

from each body of water, where and when taken, their disposition, and the name of the owner or lessee of such lands.

In addition to the rescue work, 1556 small-mouth black bass fry and eight adult bass were secured from the Salt Spring, Reservoir, Calaveras County, and placed in the Citrus Grove pond near Oroville as a propagating pond for that species of bass.

The one rescue of most importance to the sportsman angler was the rescue from Concow Creek, Butte County, below the dam, of 500 adult rainbow trout of four pounds each, 100 of three pounds, 1400 of two pounds and 435 yearlings, makings a total of 2435 trout, weighing approximately 5208 pounds. This was accomplished with the assistance of the local deputy, A. J. Stanley, fourteen volunteers from Oroville and Chico and the rescue force from Sacramento. The Bureau was aided by several market fishermen, who gave valuable assistance by the use of their large nets, boats and crews and in return were permitted to keep the rough fish, pike and hardheads, as there is very little, or no, demand for them except by the Chinese. These men, together with the volunteer sportsmen, were the means of saving 141,313 game fishes, nearly all of which were adults or breeders.

I trust that it is in order to thank all those farmers who allowed us the freedom of their lands and those who notified us of the necessity of saving many fish. Also, thanks are due to the chief of the Bureau of Fish Culture for making it possible for such wide distribution and prompt delivery by our distributing car and the skillful handling of the fish. Also to the many deputies who have given fine cooperation, both in assistance and by correspondence.

MEXICAN CABRILLA AND GROUPERS ¹

By LIONEL A. WALFORD

Each year since 1927, during the late autumn, winter and spring months, an increasing number of large, unfamiliar seabass has been imported from south of California. Although there are at least four different but closely related kinds of these fish, they have so far all been reported to the Division of Fish and Game by dealers as "Cabrilla." The buying public, however, and retail marketmen are not always willing to experiment with strange, unknown fish, and it has been necessary for wholesalers to invent seductive names like *golden bass*. Since these excellent fish are deserving of more dignified treatment and need no apology in the form of sugar-coated names, this opportunity is taken of formally introducing them by their official common names: the *groupers* and the *Mexican cabrilla*.

The sea-bass family (Serranidae), to which these fish belong, is represented in California by four species: The black sea-bass (*Stereolepis gigas*), which resembles the groupers not only in shape and color, but also in the great size which it attains; and three smaller kinds, the rock bass, (*Paralabrax nebulifer*), the kelp bass (*Paralabrax clathratus*), and the spotted rock bass (*Paralabrax maculatofasciatus*) which looks like the cabrilla in color. On the Atlantic coast and on the Gulf of Mexico, the groupers, jew-fishes and hinds resemble very closely their Pacific coast relatives, and are esteemed not only as food but are famous as game fish.

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The sea-basses, an unspecialized group of fishes, are very difficult to describe for they have no clearly distinguishing characters. The ventral fins are attached below the pectoral fins; there is no bony support extending from the lower part of the eye across the cheek just under the skin; there are teeth in the center of the roof of the mouth; the dorsal fin is composed of spines as well as soft rays; the upper edge of the maxillary bone (the upper bone which forms the upper jaw) is exposed when the mouth is closed.

Of the Mexican forms which have been brought into California there are two types which may be easily recognized: One, the Mexican cabrilla, a closely spotted form comprising so far as we now know one species, *Epinephelus analogus*; the other type, the groupers, plain, dark-colored, obscurely or not at all spotted, including at least three species of the genus *Mycteroperca*. In this group, one species, the broom-tailed grouper (*Mycteroperca xenarcha*) can be readily distinguished by a toothed tail fin as contrasted to the even tail fins of the other species.

There are then these three names to apply to the large Mexican sea-bass: Mexican cabrilla, broom-tailed grouper, and grouper.

