ASSEMBLIES OF COCCINELLID BEETLES OBSERVED IN N. UGANDA (1927) BY PROF. HALE CARPENTER AND IN BECHUANALAND (1935) BY DR. W. A. LAMBORN

By Sir Edward Poulton.

The following paragraph has been copied from a letter, written 3 Oct. 1935 at Fort Johnston, Nyasaland, by my friend Dr. W. A. Lamborn :—

" Since I last wrote I have been away in Bechuanaland for a couple of months, to make a survey for Sleeping Sickness. It was so dry and so hot in the daytime that very little insect life was to be seen, and almost the only observation of any interest that I was able to make concerned an enormous assembly of Coccinellid beetles, apparently aestivating on a solitary fig tree, devoid of leaves, perched on the summit of a very large termitarium. There were so many that one could see them at a distance of 25 yards as black patches. They were mostly in sheltered positions, on the underside of branches and between buttressing roots: all were motionless, and some that I marked were in exactly the same position when I again passed the tree some ten days later. Those that I removed did crawl but by no means actively. There were literally hundreds of thousands. I collected a couple of handsfull, which I will soon send with a covering note to the Department. I read in the *P.R.E.S.* for 5/12/34 [1935, *Proc.* **9** : 108–9] your note on such assemblages."

[The interesting details recorded below are quoted from a letter written by Dr. W. A. Lamborn, 2 Aug. 1936, at Fort Johnston :—

" As to the Coccinellids, when I was travelling last year in Bechuanaland with Mr. H. Scott-Norwebb we pitched our tents on 12th July in the neighbourhood of Sikwee on the southern bank of the Chobe River, in about 24° 10′ E., 18° 55′ S. I had noticed directly we got into camp a large isolated tree, devoid of leaves, standing on top of a huge termitarium about fifty yards away, and could see large black patches on it, all up the trunk and on the underside of the main limbs.

" The tree proved to be one of the Figs, and the black patches were due to enormous masses of Coccinellids, side by side, not on top of each other, all at rest and apparently hibernating, for the weather was chilly even by day, while at night it was so cold that there was ice on pools near the river. We proceeded on our journey along the river bank towards the Angola border, returning to Sikwee on the 21st of the month. I then again noticed the patches—this time from a much greater distance, of course,—and found the insects to be in exactly the same position as before (for I had put marks round some of the patches with a view to determining if they had moved). I then collected a couple of handsfull, though I could readily have filled a sack with them, for they must have been there literally in hundreds of thousands. They were at first quite inert, but started to move about a few minutes after their removal. They exuded the usual yellowish fluid with the characteristic ' Ladybird ' odour when handled. I saw no evidence of attack on them by predators, and, though there was quite a carpet of the dead insects round the tree, they remained untouched by ants which were numerous in the vicinity."]

These Coccinellids, kindly determined by Mr. G. J. Arrow as *Epilachna*

dregei Muls.,* reminded me of a huge collection sent to the Hope Department in 1927 by my friend Prof. Hale Carpenter, who has written the following account of the assembly and the conditions under which it was observed :—

" July 11th, 1927.—Patiri, Gulu district, Northern Uganda. A rocky hill a few hundred feet high, with dense growth of bushes in between the tumbled boulders, was climbed. The following is an extract from my diary. 'The boulders on top, piled in the usual jumble, were absolutely covered, in places where two vertical sides faced each other, with a densely packed mass of a common dull pink Coccinellid with black network, often seen on gourd leaves. They were so closely aggregated that no rock could be seen between them, and were absolutely motionless. The total area covered must have been several yards square. I scraped off hundreds, at random, from different spots.'

" On July 12th, 1929, I visited the same spot and found the same state of affairs.

" In the northern part of Uganda the month of July falls in the middle of the wet season, or in a slight intermission between the two wet seasons of southern Uganda which tend to merge into one in the north."

These Uganda specimens, exhibited in the Library on 3 June, 1936, were studied by the late Mr. G. C. Leman, who was greatly interested in the patterns of COCCINELLIDAE, and after his death were sent with his collections to the Natural History Museum where Mr. Donisthorpe has found them mounted on cards and arranged in four boxes. Mr. Leman had evidently devoted much time to the classification of the patterns and had selected specimens as types of forms which he intended to describe. He had also submitted specimens to Dr. Sicard and recorded his identifications, viz. *Solanophila zetterstedti* Muls., *S. nigritarsis* Muls. and *S. dregei* Muls.† It is to be hoped that a Coleopterist interested in the patterns of COCCINELLIDAE will continue the work begun by Mr. Leman and add to its interest by including the results yielded by a study of the Bechuanaland collection made by Dr. Lamborn.

The migration and massing on hills of the " Sunn "-bug (*Eurygaster integriceps*) described by Dr. Hugh Scott in his Kurdistan paper (1929, *Ent. mon. Mag.*, **65 : 72–3**) presents an interesting similarity to the behaviour of these African Coccinellids. The *Eurygaster,* which is " one of the worst insect pests in Iraq, Syria and parts of Persia and Russia," migrates, it is believed, to the north and congregates on mountains, but also in certain well-known spots near Tehran and other cities where the insects assemble " in thousands, and are collected and destroyed by forced labour."

* R. Korschefsky in Junk *Cat. Col. Coccinellidae,* 1, **118 : 37,** Berlin 1931, considers *dregei* as an ab. of *Epilachna canina* F. Sicard in 1930, *Bull. Mus. Hist. Nat.,* (2) **2 : 394,** places *dregei* in the genus *Solanophila,* an arrangement followed by Mr. Leman (see above).

† Mr. Arrow, who has read this proof sheet, writes that he has no doubt that these three forms are all phases of a single species. Dr. Hugh Scott also directs attention to a general reference to " massing " of COCCINELLIDAE for hibernation and in the open, in Imms, 1934, *General Text-book of Entomology,* 3rd Edn., p. 508; to the reference " *Gregariousness* " in Subject Index of *Zool. Rec.* **1912, 1915,** etc.; to Frank Cowan's mention of swarms in England in *Curiosities of Natural History;* and especially to " Le réunioni della Coccinelle," by L. Camerano, 1914, *Z. wiss. Insektenbiol.* **10 : 187–9.**