers; 3.1"/2.2", 9+ "/3.5".....OREGON JAY  
(3-4 Greenish gray, lavender spotted).....27



- 28a Lined with coarse material.....29  
 28b Lined with plant wool; in cactus, mesquite, or low bushes; 3.8"/3",  
 9+ "/7" .....LE CONTE THRASHER  
 (3-4 Greenish blue, brown dotted)  
 29a Bulky; rootlet lined; low; 3.8"/1.8", 6+ "/3".....CALIFORNIA THRASHER  
 (3-4 Bluish green, russet spotted)  
 29b Mostly twig lined; 3.5"/2.1", 8+ "/6".....CRISSAL THRASHER  
 (3 Greenish blue)  
 30a In cacti or thorny bushes; football-like; 8"/18" outside meas-  
 urements .....CACTUS WREN  
 (4-7 Creamy white, brown speckled)  
 30b Low in bushes; grass lined.....FOX SPARROW  
 (3-5 Greenish white, brown blotched)

F. FELTED NESTS OF COTTONY MATERIALS, NOT LICHEN  
 COVERED

- 1a Nests wider than high; in high bushes or low trees.....2  
 1b Nests higher than wide.....4  
 2a Neat cup of plant fibers; no feathers.....3  
 2b Plant fibers and grasses; lined with feathers; 1.9"/1", 3"/2"\*.....  
 .....LAWRENCE GOLDFINCH  
 (4-5 White)  
 3a With some grasses; 1.85"/1.5", 3"/2".....GREEN-BACKED GOLDFINCH  
 (4-5 Bluish white)  
 3b With none or few grasses; often in willows; 1.9"/.8", 3.1"/1.5".....  
 .....WILLOW GOLDFINCH  
 (3-5 Bluish white)  
 4a Thick-walled; usually in vertical fork of bush or tree.....5  
 4b Thin-walled .....7  
 5a Compact cup of plant fibers; lined with feathers; 1.9"/1.4", 3.5"/2".....  
 .....BLACK-THROATED GRAY WARBLER  
 (3-5 Greenish white, brown speckled)  
 5b Not lined with feathers.....6  
 6a Usually in a vertical fork; 1.9"/1.5", 2.9"/2.6".....YELLOW WARBLER  
 (4-5 Greenish white, brown speckled)  
 6b Usually on a horizontal branch; 15' above ground; 2"/1.1",  
 3.5"/2.2" .....HAMMOND FLYCATCHER  
 (3-4 Pale creamy white)  
 7a Usually close to trunk of small sapling in deciduous growth, east of Cas-  
 cades; 1.9"/1.5", 3.5"/2.2".....REDSTART  
 (3-4 White, brown blotched)  
 7b Deep cup; gray vegetable fibers, cobweb bound; lined with plant down;  
 placed low; 1.5"/1.3", 2.5"/2.1".....BLACK-TAILED GNATCATCHER  
 (3-4 Bluish green, brown speckled)

\* First figure: numerator refers to inside diameter, denominator refers to inside depth; second figure: numerator refers to outside diameter, denominator refers to outside depth.

