

It was first black, then silvery, and the recurrence of these shadings soon convinced us we were nearing one of the largest flocks of birds any of us had ever seen. We paid scant attention to some 500 Mallards feeding on burnt stubble, which sight, ordinarily, at this season of the year, would have aroused our curiosity, but pressed forward to solve the mystery of the myriads of winged nomads ahead.

Another mile and we overtook the object of our quest. We were surrounded by hundreds of thousands of Franklin's Gull. These beautiful land gulls, with their black heads, pearly-grey backs, white breasts, delicately tinted with a rosy hue, black and white wing tips, and reddish bills and legs, are named in honour of the arctic explorer, Sir John Franklin.

By this time they had alighted in column formation, a mile in extent, averaging sixty birds in width, covering almost every foot of ground within this area. They were attacking the devastating "hoppers" with army-like precision. Those in the rear after vanquishing the enemies in their immediate sector, would fly over the rest of the invading army and take up the front line attack. Strange to relate, when in this manner they arrived at the east and west cross-road of the field they did not pass over the highway, but wheeled round and commenced work again on another stretch of territory at the south end of the field.

Similar activities were in progress all round us. Occasionally the birds would take to the air in clouds so bewildering and of such magnitude that one's normal sense of calculating numbers of birds seen in flocks was completely out of gear and could not be satisfactorily adjusted to compute such an extraordinary spectacle. If one can visualize a well-filled sticky fly paper as a plan of the column referred to, using a scale of fifty yards to each fly paper one may have a faint idea of a portion of this vast flock, but mere words

cannot portray the beautiful scene, nor adequately convey any idea of its greatness. Two miles to the south-west could be seen another cloud of gulls, which, if anything, seemed even larger than the one under review.

Franklin's Gull is the bird commonly seen following the plow, picking up insects from the newly turned furrows. It is almost entirely insectivorous in its habits. Fifteen kinds of insects have been found in the stomach of one specimen, including the nymphs of 327 dragon-flies; in another 82 beetles, 87 bugs and 984 ants. When grasshoppers are numerous, they constitute about 80% of the total food of Franklin's Gull. Assuming these figures as a basis, pending more accurate information, which we hope to secure this season, one may safely say that each gull will consume 500 grasshoppers daily. A very conservative estimate of the gulls observed feeding on the crop in question would be 1,000,000 birds and one may readily see that such an army of unhired help would quickly annihilate the grasshoppers in this area.

When the Mormons first settled in Utah, their crops were on the point of being ruined by grasshoppers, but large flocks of gulls invaded the territory and saved the crops from destruction. As the Mormons prospered they remembered the good work of the gulls and erected a magnificent monument in commemoration of their feathered friends. After seeing Franklin's Gull at work one can the more readily understand the significance of the Mormon incident, for any farmer who is so fortunate as to have these vast flocks of gulls visit his farm will have no cause to go to the trouble and expense of providing poison to combat this menace. Birds are one of nature's ways of combating insect pests. Some authorities go so far as to say that "successful agriculture without their aid would be impossible. Let us remember that: "Insects eat crops; Birds eat insects," and therefore the slogan of all public-spirited citizens should be "Save the birds".

## NOTES AND OBSERVATIONS

<sup>a</sup> TWO NEW CANADIAN LYMNAEAS.—A recent study of Canadian Mollusca has shown that several species are masquerading under wrong names. These will be more fully discussed in a paper in preparation but it is deemed important to correct such mistakes as soon as possible.

*Stagnicola yukonensis* Nov. Sp. This is the species described as *Galba vahlii* ('Beck' Möeller) in *The Lymnaeidae of North and Middle America*, p. 370, and figured on pl. 39, figs. 11-18. *Vahlii* is confined to Greenland and is

quite different from the species under discussion. The types are from a pond at Atlin, B.C., collected by Mr. J. Henderson. Types in coll. F. C. Baker, No. 1569. The species is common throughout Alaska, Yukon Territory, and Canada.

*Stagnicola johnsoni* Nov. Sp. This species was erroneously referred to *Lymnaea traskii* Tryon in the *Lymnaeidae* Monograph, p. 368, pl. 39, figs. 9, 10. The description in this

work refers mainly to *johnsoni*, the true *traskii* being another form and confined to California. The type locality is Banff, Alberta, collected by Dr. C. W. Johnson, now deceased, to whose memory the species is dedicated. This is a common species in the mountain regions of Alberta and British Columbia and probably occurs in other parts of Canada. Types in Coll. F. C. Baker, No. 771.—FRANK C. BAKER.

## BOOK REVIEW

BIOLOGICAL ETHICS, *an attempt to arouse a naturalistic conscience.* By Prof. Dr. Oscar De Beaux, Curator of the Civic Museum of Natural History, Genoa. Edited by the Fascist Association Sportsmen, Prov. of Trento, and the Commission for Liguria of the Committee for the protection of Birds and for the distribution of artificial nests. Milano. Translated from the Italian by Florence Perkes. From 'The Italian Mail and Tribune', Florence. 19-26 March, 2 April 1932. Pages 3-11.

THE CONSERVATION ETHIC. By Aldo Leopold, University of Wisconsin. Reprinted from *Journal of Forestry*, Vol. XXXI, No. 6, October, 1933. Pages 634-643.

These two reprints are recent outstanding attempts, of diverse origin, to outline the application of a deep-delving philosophy to the problems of inter-specific relationships. They are so excellent that it is greatly to be desired that every one should read and comprehend them. The matter with which they are concerned is of fundamental importance to humanity as a species.

After pointing out the indisputable fact that we find ourselves existing in the field of biology, which is knowledge of life, Dr. De Beaux states that, in addition to the scientific and economic aspects of biology, there is also the moral aspect, which should form the basis of our thought, almost the fundamental, informative idea of all our action. He adopts as his definition of "moral" the "voluntary limitation of every individual or collective Will, by means of a constant control of our own feelings, and of a constant moderation of our own actions", and proceeds to show that there is really no antagonism between morals and utilitarianism, that they even stand in reciprocal relation, and that that which is moral is that which is really useful to humanity.

In the last analysis, the maximum biological benefit for humanity consists of its preservation, pure and simple, upon earth. As research has shown clearly that the question of existence is a question of surroundings, Man's surroundings must be a matter of the utmost concern to him. Civilized Man has freed himself from many of the bonds that restrict Primitive Man and occupies an eminently active position as to his life surroundings, which, indeed, are, at least potentially, the whole world, with all its vegetable, animal, and human life. Therefore "every substance, every kind of living thing that Man cannot create, has some importance or other for the human race, may represent a reserve still to be utilized at the opportune moment, the last reserve at the last moment".

Having thus presented his main argument, Dr. De Beaux proceeds to an expansion and application of his subject. Since the foundation on which his views are built is a moral one, it is useless to attempt discussion of the question with any who may be amoral by deliberate choice, but whoever feels himself moral in biological fact, may consider Biological Ethics as "The religion of respect to life in all its earthly extrinsic manifestations".

Two precepts of first importance are stressed. One is a commandment derivable from considerations already put forward: "Take care that no animal or vegetable species disappear from the face of the earth". The second is presented as the fundamental biological law of Nature: "No species may emerge and dominate to the prejudice of others". It is also pointed out that, while Man can and does continually and profoundly alter the natural equilibrium of his surroundings, he cannot modify the laws that govern it, and that his wise course, the only ultimately successful one, is to ally himself with all those species of the animal and vegetable



Baker, Frank Collins. 1934. "Two New Canadian Lymnaeas." *The Canadian field-naturalist* 48(4), 69–70. <https://doi.org/10.5962/p.339556>.

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