

# SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

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FRIDAY, OCTOBER 11, 1901.

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

## THE FISH FAUNA OF JAPAN, WITH OBSERVATIONS ON THE GEOGRAPHICAL DISTRIBUTION OF FISHES.\*

THE JAPANESE FISH FAUNA.

THE group of islands which constitute the empire of Japan is remarkable for the richness of its animal life. Its variety in climatic and other conditions, its nearness to the great continent of Asia and to the chief center of marine life, the East Indian Islands, its relation to the warm Black current or Kuro Shiwo from the south and to the cold currents from the north, all tend to give variety and richness to the fauna of its seas. Especially is this true in the group of fishes. In spite of the political isolation of the Japanese Empire, this fact has been long recognized and the characteristic types of Japanese fishes have been well known to naturalists.

## NUMBERS OF SPECIES OF JAPANESE FISHES.

At present about 900 species of fishes are known from the four great islands which constitute Japan proper, Hondo, Hokkaido, Kiusiu and Shikoku. About 200 others are known from the volcanic islands to the north and south. Of these 1,100 species, about fifty belong to the fresh waters. These are all closely allied to forms found

\* Address to the Section of Zoology, Denver Meeting, 1901.

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