## G. CONTAINING A LAYER OF MUD

- 1a Mud layer medial or mixed with grass.....2
- 1b Outer layer of mud, pelletlike.....6
- 2a Sticks and twigs used.....3
- 2b Grasses and plant fibers used.....5
- 3a Surrounded by a great mass of sticks and twigs with two side entrances.....4
- 3b Lined with rootlets; 4.3"/2.8", 7+ "/4+ "\*.....STELLER JAYS  
(3-5 Greenish blue, brown spotted)
- 4a California valleys; usually high in oaks and sycamores; 8.5"/4", †  
.....YELLOW-BILLED MAGPIE  
(5-8 Grayish white, olive brown spotted)
- 4b Elsewhere; low, in thorn bushes, semiarid shrubs and trees;  
6"/4" .....BLACK-BILLED MAGPIE  
(6-9 Grayish white, olive brown spotted)
- 5a Mixed; few on outside and inside; 3.5"/2", 6"/3.5".....WESTERN ROBIN  
(3-6 Greenish blue)
- 5b More outside; cow dung and horsehair used; usually in colonies; 3.7"/3",  
6"/4.5" .....BREWER BLACKBIRD  
(4-8 White, brown clouded and streaked)
- 6a Cup-shaped; attached at sides under bridges, eaves on buildings,  
and cliffs; near water.....7
- 6b Gourd-shaped, with exit at small end; in colonies.....CLIFF SWALLOW  
(3-5 Creamy white, russet spotted)
- 7a Lined scantily with grass fibers; 2.25"/1.3", 3.5"/3.7".....BLACK PHOEBE  
(3-6 White)
- 7b Lined with feathers; 2.5"/1.2", 4"-8"/4".....BARN SWALLOW  
(3-5 White, chestnut spotted)

H. WITH AN OUTER COVERING OF LICHENS; SADDLED ON A  
BRANCH

- 1a Very small; less than 1.5" outside diameter, bound with cobwebs.....2
- 1b Larger; over 1.5" outside diameter.....4
- 2a Usually near water; plant down principally; near ground; incurved  
edges; 1"/.5", 1.4"/1".....BLACK-CHINNED HUMMINGBIRD  
(2 White)
- In southern California; .8"/.5", 1.5"/1.3"\*.....  
.....COSTA HUMMINGBIRD  
(2 White)
- 2b Usually not near water; decorated also with moss.....3
- 3a Low; 1'-40' above ground; nest with broad foundation; California;  
.9"/.5", 1.8"/1.3".....ANNA HUMMINGBIRD  
(2 White)

\* First figure: numerator refers to inside diameter, denominator refers to inside depth; second figure: numerator refers to outside diameter, denominator refers to outside depth.  
† Inside measurements.

In Oregon and Washington, usually close to ground; 9"/6",  
2"/1.3" ..... RUFOUS HUMMINGBIRD  
(2 White)

In California; usually in vines or shrubs; 9"/6", 2"/1.3"  
..... ALLEN HUMMINGBIRD  
(2 White)

3b Higher; 9'-75' above ground; .8"/.5", 1.6"/1.2" ..... CALLIOPE HUMMINGBIRD  
(2 White)

4a Deep; chaparral area; 1.8"/1.5", 2.5"/2.8" .....  
..... WESTERN GNATCATCHER  
(4-5 Bluish white, chestnut specked)

4b Shallow; often covered with spider web; 1.5"/1", 3.2"/1.3" .....  
..... WESTERN WOOD PEWEE  
(3-4 Cream, russet and lavender spotted)

# I. MOSTLY OF BARK FIBERS AND ROOTLETS; WITH OR WITHOUT HORSEHAIR LINING

1a Small woodland nest; 2" (±) inside diameter ..... 2

1b Orchard, streambank, and woodland; over 2" inside diameter ..... 14

2a Usually in evergreens ..... 3

2b Usually in bushes, trees, or sprouts ..... 6

3a Containing twigs ..... 4

3b Usually not containing twigs; some needles ..... 5

4a Usually some twigs; 25+' high ..... OLIVE-SIDED FLYCATCHER  
(3 Cream, russet spotted)

4b Twigs and rootlets; 1.9"/1.1", 2.8"/2"\* ..... PINE SISKIN  
(3-5 Greenish white, russet specked)

5a Mosses, needles, weed stems, and twigs; 2"/1.2", 4"/2.8" .....  
..... HERMIT WARBLER  
(4-5 White, brown spotted)

5b Bulky, of bark and needles, and heavily lined with feathers; 2"/1.7",  
3.6"/2.6" ..... AUDUBON WARBLER  
(3-5 Greenish white, dark spotted)

