

COMMENTS

by Readers

After many years of devastation China is now, with the help of the United Nations, effecting a recovery of her national well-being. This recovery involves the rehabilitation of her basic industries, among which her fisheries are of considerable importance. The rehabilitation of this industry involves not only building new vessels, assembling new gear, and organizing new marketing institutions to replace those destroyed during the war, but also developing an effective body of scientific data in relation to these fishery resources and the means of both production and distribution, to enable the fishery to be reorientated to the modes of fishing available today. Although powered vessels were operated in Chinese waters, from Chinese ports, before the war, the greater proportion of the industry was carried on by traditional methods, which, although comparatively effective, were in many cases primitive and incapable of any great development. Since little was known about the general resources, new developments were practically impossible, natural changes and fluctuations had to pass unexplained and merely endured, and no active program could be developed for the effective management of these resources. These problems are aggravated by the fact that, for various reasons, the move for the development of powered-vessel operations is of considerable urgency.

The Chinese National Fisheries Research Institute, recently established under the Ministry of Agriculture and Forestry, has been charged with the task of carrying out the investigations necessary to guide the Chinese fisheries industry during the difficult period of the immediate future and to serve as basis for permanent work in fisheries administration. Comprehensive plans have been drawn up for the conduct of research work and for the associated extension work by which the results of research can be communicated to the industry and a flow of recruits to the research field may be developed and maintained. However, implementation of this program is being seriously delayed by the lack of equipment and the inade-

quacy of a trained staff. The undersigned are therefore making a general appeal for assistance. At the present moment the Institute possesses hardly a measuring board, let alone the customary laboratory equipment for microscopic and other techniques. It possesses only a handful of books—generally Japanese—and has none of the standard fisheries publications. While the Institute plans eventually to acquire literature by purchase and exchange, such a program will necessarily be somewhat delayed and prolonged. It is thought that various individuals and institutions might be in a position to anticipate such a program by making gifts or exchanges in advance of any publication by the Institute. Any literature in general and marine biology, fisheries-biology, -economics, and -technology, hydrology, planktology, and related fields of oceanography, and limnology would be valuable to the workers of the Institute. It is less likely that gifts of equipment could be made. However, workers of the Institute would be grateful to be informed of any new techniques or special technical developments which workers in other laboratories have discovered. (LING SHAO-WEN, Director, GIDEON TING-WEI LEW, Vice-Director, G. L. KESTEVEN, UNRRA Fisheries Operational Specialist, Shanghai.)

Smith (*Univ. Kans. Publ. Mus. nat. Hist.*, 1946, 1, 93-96) presents a well-drawn figure of the mouth parts of the tadpole of *Bufo cognatus* Say which differs materially from my figures accompanying the original description of this larva (*Copeia*, 1936, 14-30, Figs. 11-13). He also discusses the marked similarity between his figure of *B. cognatus* and Wright's figure (*Proc. U. S. nat. Mus.*, 1929, 74, Art. 11, Pl. 5, Fig. 6) of a tadpole stated by the latter author to be *B. compactilis* Wiegmann.

Three possible interpretations are suggested by these facts: (1) Smith's tadpoles might have been of *B. compactilis*, (2) Wright's tadpoles might have been of *B. cognatus*, or (3) the tadpoles of the two

species may have mouth parts so similar as to be practically identical.

Fortunately, I have at hand several large, personally collected series of the tadpoles of each species, all of which were fixed in the field in Bouin's solution and kept since in alcohol. All are in excellent condition. Those of *B. cognatus* were collected near Norman, Oklahoma, in 1941; those of *B. compactilis*, in various places in southwestern Oklahoma (chiefly in Greer County) in June 1946.

Even a superficial study of these tadpoles was sufficient to reveal the true situation. The third possibility is the correct one. The specimens from which my figures were drawn were atypical, and Smith's figure shows the typical condition. Dr. Wright's figure is also correct for *B. compactilis*, and his excellent description of color pattern and general external appearance of the tadpole of *B. compactilis* proves conclusively that he did not confuse the two species.

This situation raises interesting questions. Does the similarity in mouth parts of these two species of toads indicate a closer phylogenetic relationship than is commonly supposed? Broader than this, how much can larval characters in general be relied upon as indicating phylogenetic relationships? How much similarity is due to convergent evolution in adaptation to similar habitats and ecological relationships? That no one can answer such questions with assurance at this time indicates certainly that tadpoles and other larval forms deserve much more study than they have received to date. (ARTHUR N. BRAGG, University of Oklahoma, Norman.)

P. Martens, well-known Belgian cytologist, and a director of the journal, *La Cellule*, writes that as the result of the war and the German occupation the future of the journal is in serious jeopardy. Issues have been appearing irregularly and at rather long intervals. Subscriptions have fallen off to a marked degree not only because subscribers in a number of countries have been unable to pay for them but because contacts have not yet been re-established with such countries as Russia, Germany, Japan, and Italy. It is to be hoped that cytologists will rally to the support of *La Cellule* and urge the purchase of subscriptions in their own institutions where such are not pending. (CLARENCE STERLING, Department of Botany, University of Illinois.)