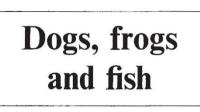
Behavioral Ecology and Evolution. Edited his conclusion, one of the aims of the these subjects take up half of the book by M. W. Fox. Pp. xvi+508. (Van book is to reduce man's alienation from and provide an admirable review of Nostrand Reinhold: New York and Lon- nature. It should help. don, March 1975.) £10.60,

UNTIL very recently no comprehensive review of the wild members of the dog family had been published since Mivart wrote his Monograph of the Canidae in 1890. Now two books on the subject have become available. The first, Lois E. Bueler's Wild Dogs of the World (Collins, London, 1974), is an excellent popular book; it is well complemented by the second, a more technical work entitled The Wild Canids. This latter volume is Xenopus: The South African Clawed Frog. THIS volume contains the collected conbased on behavioural studies within a framework of five sections: taxonomy, behaviour, genetics, ecology, and the February 1975.) £10.25. evolution of behaviour. Much of the work has been published before but this A GLANCE at the list of references within papers are published in their entirety, with does not detract from the value of the book as a review.

The ethology and ecology of the northern races of the wolf, Canis lupus, have been studied in detail over the past decade and are well reviewed again here; it is aquatic and thus not averse to life in and a new approach is used in a chapter aquaria, even when it is kept at temon the Eskimo hunter's view of the wolf. There is still, however, a lack of any information on social structures in the male and female can conveniently be in relation to fish population dynamics Indian and Arabian races of the wolf and, as it is probable that these were the main progenitors of the domestic dog and the for human medication. Dr Deuchar potent effect on the recruitment of a year dingo, it would be most interesting to suggests that the sperm may need to swim class to a fishery and several contrilearn more about their social organisa- faster than the sperm of other species butions are concerned with the causes of tion (touched on by Lorenz in the fore- because the male and female cloacae are this: the interactions of starvation, word). Corbett and Newsome show that not as close as they are in other anurans predation, physical damage, loss to adthe dingo is not highly social and is a during amplexus. But, while collecting verse current systems, and imperfections solitary hunter; whether this type of freshly laid eggs, I have noticed that the in development, are all discussed. Clearly, behaviour evolved since the dingo male partner bends his back to bring the the causes are varied and rarely stem became feral in Australia, or whether it cloacae very close when the female is from any one factor. was inherent in their ancestors, provides actively laying eggs, but not at other fascinating enigma to a add to times. Macintosh's chapter on the origin of that animal.

coyote, Canis latrans, and on some of the staging is all important and for this they shock on larvae entrained in electricity less well known canids, for example, the find, as Dr Deuchar says, that the Normal generating station cooling systems, are South American foxes and the Indian Table of Xenopus laevis Daudin is in- two papers of particular relevance to dhole, Cuon alpinus, are disappointingly valuable. Even a group of tadpoles that fisheries in industrial regions. Another slight. Lawrence and Bossert produce have been reared together will display interesting evidence in support of hybri- differences in their rates of development, disation in the North American species of though they are smaller than the differen-Canis. This work exemplifies an interest- ces between groups reared at different ing aspect of canid behaviour that temperatures or on diverse food regimes, cover techniques related to aquaculture. emerges in several parts of the book. It is thus rather meaningless in research Variation in temperature and in photo-This is the ability of certain species to have to refer to the ages of tadpoles alone period, hormone injection, selective hya close interaction with man (and with the instead of to stages which can be quite bridisation, and genetic manipulation all domestic dog, with which the wolf, precisely used by all investigators. coyote, jackal, and dingo will all interbreed). Some species within the general speed of *Xenopus* development which Canis, Vulpes, and Dusicyon are so flexible may be a pleasure to some but a disin their behaviour and ecological require- advantage to others. The beautiful grace of the broad spectrum of research into ments that they can coexist with man and and transparency of the Xenopus tadpole fish eggs and larvae that was presented even take advantage of human disturbance is a delight to all. to the environment.



By E. M. Deuchar. Pp. x+246. (Wiley- tributions to a symposium on the early Interscience: London and New York, life history of fish held at the Dunstaff-

this volume will indicate to the reader how rapidly *Xenopus* has risen in (like the symposium) is divided into seven popularity with research workers in the field of developmental biology.

Xenopus laevis is easy to keep because

studies of embryos and tadpoles that need mium on the development and survival Observations on the behaviour of the not be as accurately timed as mine, but of herring eggs, and the effects of thermal

The Wild Canids will be of great value to 500 references) in order to produce such meeting) provides a lasting testimony to all students of animal behaviour. It has a comprehensive survey of the taxonomy, J. H. S. Blaxter's enthusiasm for this been well edited and the bibliography is anatomy, physiology and development of specialised field.

The Wild Canids: Their Systematics, comprehensive. As Michael Fox says in Xenopus. Chapters devoted to the last of present day research into many aspects of Juliet Clutton-Brock the pre-frog life of Xenopus 1. laevis.

This book should be made available to all who work in this field. Louie Hamilton

The Early Life History of Fish. (The Proceedings of an International Symposium at Dunstaffnage Marine Research Laboratory, Oban, 1973.) Edited by J. H. S. Blaxter. Pp. x+765. (Springer: Berlin and New York. 1974.) DM98; \$40.00.

nage Marine Research Laboratory at Oban, Scotland, in 1973. Fifty four two more in abstract form. The volume categories (population studies, distribution, feeding and metabolism, physiological ecology, developmental events, behaviour, and taxonomy).

Most of the contributions fall under peratures much lower than those normally the heading of population studies, with encountered in its African habitat. The discussions of egg and larval abundance induced to mate by the injection of appro- greatly outnumbering the other papers. priate gonadotrophins which are used High mortalities during early life have a

The section on physiological ecology contains several valuable papers on en-Most research workers concentrate on vironmental topics. The effects of cadcontribution discusses the effects of H₂S on the development and survival of larvae in freshwater fishes.

Under the heading 'Rearing', six papers have an obvious relevance to rearing fish Dr Deuchar has stressed the relative for food and are considered in various contributions.

These wide-ranging topics are typical at the symposium. The editing of this She has read a great deal (more than volume (and the organisation of the **Alwyne Wheeler**