

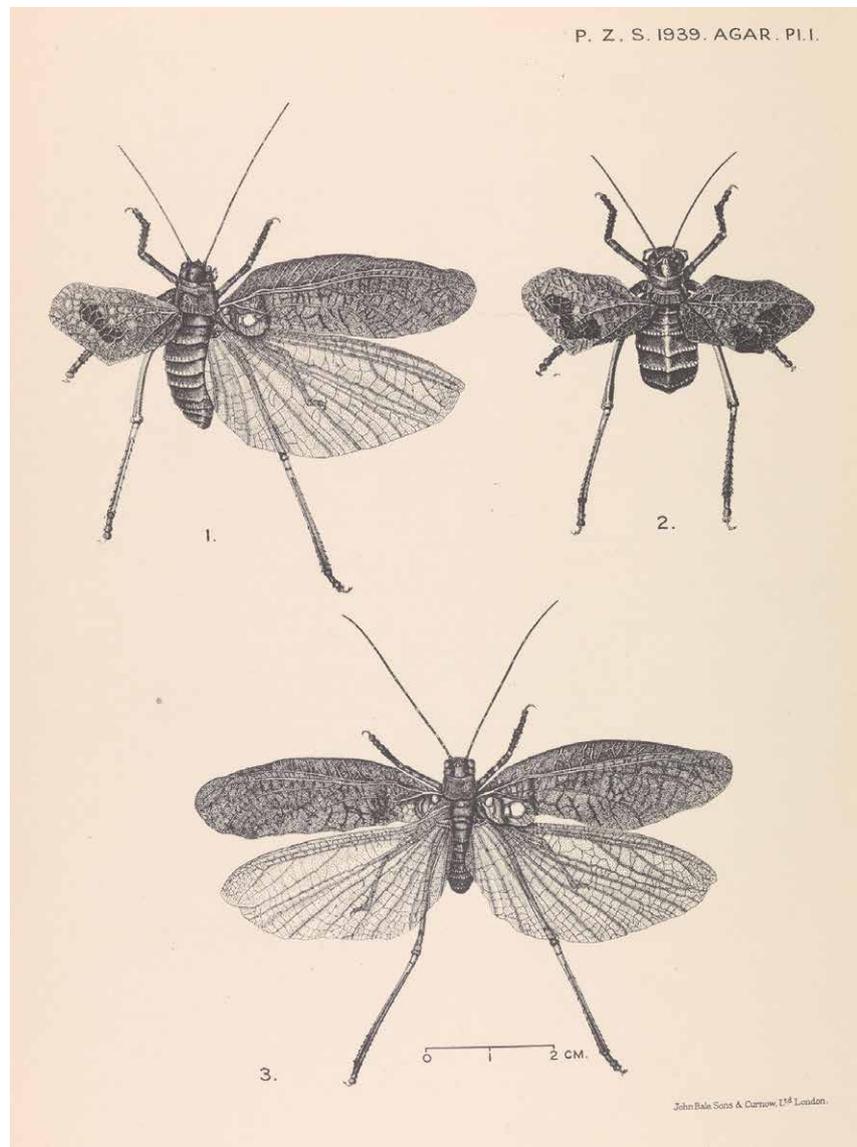
A gynandromorph in the Tiegs Zoology Museum

David Young

Item number 2379 in the Tiegs Zoology Museum at the University of Melbourne is an ordinary-looking exhibit case with three insects pinned inside. A handwritten label on the dark frame of the case records the insects' scientific name (genus and species in Latinised form), which is *Acridopeza reticulata*. Inside the case, there is a label next to each insect telling us that one is male, another is female and the third is a gynandromorph.

So what is a gynandromorph? It is an individual that has both male and female characteristics, a condition that occurs particularly in insects. What makes this example anything but ordinary is that the male and female of *Acridopeza* are very different in external appearance. The male has two pairs of fully developed wings, with which it can fly, whereas the female has short and crumpled forewings and no hind wings. In addition, the male has a narrower body and longer hind legs.

On comparing the male and female with the gynandromorph in this exhibit case, it is clear that the latter's male and female features lie on either side of the body's midline. The gynandromorph is consistently male on the right side of its body and female on the left. This remarkable specimen was collected in 1938 at



Opposite: Marjorie Pratt, Illustrations of the insect *Acridopeza reticulata* (1. gynandromorph; 2. female; 3. male) accompanying W.E. Agar, 'A gynandromorph grasshopper', *Proceedings of the Zoological Society of London*, vol. A109, issue 2–3, July 1939, pp. 139–40. © Reproduced courtesy John Wiley & Sons, 2014.

Below: *Acridopeza reticulata* specimens in case: female, male and gynandromorph. Reg. no. 2379, Tiegs Zoology Museum, University of Melbourne. The display group, photographed here in 2014, is essentially unchanged from when it was assembled in c. 1939.

Sorrento, Victoria, by Mrs Edith Coleman, who sent it to the professor of zoology at the University of Melbourne, Wilfred Eade Agar. He was sufficiently interested to write a short paper about it, which was published in the *Proceedings of the Zoological Society of London* in 1939.¹

Not many specimens in the university's collections become the subject of a scientific paper and it is interesting to see how this came about. Mrs Coleman must have had an education in zoology to recognise the specimen's importance, and she must also have maintained an enthusiasm for collecting to have got hold of it in the first place. Professor Agar applied his expertise by taking a look at the specimen's internal organs, which yielded an additional point of interest. He found that the gynandromorph had a testis on the right side of the body and an ovary on the left, in keeping with the external features.

At the same time, it is clear that he kept the specimen in good condition so that it could be mounted in the exhibit case along with the male and female of the same species. Otherwise we would not have the three specimens on display in the museum today. This trio was also given a museum number and entered in the Register of Specimens for future reference. The entry cites Agar's paper

and so must have been made at some time after its publication.

A crucial part of Agar's paper is a plate with drawings of the three specimens, and he duly acknowledges these 'carefully drawn figures' as the work of Miss M.R. Pratt. Archival material shows that Marjorie Pratt studied zoology at the university in 1934 and 1935. She then stayed on to work as a teaching demonstrator and as a research assistant in zoology in 1937 and 1938.²

Clearly, the publication of Agar's paper was the outcome of his working with skilled and enthusiastic assistants. All this goes to show that items in the university's cultural collections

may be more significant than they seem at first glance, and may have a wonderful provenance.

Dr David Young is honorary director of the Tiegs Zoology Museum and was formerly a member of the academic staff in the Department of Zoology.

The Tiegs Zoology Museum is used principally for teaching undergraduate classes; see www.zoology.unimelb.edu.au/tiegs/.

1 W.E. Agar, 'A gynandromorph grasshopper', *Proceedings of the Zoological Society of London*, vol. A109, issue 2–3, July 1939, pp. 139–40.

2 I am indebted to Jane Beattie of University of Melbourne Archives for tracking down relevant material, including Marjorie Pratt's student card, and memoranda from Professor Agar relating to her employment and pay.

