

roe and milt from the apparently ripe individuals. This was accomplished on two occasions but all efforts to fertilize the eggs thus obtained were futile.

Early in March the fish began to take on the appearance of being spawned out, but not having observed spawn or young fish in the pond up to this time, anatomical examinations were made of numerous mullet, both males and females being dissected.

In case of many of the females, the ovaries although greatly reduced were not spawned out but contained ova which evidently at one time were mature but now were in a state of semi-dissolution.

In case of the males, many of them carried gonads shriveled and reduced in size but having no appearance of organs after spawning. The surface of the testes, in many instances, were thickly covered with rounded nodules from 2-5 mm. in diameter. In sectioning portions of the organs thus affected masses of cells of a greenish-yellow tint, by transmitted light, were seen to occupy the nodules and penetrate deeply into the medullary substance of the gland. These masses, of definite outline, have the appearance of broken down tissue cells of the spermary but maintain their characteristic color under the action of such stains as iron hæmatoxylin and methylen blue. Healthy gonads free from the external nodules are also free from the internal masses of cells.

Inasmuch as a considerable number of individuals examined were affected in the manner described above we are led to believe that the noticeable scarcity of young mullet this season is a result of a pathogenic condition of the reproductive organs of mature individuals which inhibited spawning. The cause of this condition has not yet been determined.

Failure of the mullet to spawn in the usual prolific manner seems general throughout the Hawaiian Islands this season. The testimony of fishermen from widely separated districts is that there are comparatively few young mullet to be taken this year. One fisherman on Oahu reports that he has been able to take less than 2,000 fry for his ponds whereas in previous years he has taken as many as 900,000 from

the same waters during a similar period. Another fisherman stated that he had taken about 6,000 as contrasted with 250,000 last year. A report from Kauai states that no mullet fry are observed in waters which in normal years are teeming with them.

From personal observations of those closely identified with the work of the Fish and Game Commission and from information received from reliable sources it would appear that the season just passed has been an unfavorable one for the spawning of mullet in these waters.

Further attempts will be made by the Board of Fish and Game Commissioners to carry on artificial propagation and culture of this important food fish.

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#### REMARK ON FAMILY NAMES

THE rules drawn up by Dr. Oberholzer<sup>1</sup> for the formation of family and subfamily names, seem to be very good in most respects, but in regard to that relating to family names founded upon almost identical names of genera, I must record my inability to concur. Under Rule 13, the author states that of two family or subfamily names having "exactly the same spelling," the latter is to be distinguished from the earlier by the prefix "*Pro*," and subsequently gives as an example the family names derived from *Pica* and *Picus*, proposing for one of them the name Propicidæ. According to all accepted rules for the formation of family names, this would indicate that there is a genus *Propica* or *Propicus*, which of course is untrue.

It would be much better in such a case as this to modify the generic root names in a slightly different way to form the family names, and that founded upon *Pica* might be Picidæ, using Picusidæ for that having *Picus* as the type. In forming the family name from that of the genus custom has differed in some instances; for example, in the Coleoptera, the generic word *Cis* has given rise to the family name Cioidæ in the case of some authors and

<sup>1</sup> SCIENCE, August 13.

Cisidæ with others. Personally, I would much prefer the latter as the permanent form for the word.

THOS. L. CASEY

#### RESEARCH PROBLEMS "ASSIGNED TO" UNIVERSITY PROFESSORS AND THEIR STUDENTS

A PAPER on North American Forest Research<sup>1</sup> has recently been issued, giving a résumé of the "Investigative Projects in Forestry and Allied Subjects Conducted by National, State and Provincial Governments, Schools of Forestry, Scientific Schools and Private Interests in Canada, Newfoundland and the United States for 1919-20."

More than five hundred projects are enumerated, nearly half of them under investigation by persons in departments of the United States government. Many of the remainder are concerned with the activities of various state agencies and institutions, while a number represent research undertaken by professors and their students in various colleges and universities.

The compilers of this list have very carefully indicated in connection with each project, by whom it is being investigated, nearly always stating that it is "assigned to" some individual or group of persons. For example, under certain universities and colleges, we find numerous projects "assigned to" various members of their faculties and in certain cases secondarily to their students.

I think we may legitimately inquire by whom these problems have been assigned to the persons named. Certainly not by the National Research Council, not by the Society of American Foresters, not by our colleagues, and usually not by any of the governing boards of the universities and colleges.

Such wording, like the repeated use of "control" and "direction," conveys the imputation that men of science do not select and elaborate their own lines of research, and

it is very unfortunate that it should appear in such a journal as the *Bulletin* of the National Research Council. Let us hope that the council does not stand sponsor for it, for it does not seem likely that it will aid in attaining the closer cooperation which independent workers hope to see as a result of the operations of the Research Council. It is better to believe that the printer or the proof-reader has inserted this stereotyped phrase as it appears quite regularly, and no doubt properly so, in connection with many of the bureaus and governmental agencies. In view of the increasing extension of the bureaucratic spirit into scientific work, perhaps all research must be assigned by some one other than he who performs it, and possibly problems should not be outlined by those who investigate them. Until such comes to pass, however, it seems unjustifiable that research in forestry or in any other subject should be thrust into the lime-light with such carelessly worded captions attached.

C. T. BRUES

#### THE LAWS OF HYBRIDIZING DISCOVERED BY RICHARD DIENER

THE above is the title of a booklet of some sixteen pages, dated (with a rubber stamp) as issued July 1, 1920, and coming, appropriately, from California, the home of plant wizardry. The discoverer states that it has taken thousands of crosses and fifteen years of time to perfect the laws which he is now giving to mankind—for a consideration. Their presentation is a delightful example of simplicity; the reader is not troubled with tiresome descriptions of methods or measures taken to check the results; the pages are not rendered unsightly by arrays of tables, nor is the intellect taxed by incomprehensible statistics, as is so often the case in present-day treatises on this subject. On the contrary the author has not needed all of his sixteen pages for the exposition; besides the title page he is able to spare one for a full-page portrait of himself, five pages are given to photographs of results of his labors, while a double-page diagram sets forth his laws so clearly that

<sup>1</sup> Compiled by the Committee on American Forest Research, Society of American Foresters, and published as Vol. 1, Pt. 4, of the *Bulletin* of the National Research Council, August, 1920.