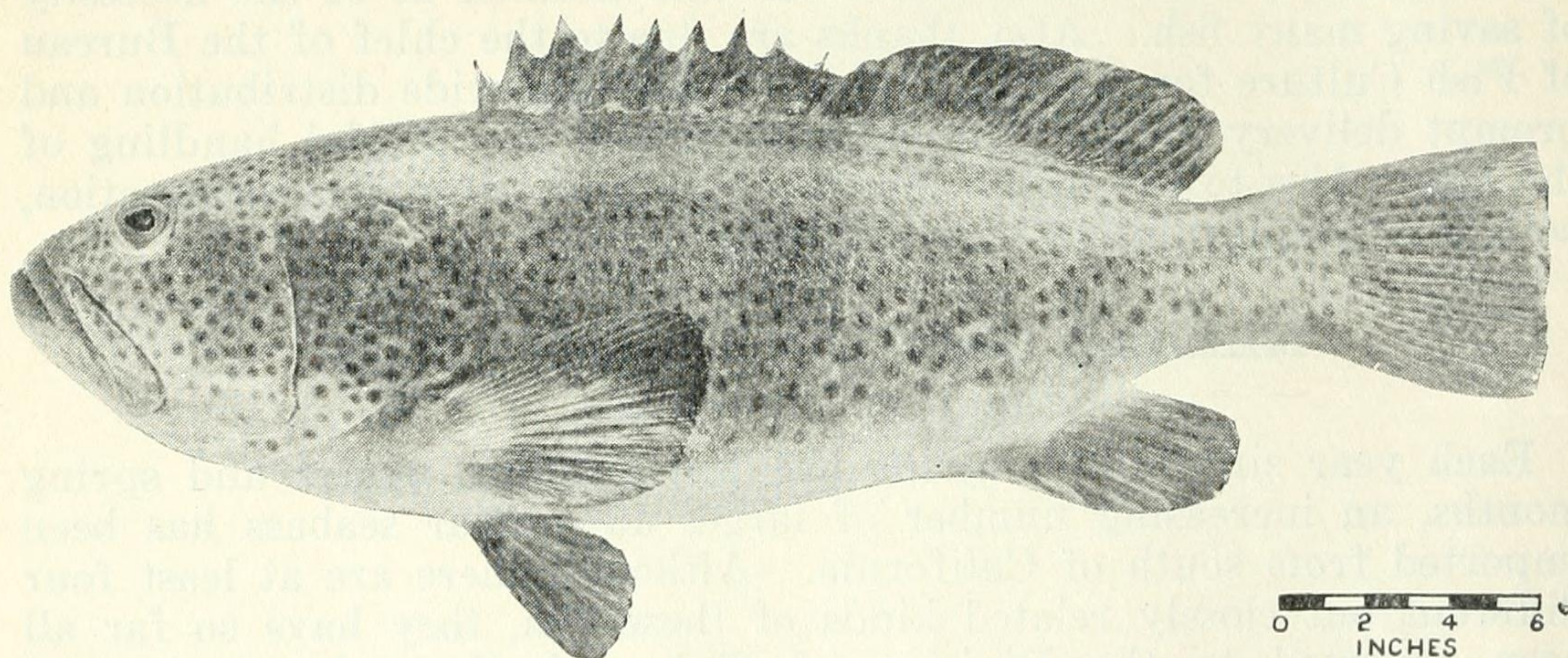


FIG. 10. The Mexican Cabrilla, *Epinephelus analogus*.

Mexican Cabrilla (*Epinephelus analogus*)

Distinguishing characters: The single dorsal fin, with usually 10 spines and from 16 to 18 soft rays; the spines being scarcely if at all higher than the soft rays, no one of them being noticeably higher than all of the rest; the anal fin having 3 spines and usually 8 soft rays; the teeth behind the outside row capable of being bent backwards. *Color:* Various shades of brown, the body being everywhere covered with small round dark spots; the sides with 5 or 6 faint dark cross-bars. Attains a weight of over 14 pounds. (See fig. 10.)

