

alike and so highly specialized, connected, too, in such an unusual way with the cranium, have developed from two extremely different sources; that (1) the usual dentigerous bones have retained in the platyschistous eels, the functions performed in other fishes but under a highly specialized form, while (2) they have been lost in the engyschistous eels and bones (palatopterygoid), which had been much reduced or atrophied in the others, have been highly developed in the same manner but at the expense of the dentigerous bones of the typical eels. No reason has been assigned for such interpretations but it is probable that the posterior connection with the cranium of the dentigerous bones of the Murænids was one cause. We are thus forced into one or other of the two forks of a dilemma: which is the more probable, (1) that bones of two very distinct and disconnected arches have been inversely developed at the expense of each other in a like highly specialized manner, or (2) that the vomer-ethmoid has projected in one type (Colocephals) more than in the others (Euchelycephals)? The latter alternative has been preferred by the present author.

As to the premaxillaries, they have been considered to have been lost by recent ichthyologists, but it is at least possible (or even probable) that they have been consolidated with the ethmo-vomer, as Peters and Jacoby contended.

The order, as now limited, is represented by two suborders, (1) the Enchelycephals, including most of the species, and (2) the Colocephales, including (so far as known) only the Murænids. The only near relations of the apodals are the Carencheli, known only by a single species, which is distinguished by the distinct premaxillaries, free nasals, etc.

The Lyomeri, which have been generally associated with the apodals, are extremely distant and *contrast* with them by the absence of most of the characters distinctive of the order.

THEO. GILL

THE PROPER RESTRICTION OF EUCYNOPOTAMUS

SOME time ago I proposed the name *Evermannella* to replace *Odontostomus*, as the lat-

ter was found to be preoccupied in mollusca. Since then, Dr. C. H. Eigenmann, overlooking my use of this name, again proposed *Evermannella* as a new genus of Characinae, with *Cynopotamus biserialis* Garman as its type. Subsequently I renamed Dr. Eigenmann's genus *Eucynopotamus*, a fact he seems to have entirely neglected, as his later proposal of *Evermannolus* shows. Thus *Evermannolus* must be considered an exact synonym of *Eucynopotamus*, embracing the single species *E. biserialis*. The wrongly identified genus *Eucynopotamus* of Eigenmann may now be known as *GALEOCHARAX* gen. nom. nov. (type *Cynopotamus gulo* Cope), to embrace the species *G. magdalenæ*, *G. humeralis*, *G. gulo* and *G. knerii*.

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ACADEMY OF NATURAL SCIENCES
OF PHILADELPHIA

THE AMERICAN PHYTOPATHOLOGICAL SOCIETY. II

The Mildew of Ginseng caused by Phytophthora Cactorum (Leb. & Cohn) Schroeter: Professor H. H. Whetzel, Cornell University. (Read by Mr. V. B. Stewart.)

The mildew has long been known to the ginseng growers of Japan. It is known as "Koshi-ore," meaning a "bending-at-the-loins," from the characteristic drooping of the leaflets at the end of the affected petiole.

The relation of *Phytophthora cactorum* to the disease was first discovered by Hori in 1904 as pointed out by Van Hook. He demonstrated the constant association of this well-known Phycomycete with the lesions on the ginseng. Van Hook discovered this disease in Ohio and New York in May, 1905. He reports the constant abundance of oospores of *P. cactorum* in the diseased stems. So far as can be determined from the literature on the subject, no inoculation experiments have even been made to definitely establish the causal relation of this parasite to this disease.

The writer has observed this disease on an occasional plant in ginseng gardens since 1906. An epidemic of it appeared in a large ginseng plantation in New York State in 1909, causing a loss of more than 20 per cent. in some beds. Microscopical examination of a large number of diseased plants showed the *Phytophthora* always present in great abundance.