

Since the conclusion of the experiments detailed above, the feasibility of shipping carp in crates and pails has been pretty thoroughly tested in the operations of the United States Fish Commission, with the following results: Single shipments in pails have been made from Washington into New York and Pennsylvania, and to Ohio, North Carolina, and Tennessee. Some losses have been reported, but comparatively few, the usual report being that the fish are received in good condition. In the case of a shipment to Reedville, N. C., the fish were eight days *en route* and were received in good condition.

Crates containing 16 buckets and 320 fish have been sent by express from Washington to Chattanooga and Grand Junction, Tenn., and Jackson and Meridian, Miss., and distributed from these points by Express to parties within a radius of 100 or 150 miles, without more than the casualties incident to transportation by the methods heretofore pursued. In conclusion, we may safely say that where the point of destination is not distant from the point of departure more than 24 hours, 25 or 30 carp may be safely shipped in an ordinary covered 4-quart tin pail.

Where the temperature is kept below 60° Fah., and freezing is avoided, it is probable that the fish may be 6 or 7 days *en route* without loss or injury. Some modification of the pail to prevent loss of water by slopping over is desirable, and it is to be presumed that the ingenuity of our fish-culturists will quickly supply the want.

WASHINGTON, December 25, 1881.

INTRODUCTION OF THE ALAND OR ORFE INTO ENGLAND.

[From The Field, March 28, 1875, 299.]

One of the few fresh-water fishes which have a wide range over the continent of Europe, but are not found in the British Islands, is the "aland" or "nerfling" of the Germans, the "id" of the Swedes, named *Leuciscus idus* or *melanotus* by ichthyologists. It may be shortly characterized as a chub with smaller scales; for whilst the chub has, at the most, forty-six scales along the lateral line, the aland has never less than fifty-six, and sometimes as many as sixty; in its habits also it much resembles the chub, but prefers large to small streams, and inhabits lakes as well as rivers. Its usual size is about twelve inches, but it is known to have attained to a length of eighteen and twenty inches, and a weight of six pounds.

Normally this fish has the same coloration as the chub, being somewhat darker on the back; and, consequently, the two species have been constantly confounded with each other, and described under the same names, even to within a very recent period. However, for more than two centuries a singular variety, with bright colors like those of a gold-fish, has been cultivated in lakes and ponds of Bavaria, especially near

the town of Dinkelsbühl. It is called "orfe" by the country people, and Linnæus and most of the following writers mention it under the name of *Cyprinus orfus*. Being one of the ichthyological curiosities of the country, it did not escape the notice of the observant Willughby, who says, in his "Historia Piscium" (Oxon. fol. 1686), p. 253: "At Augsburg we saw a most beautiful fish, which they call the 'root oerve' (red orfe), from its vermilion color, like that of a pippin apple, with which the whole body is covered, except the lower side, which is white." He gives a characteristic figure of the fish (tab. L, 9), and expresses a doubt whether the color is natural or rather the product of some artificial manipulation.

The orfe, however, is as natural and as permanent a variety as the goldfish, which latter, in its original wild state, in the fresh waters of China, has no bright golden colors, being scarcely distinguishable from the Prussian carp in this respect; in fact, the bright coloration of these fishes is nothing more nor less than the sign of incipient albinism, and has been observed also in other fishes, more especially in the tench (in which it is perpetuated by culture), and more rarely in the cod-fish, haddock, common sole, turbot, and eel. Perfect albinism, or total absence of a coloring pigment, appears to be very rare in fishes; indeed, we know of only one species in which white individuals sometimes occur, viz, the goldfish. Analogous cases of a similar modification of the pigment are the common yellow varieties of the canary-bird, light-colored moles and mice, and many other mammalian albinos whose white hairs are tipped with yellow, producing a distinctly yellow tinge over the whole fur.

We introduce this fish to the notice of the readers of *The Field* because we have been informed that Lord Arthur Russell has succeeded in introducing it into England. He had already made an attempt last year to obtain living specimens from Germany, but only two examples survived the journey. Taking advantage of the experience then obtained, and favored by the unusually low temperature of the second week of the present month, he had the gratification of receiving 112 specimens without a single death during the journey. They were dispatched from Wiesbaden, under the care of a man who arrived in London after a journey of only 25 hours. Next day the fish were safely deposited in a lake at Woburn Abbey.

We have no doubt that Lord Arthur Russell's experiment will prove to be a permanent success. We have always held that the chances of success in introducing a foreign animal are particularly great, if such an animal has been kept in a more or less domesticated condition in its native country. This is the case with the orfe. As an ornamental fish it is far preferable to the goldfish, on account of its rapid reproduction, larger size, and livelier habits. It takes the bait, and on the continent it is eaten. In very small tanks or muddy ponds the goldfish will always hold its ground, but for larger ponds and lakes with clear water we know of no more ornamental fish than the orfe.

In conclusion, we may mention that Yarrell introduced the aland into his "History of British Fishes," in consequence of having heard that a single specimen had been obtained at the mouth of the Nith. He does not appear, however, to have seen the specimen, and the figure and description are borrowed from a work on Scandinavian fishes.

REPORT ON A TRIP IN GERMANY TO SECURE CARP FOR THE UNITED STATES FISH COMMISSION.

By Dr. O. FINSCH.

BREMEN, August 20, 1875.

Professor BAIRD:

Having returned on the 18th from our trip to obtain fishes for you, I hasten to give you a report.

As I wrote you in my last letter of August 10 I had decided to help in the matter as much as I could, and in consequence offered my services to arrange matters for Mr. Welsler. It was clear that a mere interpreter was not sufficient, and that the subject needed a man acquainted with the matter, and of ability to represent your interest. So I decided to assist him myself, although my own work was in many respects pressing.

I told you in my last letter that there would be great difficulty in obtaining carp, as it is not the proper season, and I am glad to learn that Mr. Hessel confirmed the statement.

I remark, though perhaps I have referred to it before, that our carp are cultivated in ponds, and are not fished for earlier than about the last of October or November. These ponds are partially emptied of the water, and the carp gather in the deep places, where they are caught with hand-nets. As the carp spawn in July, the ponds are full of young fishes, or eggs in the process of hatching, and this is the reason why the fish cultivators dislike to draw off the water, as it is apt to destroy the newly hatched fish. Besides it does not answer to empty the water during the hot weather, as the heat would then be very destructive to the fishes of all sizes.*

As I wrote you in my letter, I had endeavored to ascertain where there were smaller ponds that I might obtain a small number of each of the chief varieties, the scaled carp (*Cyprinus carpio*), the mirror carp (*C. rex-cyprinorum*), and the naked carp (*C. nudus*). Our principal difficulty was that but seldom were two of the kinds cultivated in any one place, and we were obliged to go to different places. Now the naked carp is chiefly raised in middle North Germany, the mirror carp in South Germany, and the scaled (genuine) carp in North Germany, (Mecklenberg, Holstein, &c.), in Bohemia and Silesia; the latter being

*For this reason at this time of year the fish-cultivators will not sell carp even if offered high prices.