

Newcastle hatchery, Ontario .....	salmon trout..	4,000,000
Newcastle hatchery, Ontario .....	speckled trout..	50,000
Newcastle hatchery, Ontario .....	whitefish..	3,000,000
Sandwich hatchery, Ontario .....	do.....	50,000,000
Total of eggs of all kinds.....		66,033,000

These were divided by species as follows:

Salmon, <i>Salmo quinnat</i> .....	3,000,000
Salmon, <i>Salmo salar</i> .....	5,983,000
Salmon trout, <i>Salmo lacustris</i> .....	4,000,000
Speckled trout, <i>Salmo fontinalis</i> .....	50,000
Whitefish, <i>Coregonus albus</i> .....	53,000,000
Total .....	66,033,000

#### 16.—EXPERIMENTS WITH SALMON IN SCOTLAND.

By FRANCIS DAY, F. L. S.

[Conclusions of paper read before the Linnean Society of London, March 5, 1885.]

The unbiased investigator must admit that, so far as they have gone, the experiments made at Howietoun among the *salmonidæ* are pretty conclusive on the following points:

(1) That male parrs and smolts may afford milt competent to fertilize ova, but when from fish of the second season, or up to 32 months old, it is (? always) of insufficient strength for strong and vigorous fry to be raised.

(2) That female smolts or grilse may give eggs at 32 months of age, but those which are a season older are better capable of producing vigorous fry; while for the purpose of developing ova, a visit to the sea is not a physiological necessity.

(3) That young male *salmonidæ* are more matured for breeding purposes than are young females of the same age.

(4) That although females under 24 months of age may give ova, such are of little use for breeding purposes, the embryos not becoming well developed or vigorous, while the young when hatched are frequently malformed.

(5) That the size of the eggs of *salmonidæ* varies with the age and condition of the parent; but, as a rule, older fish give larger ova than do younger and smaller ones.

(6) That among the produce of every female fish there may be found variations in the size of the eggs.

(7) That from larger ova finer and more rapidly growing fry are produced; consequently that, by selection of breeders, races may be improved; while it is only where segregation is well carried out that such selection is possible.