

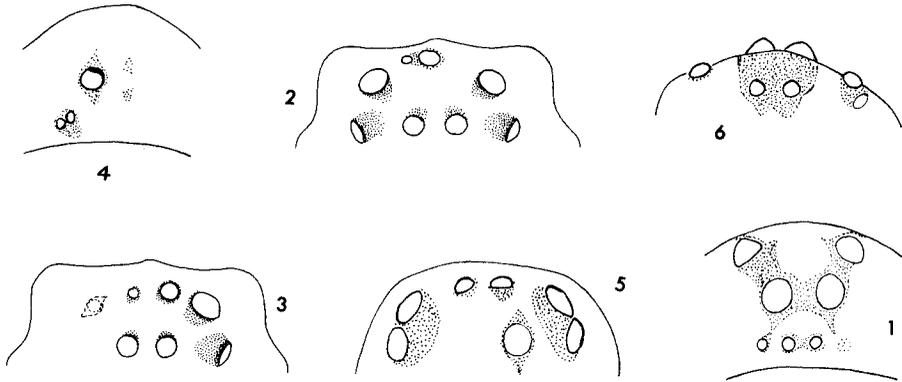
ADDITIONAL OCULAR ANOMALIES IN SPIDERS

I first published a short note on ocular anomalies in 1937. Since the publication of my 1962 paper a few other accounts dealing with ocular anomalies have appeared, and six additional specimens have come to my attention. I had referred to cases where spiders of hypogean habits had had their eye size reduced, or where one or more eyes were completely lost. Sanocka recently (1981) reported the results of her study with one species of this kind, *Porrhomma moravicum* Miller and Kratochvil. She discussed and illustrated the 12 different kinds of anomalous situations she encountered.

As to teratological specimens, later in the same year as my own paper Boggild (1962) reported for a specimen of *Asagena phalerata* (Panzer), that it was "lacking the posterior median eye of the right side, no trace of it being visible on the surface." Engelhardt (1964) reported for *Trochosa ruricola* (DeGeer) one female with both anterior lateral eyes and the right posterior lateral eye missing, and still another female completely eyeless. In 1968 I called attention to a young spiderling of *Latrodectus hesperus* Chamberlin and Ivie with 16, and another with 14 eyes. Both of these cases were quite obviously the results of embryonic duplication of a portion of the head region. Marer (1972) described the situation in a tarantula, *Aphonopelma reversum* Chamberlin, in which only the left posterior lateral eye appeared normal.

In 1972 I suggested that the four-eyed spider described by Rafinesque (1821) as a new species was in all probability an anomalous lycosid, and I pointed out that the literature contains more references to eye anomalies in lycosids than in any other spiders. I am adding herewith still another seen by me, and also one of which I have learned.

Case No. 1.—Juvenile lycosid: This specimen was collected by A. Loveridge at Lumbo, Mozambique on 18 July 19 The left anterior lateral eye is missing but there is a little dark pigment at the locus of the missing eye. In addition, there is somewhat less pigment between the posterior median and lateral eyes of the left side compared with the right (Fig. 1).



Figs. 1-6.—1, Lycosid from Mozambique, eye area from in front; 2, Sparassid “a”, eye area from above; 3, Sparassid “b”, eye area from above; 4, *Rualena cockerelli*, eye area from in front, 5, *Bathypantes concolor*, eye area from above; 6, *Araneus pratensis*, eye area from above.

Case No. 2.—Sparassid “a”: This specimen, a female, was collected by George Schwab in Cameroon (Date not available). All the eyes appear normal except the anterior medians. The right one is shifted to the left of its normal position, and the left one is reduced in size, its diameter being less than half that of the right one (Fig. 2).

Case No. 3.—Sparassid “b”: This is another female with the same collection data as for No. 2. In this specimen the four eyes of the right side are normal. On the left side the anterior median eye is reduced in size, being less than half the diameter of the right eye. The left anterior lateral eye is much smaller than its mate on the right side, has a much less distinct lens, and has less surrounding dark pigment. The left posterior lateral eye is completely missing (Fig. 3).

Case No. 4.—*Rualena cockerelli* Chamberlin and Ivie: This is a male collected by V. D. Roth about 18 km south of Tecate, Baja California, 10 November 1957. In this specimen there are only three eyes present, namely, the anterior lateral, the posterior lateral and the posterior median of the right side. At the locus of the left posterior median eye there is some dark pigment both in front of, and behind, where the eye would be if it had developed. In addition, compared with a normal set of eyes one can see that both of the right lateral eyes are reduced in size, each being only about half the diameter of the normal (Fig. 4).

Case No. 5.—*Bathypantes concolor* (Wider): This is a female collected by J. F. Anderson at Hartford, Connecticut, 10 March 1961. The left posterior median eye is completely missing and there is no dark pigment at the locus where the eye normally appears. Moreover, there is less pigment around the left anterior median eye than around the corresponding right eye (Fig. 5).

Case No. 6.—*Araneus pratensis* (Emerton): This is a female collected by J. F. Anderson at Newington, Connecticut 14 June 1961. The left posterior lateral eye is completely missing and there is no dark pigment to indicate its locus. Moreover, the amount of pigment around the left anterior lateral eye is much less than for the corresponding right eye (Fig. 6).

Another case.—In addition to the above six cases seen by me I can report the following of which I have heard (pers. comm. V. D. Roth). An immature male *Lycosa santrita* Chamberlin and Ivie collected in Pima County, Arizona, 7 July 1973 by J. and F. Murphy possessed only the right anterior lateral eye, all seven other eyes being lacking. It was

noted also that the eye was reduced in size, its diameter being less than half that of a normal anterior lateral eye.

I thank V. D. Roth and H. W. Levi for making available some of the specimens here described.

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