

hardly want to admit that *iridea* possesses any greater vitality than *fontinalis*. I agree entirely with your quotation from "Fish Hatching and Fish Catching," that they are more vigorous in every way than the eastern trout, but are not as handsome, have no carmine specks, but will live well in captivity and grow rapidly, except that I should want to substitute the word "hardy" for "vigorous." It does not seem to me that the California brook trout are more vigorous than the Atlantic brook trout, but they are undoubtedly more hardy.

Mr. von dem Borne desires me to ask the following question :

12.—What kind of places do those four above-mentioned fishes select for spawning : running or still water, on plants, on stones, on gravelly or sandy or muddy bottom ; in deep or shallow water ?

A.—In reply to Herr Borne's inquiry, allow me to say that *Salvelinus fontinalis* and *Salmo iridea* always seek clear, running water and a gravelly bed where they may deposit their eggs.

13.—Is there only but one California trout, or is the trout of McCloud River the true rainbow trout, and has California another mountain trout ?

A.—There is but one California trout which has been introduced into the Atlantic States, and, indeed, but one that has been much cultivated. This is *Salmo iridea*, or the "rainbow trout," or the "California mountain trout," or "McCloud River trout," these four names last given being synonymous. Whenever any one hears anything about *Salmo iridea*, or "rainbow trout," or "California mountain trout," or "McCloud River trout," he may know that the same fish is always meant under all these different names. California has several other mountain trout, but they are not yet generally known or much cultivated.

14.—Which one do you intend to send us ?

A.—Consequently the California trout which Professor Baird intends to send to Germany is the fish (*Salmo iridea*) just mentioned.

15.—What month does it spawn ? Californian *Salmo quinnat* spawns at home much earlier than our *Salmo salar*, but I might suppose that this entirely depends on the climate, because the California salmon which our Mr. Schuester raised in his tanks up to spawning time did not spawn in the California time, but in our *Salmo salar* time (November), or very near so.

A.—This question has already been answered under 10, which see.

RESULT OF PLANTING SHAD IN THE OHIO RIVER.

By WILLIAM GRIFFITH.

The first white shad of the season was taken on the Falls yesterday. This makes the sixth consecutive run of white shad in the Ohio river.

LOUISVILLE, KY., May 7, 1881.