6a Mosses principally; on ledges, in crannies of rocks, in stumps, or  
trees; 2.1"/1", 4.7"/2.3" ..... WESTERN FLYCATCHER  
(3-4 Cream, russet spotted)

6b Grasses used principally ..... 7

7a Cup of grasses, etc., in low places ..... 8

7b Containing twigs or rootlets, or both, or compact ..... 11

8a Near water or in mountain meadow areas ..... 9

8b Deep cup of grasses, etc., in high sagebrush or greasewood .....  
..... GRAY FLYCATCHER  
(3-4 Creamy white)

\* First figure: numerator refers to inside diameter, denominator refers to inside depth; second figure: numerator refers to outside diameter, denominator refers to outside depth.

- 9a Low in bush or tree; near water; 2.1"/1.4", 3.7"/2.3".....TRAILL FLYCATCHER  
(3-4 Cream, brown spotted).....10
- 9b Bulky ball of grasses, leaves, stems, and moss.....10
- 10a In willow clumps and low vines.....PILEOLATED WARBLER  
(3-4 White, russet spotted).....10
- 10b Up to 60' in trees.....TOWNSEND WARBLER  
(3 Creamy white, russet spotted).....12
- 11a Containing twigs, or rootlets, or both.....12
- 11b Compact, of plant fibers.....13
- 12a Cup of fibers and rootlets; not more than 15' above ground;  
2"/1.3", 3.6"/2.5".....WRIGHT FLYCATCHER  
(3-5 Creamy white).....13
- 12b Twigs; mostly on limbs; 6'-50' above ground; 2"/1.2".....VERMILION FLYCATCHER  
(2-3 Buff, dark blotched).....13
- 13a In low bushes; coast areas; 2.2"/2", 4"/3.5".....WREN-TIT  
(3-5 White).....13
- 13b Lined with feathers; 1.7"/1.5", 3"/2.5".....BLACK-THROATED GRAY WARBLER  
(3-5 Greenish white, russet spotted).....14
- 14a Bulky; of moss; opening on side; on rocks or in rock cavities  
over or near water; 2.5" opening, 3+ "/1.6", 9+ "/7+ ".....DIPPER  
(3-5 White).....15
- 14b Not as above .....15
- 15a Usually thin flimsy structures.....16
- 15b Thick well-formed structures.....19
- 16a Little or no lining; usually in high bushes.....17
- 16b Considerable lining; usually in trees on horizontal limbs;  
2.5"/1.1", 5"/2".....WESTERN Tanager  
(3-5 Bluish green, brown specked).....17
- Colorado river, Needles to Yuma.....COOPER SUMMER Tanager  
(3-5 Bluish green, russet specked).....18
- 17a Nest of twigs principally.....18
- 17b Nest mostly of rootlets, some grass blades; in briar tangles, weeds, and  
low trees; California .....BLUE GROSBEAK  
(3-4 Bluish white).....18
- 18a Loose structure of twigs; in small trees and bushes of lowland;  
3"/1.5", 5+ "/2+ ".....BLACK-HEADED GROSBEAK  
(3-4 Bluish white, russet spotted).....18
- More substantial; usually 15'-50' in conifer and higher moun-  
tains; 3"/1", 4.5"/3".....EVENING GROSBEAK  
(3-4 Bluish white).....18
- On limbs of conifer; in high mountains.....PINE GROSBEAK  
(3 Greenish blue, brown and lavender spotted).....18
- 18b Twigs on limbs of conifers; 1.9"/1.1", 3.3"/2.1".....PINE SISKIN  
(3-5 Greenish white, russet specked).....18





