

BOOK RECEIVED

Ecology and management of European hare populations. Eds. Z. Pielowski and Z. Pucek. Państw. Wyd. Roln. i Leśne, pp. 1-286. With 74 Figs. and 90 Tables. Warszawa 1976. Price 10 US \$ (120 zł).

An international symposium organized by the Polish Hunting Association for the purpose of summing-up progress in research on the European hare, was held in Poznań on December 23—24 1974. Numerous European scientific centres engaged in research of the hare were represented at the symposium, and a large number of authors (over 50 persons) working on this species of game animal were also present. The results of the symposium — consisting of 43 papers — have been collected in one volume and form a review of current subjects of ecological studies on the European hare.

The wave of interest in the European hare as an important game animal has been evident in world literature during the last 15 years. Intensification of agriculture has caused increasingly serious impoverishment of the game fauna of field ecosystems, while at the same time the hare, as a native species of the part of Europe and also introduced into neighbouring areas and other continents, continues to play an important part as a game animal in the majority of these countries. In recent years there has, however, been a tendency to decrease in the numbers of this species. Under such circumstances the preparation and propagation of rational principles for management of hare populations have become an important task facing both wildlife biologists and sportsmen taking part in shoots over such game areas.

The material included in the symposium forms a rewarding review of problems in this sphere. The first part of the report consists of information supplied by authors on current state of the hare in Bulgaria, the German Federal Republic, the German Democratic Republic, France, Hungary, Holland, Poland, Rumania, Sweden and Switzerland. Subsequent sections contain papers or reports of detailed studies on questions of the biology, ecology and game management of the hare. Five of the studies are concerned with problems of hare reproduction and deal in detail with aspects of reproduction physiology, behaviour oestrus, rearing of the young and natality as a factor in population dynamics. The section on age and development presents studies on methods for age determination and growth rate, and the section on food preferences and digestion of different kinds of foods.

Studies on the effect of habitat factors (*e.g.* weather) on variations in numbers of hares form a separate part. Factors limiting hare populations — natural enemies, pests and parasites — are analyzed in papers in section VI. Problems of importance to a good understanding of habitat manipulation and hare populations are contained in section VII. The responses of the hare to vegetation and crops are presented in the next part. The final section consists of studies in the sphere of game utilization, together with the summing-up contained in the paper on ecological factors and rational principles for population management.

The field covered by the papers in this volume presents an almost complete picture of the whole range of ecological problems examined in research on the European hare, and a considerable part of this consists of the studies carried out in the host country of the symposium. Polish achievements in the sphere of natural principles for management of this species date from the early sixties of this century and have been intensively continued at the Research Station of the Polish Hunting Association at Czempień. Papers summing up the main results of these research have been included in the symposium volume.

The volume reviewed here has been published by the State Agricultural and Forestry Publishers in a handy functional form and is obtainable by application to Ars Polona-Ruch, Krakowskie Przedmieście 7, 00-068 Warszawa, Poland.