

THE GENERIC POSITION OF SPHINX SEPARATUS NEUM.

BY T. D. A. COCKERELL,
Boulder, Colorado.

On Aug. 23, 1918, a strange sphingid larva was found in a tomato patch at 905 Lincoln Avenue, Boulder, Colorado. It was about 110 mm. long, with a diameter of 16 mm.; head black, with a dark red stripe on each side; general colour of body creamy-white, with black and dilute black markings, the under side plumbeous. The caudal horn was small and black. The most conspicuous markings were on the dorsum of thorax, and were large and intense black; consisting of a trilobed or trefoil-like mark behind the head, with a short stem to the anterior margin of the segment, and a much larger broad, elongate mark on the hinder part of thorax, the interval between these markings having a pink suffusion. The thorax also had three round black spots on each side. Beyond the thorax, the dorsum was ornamented by transverse rows of small spots, and laterally by short, oblique, black marks, directed dorso-cephalad, i. e., in an opposite direction from that of the lateral stripes of *Sphinx*. From the caudal horn, however, a short, black band passed anteriorly on each side, homologous with a similarly placed marking in *Sphinx*. In the middle of the body, also, the oblique stripes of *Sphinx* were more or less distinctly developed, as rather short, dark bars, dorsally. A more or less distinct +-shaped mark was behind the larger thoracic patch, and a similar one anterior to the caudal horn.

This peculiar larva, very unlike that of *Sphinx*, produced a pupa in which the maxillary loop is about 22.5 mm. long, not allowing for the curvature, and strongly arched from the surface of the body (distant from it at one point as much as 5 mm.), with the end bulbous. The metathoracic ridge, about 6.5 mm. long, is only very narrowly interrupted in middle, the interval less than half a mm. Dorsally, the abdominal segments are strongly punctate anteriorly. The spiracular furrows are deep and about 4 mm. long, not extending ventrad of the spiracle; excepting, however, the posterior furrow of the first pair, which is longer, and goes ventrad of the spiracle by a distance almost equal to the length of the latter. Pupa is about 53 mm. long; colour dark chestnut red.

Judging from the pupa, and following the characters so admirably presented by Dr. Edna Mosher, this insect should have been a *Protoparce*. The moth, however, is *Sphinx separatus* Neum.! This species does not seem to me to be a true or typical *Sphinx*. The antennæ are curved at the end, approaching the condition of *Protoparce*, and the markings of thorax and anterior wings are very *Protoparce*-like. The black and white lateral banding of the abdomen, and the heavy (coalesced) bands on the hind wings are striking specific characters. On the under side the resemblance to *Protoparce sexta* is quite close. The eyes, in *Sphinx*-fashion, have very long lashes, but *P. sexta* has evident though much shorter ones. Mr. B. Preston Clark, working with the adult insects, kindly tells me that he cannot find adequate grounds for subdividing *Sphinx*, of which he has before him all the known species but two. Nevertheless, in view of the peculiar larva, and especially the characters of the pupa, far more striking than those used to separate the moths of the two genera in question, it seems necessary to regard *S. separatus* as the type of a distinct subgenus or possibly genus. For this I will propose the name *Mesosphinx*.