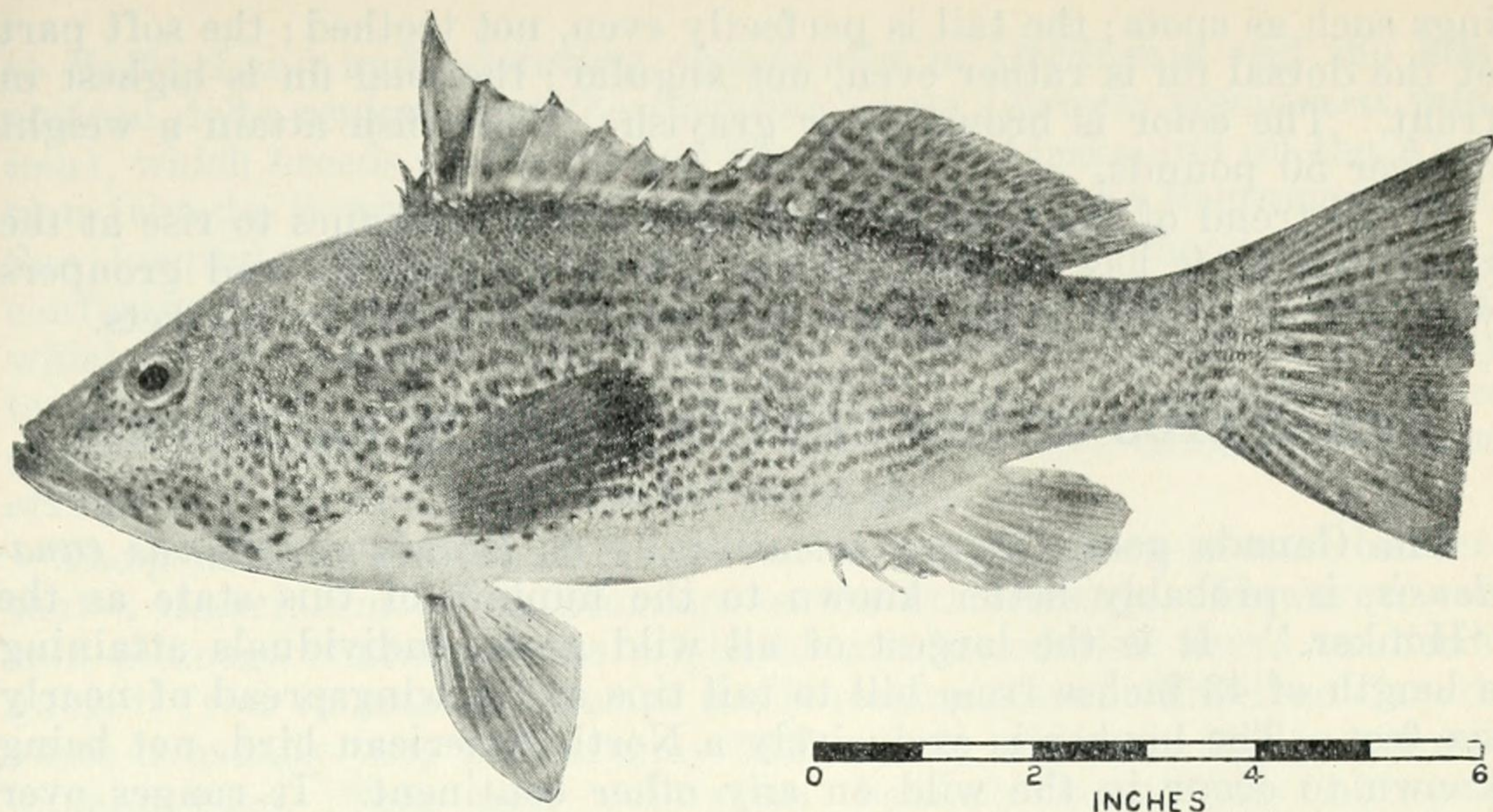


FIG. 11. The Spotted Rock Bass, *Paralabrax maculatofasciatus*, may at first glance be mistaken for the Mexican Cabrilla. (See Fig. 10.)

The spotted rock bass (see fig. 11), which is often taken in California waters, is a much smaller fish, and is easily distinguished from the Mexican cabrilla by the very high third spine of the dorsal fin, which is much over twice as high as the second spine, and higher than the fourth.