- 29a In trees, bushes, vines, or artificial structures; plant fibers (shepherd's purse), grasses, etc.; 2.4"/1.5", 4.5"/3.5".....HOUSE FINCH—(LINNET)  
(4-5 Greenish blue, dark specked)
- 29b In bushes; arid and semiarid regions.....30
- 30a Grasses and weed stalks.....31
- 30b Twigs, rootlets, and plant fibers.....32
- 31a In chaparral; 2"/1.5", 4"/2.5".....BLACK-CHINNED SPARROW  
(3-4 Bluish green)
- 31b Mostly weed stalks; California; 2.3"/1.5", 4.1"/2.5".....BELL SPARROW  
(3-4 Greenish white, russet blotched)
- In sage brush area; 2.5"/1.5", 4.2"/2.7".....SAGE SPARROW  
(3-4 Greenish white, brown spotted)
- 32a Plant fibers; often in cacti; 2.1"/1.7", 4"/2.3".....DESERT SPARROW  
(3-4 Bluish white)
- 32b Twigs and rootlets; in sagebrush.....33
- 33a Exterior of fine twigs; in sagebrush; 2"/1.2", 3.5"/1.8".....BREWER SPARROW  
(4 Greenish blue, russet specked)
- 33b Exterior of thorny twigs, heavy lining of fine bark strips; in sage or grease-wood; 3.4"/1.8", 5.6"/3.5".....SAGE THRASHER  
(3-5 Greenish blue, brown spotted)

J. MOSTLY OF GRASSES, ROOTLETS, STRAWS AND LEAVES  
USUALLY WITH HORSEHAIR IN THE LINING,  
AND NOT SPHERICAL

- 1a With many leaves; placed in weeds, fern, or low bushes.....2
- 1b With few or no leaves.....3
- 2a About 2" inside diameter; 2.2"/1.8", 3.4"/3.4"\*.....LAZULI BUNTING  
(3-4 Pale bluish white)
- 2b Over 2" inside diameter and bulky; 2.7"/1.8", 5+ "/4+ ".....LONG-TAILED CHAT  
(3-5 White, brown specked)
- 3a Less than 2" inside diameter.....4
- 3b Over 2" inside diameter.....6
- 4a With thick horsehair lining; 1.9"/1.2", 4"/2.5".....CHIPPING SPARROW  
(3-5 Greenish blue, dark specked)
- 4b With no horsehair.....5
- 5a Near water; 1.9"/1.5", 4"/2+ ".....YELLOW THROAT  
(3-4 White spotted)
- 5b Not near water; 2"/1.6", 4.3"/2.1".....MACGILLIVRAY WARBLER  
(3-5 White, brown spotted)
- 6a With many or few hairs in lining.....7
- 6b Without hair, leaves predominate; on or near ground.....8

\* First figure: numerator refers to inside diameter, denominator refers to inside depth; second figure: numerator refers to outside diameter, denominator refers to outside depth.

- 7a In low bushes, vines, or on the ground; 2.4"/1.8", 4.3"/2.4".....SONG SPARROWS  
(3-5 White, dark splashed)
- 7b In low bushes or small trees; 3.5"/1.7", 5.8"/3.7".....BROWN TOWHEE  
(3-4 Bluish green, dark marked)
- 8a Near water; 2.2"/2.5", 5.5"/6".....RUSSET-BACKED THRUSH  
(3-5 Greenish blue, brown spotted)
- 8b Not near water; 2.3"/2.3", 4"/3.5".....WILLOW THRUSH  
(4-5 Bluish green)

#### K. SPHERICAL NESTS OF TWIGS AND GRASSES

- 1a Grasses chiefly; lined with feathers; one side entrance.....ENGLISH SPARROW  
(4-7 White, gray and black blotched)
- 1b Bulky; outside diameter 6"-7"; entrance hole .5" on side near the top.....VERDIN  
(3-5 Greenish blue)

Squirrel nests are larger than either of the above;  
usually in evergreens; lined with bark fibers; feces  
deposits are usually found.

#### ADDENDUM:

Shallow cup of soft vegetable matter of almost every conceivable sort bound  
together with cobwebs, and without special lining; at moderate heights;  
Southern California; 2.4"/1", 3.8"/2.3".....PHAINOPEPLA  
(2-3 Greenish white, dark speckled)