

VIII. THE PREPARATION OF ISINGLASS IN THE PHILIPPINES.

The preparation of isinglass is an industry that could be carried on easily in the Philippines, but so far as I have been able to ascertain, it has never been inaugurated.

Isinglass is the purest form of commercial gelatin known; it is prepared from the "sounds" or air-bladders of certain fishes.

The preparation is very simple and requires no outlay of capital. The exact method of procedure is as follows:

Remove the air bladders (also called "maw", "swim bladder") from the fishes soon after they are caught, slit them open and wash thoroughly, take off any thin membranes which envelop them. Then expose to the air to stiffen. If oily, wash in lime water, then in fresh water and dry. They should be put to dry on "flakes" or nets so the air will have free access to all parts. It is sometimes desirable to give slight pressure in which case they may be dried between sheets of paper, or flat driers, like botanical specimens. When thoroughly dry they are put up in convenient packages and are ready for market.

¹⁵The well known seaweed-isinglass, or *agar-agar* of Japan, is made from an alga of the genus *Gelidium*. This genus has not yet been reported from the Philippines.

USES OF ISINGLASS.

Probably the chief use of isinglass is in fining liquors of various sorts, especially the best grades of wine. It is also used in the preparation of creams and jellies, in stiffening fabrics, and in lustering ribbons. Isinglass is also used in the manufacture of court plaster, artificial pearls, diamond cement, and imitation glass.

It is true that owing to the expense of securing pure fish isinglass, agar-agar prepared from seaweed, is used largely as a substitute. However, there is no question that pure, fish isinglass is more desirable and gives better results in almost all cases than the vegetable product.

FISHES FROM WHICH ISINGLASS IS SECURED.

The best grade of isinglass is secured from the sturgeon and is put up in Russia. In the Malay Archipelago a very fair grade of isinglass is secured from the fishes called thread-fin and from certain species of catfish and croakers. In the Philippines, a profitable source of isinglass could be found in the thread-fin, *Polydactylus plebeius* (Brouss.), called *mamali* in Tagalog, and *tatik* in Moro. It is a very common fish in the Manila markets, and ranges in length from 35 to 50 centimeters. The common catfish (*Netuma nasuta* Bl.), called *kanduli* in Tagalog, which is very abundant, especially in Laguna de Bay, also supplies a good grade of isinglass. In addition, there are several species of croakers, (*Otolithes argenteus* Kuhl & Van Hasselt), (*Otolithes leuciscus* Gunth.), and *Johnius belengeri* C. & V.), and at least two species of *Umbrina*, from all of which isinglass can be secured. The above are all common market-fish and it has been estimated that the isinglass thrown away from them is greater in value than the price secured by the fisherman for the entire fish.

VALUE OF ISINGLASS.

The current value of isinglass quoted from a late trade journal is as follows:

Russian isinglass, 2.75 to 3 dollars per pound; American isinglass, 0.73 to 0.75 dollar per pound; 14,000 pounds were imported into New York during the month of April, 1911.

There seems to be no local demand for this product, but, owing to the recent tariff regulation, it would enter the United States duty free; consequently, it could be exported from the Philippines with profit.