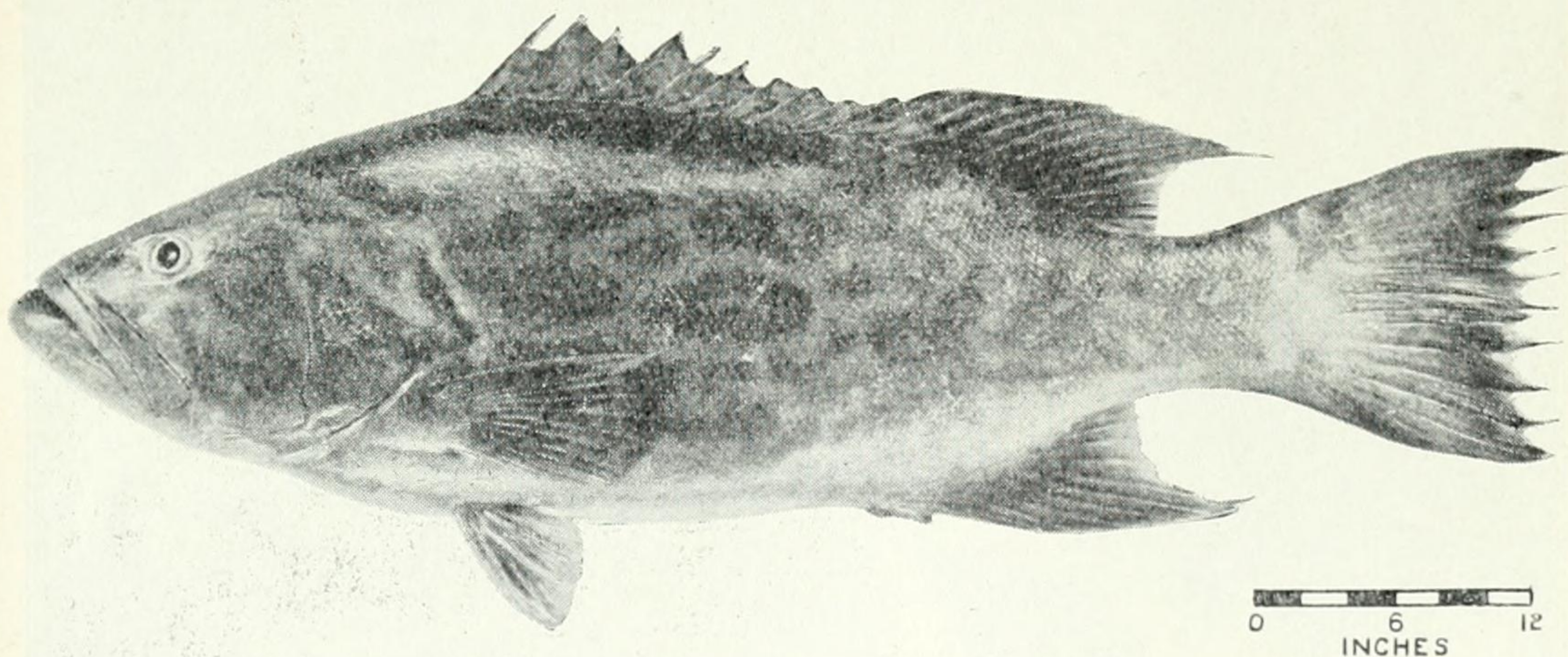


FIG. 12. The Broom-Tailed Grouper, *Mycteroperca xenarcha*.

Broom-Tailed Grouper (*Mycteroperca xenarcha*)

Distinguishing characters: The tenth soft ray of the dorsal fin, and the seventh soft ray of the anal fin are longer than the other rays, giving to the fins an angular appearance. In young specimens, the tail fin is perfectly even, but in older individuals, it becomes toothed as in the illustration (see fig. 12). *Color:* Light brown, the sides with obscure, large oval and oblong spots. Attains a weight of over 50 pounds.

GROUPE

Into this category may be placed those two or three species of seabass which have no distinguishing features on which to base quick identification. There is an absence of sharply contrasted color mark-

ings such as spots; the tail is perfectly even, not toothed; the soft part of the dorsal fin is rather even, not angular; the anal fin is highest in front. The color is brownish or grayish. These fish attain a weight of over 50 pounds.

If the trend of the total catch of these fishes continues to rise at the same rate as it has in the past few years, the cabrilla and groupers will become another great source of supply to our winter markets.

THE STATUS OF THE CANADA GOOSE IN CALIFORNIA

By JAMES MOFFITT

The Canada goose, known scientifically as *Branta canadensis canadensis*, is probably better known to the hunters of this state as the "Honker." It is the largest of all wild geese, individuals attaining a length of 43 inches from bill to tail tips and a wingspread of nearly six feet. The honker is exclusively a North American bird, not being known to occur in the wild on any other continent. It ranges over most of the United States and Canada and in winter occasionally visits Mexico.

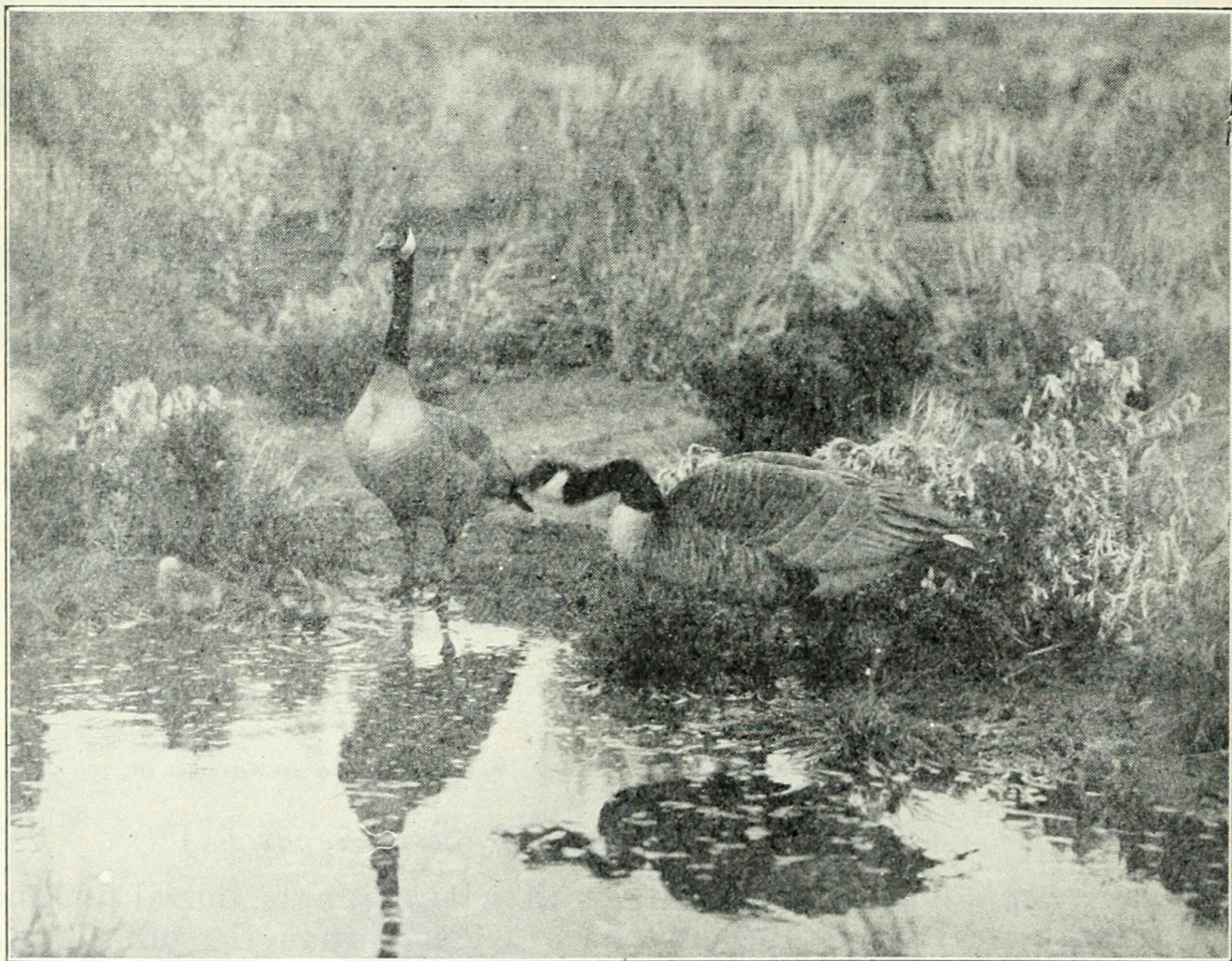


FIG. 13. A pair of Canada geese and their young. Lassen County, California. Photo by E. S. Cheney, May, 1929.

The Canada goose is the largest of a group or species of four geese inhabiting North America. The other three subspecies are: The white-cheeked goose (*Branta canadensis occidentalis*) breeding in southeastern Alaska, wintering little if any south of its breeding range and unknown from California; the Hutchins goose (*Branta canadensis hutchinsi*) breeding along the Arctic coast from northern Alaska east