

I expect specimens from this gentleman. It is from size and the brilliant yellow colour of the head and first rings unquestionably a new species.

In August I found on another pamplemos bush two more cocoons resembling nearly exactly those of the male described, but rather smaller and more conical. One of them came out on the 22d of October, warm moist weather, and I got, but much injured, the following species, which, from its agreeing so closely with *O. (Cryptothelea, Duncan) Macleayi*, I have named,

*Oiketicus (Cryptothelea) consortus*. (Pl. V. fig. 7.)

Body brown, covered with coarse longish brown hairs, abdomen brownish, nearly naked, last annuli yellow, with dark margins; anterior legs with marginal brown hairs; posterior nearly naked; middle intermediate in this character; antennæ pectinate to the tip, dark brown. Wings uniform brown, broad.

Plate V. fig. 1, *Oiketicus tertius*, natural size; fig. 2, cocoon; fig. 3, pupa case; fig. 4, exhibiting the ribbed appearance of a ring; fig. 5, male suspended at rest; fig. 6, cocoon of *Oiketicus consortus*; fig. 7, *O. consortus* natural size; fig. 8, case found *Delima sarmentosa*.

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XII. *Remarks on the Habits and Economy of a Species of Oiketicus found on Shrubs in the Vicinity of Sydney, N. S. W. By W. W. SAUNDERS, Esquire, F. L. S., &c. Drawn up from Notes furnished by W. Stephenson, Esq.*

[Read 1st February, 1847.]

THE larvæ are enclosed in a silken case, fortified on the outside with pieces of stick of various lengths, generally about half an inch on the main part, but towards the lower end there are usually a few from one to three inches in length, in the centre of which the lower end of the silken case protrudes free from the sticks, and is very flexible. Through this aperture the larva discharges its excrement and exuviae. The upper or head extremity of the case is a beautiful tissue of soft silk, forming a tube half an inch in width, through which the larva emerges to feed and change its position. It frequently comes out half its length, but most commonly only protrudes its six true feet and the four first segments



of the body. It generally takes the precaution to attach a portion of the side of the mouth of the tube to the branch upon which it is feeding, and when any thing touches it unexpectedly, it immediately and with great celerity recedes into the case, drawing in the flexible part of the tube after it, and contracting the aperture so as to exclude all enemies. The larvæ of the largest cases are about three inches in length and half an inch in diameter. The abdominal and anal feet are mere circles of small points or hooks with which it moves in the case, taking hold of the beautiful silken lining, to which it can adhere with great pertinacity. The cases are found suspended on various shrubs, such as the different kinds of *Leptospermum*, *Melaleuca*, &c. at all seasons, and are very conspicuous. Previous to changing into the pupa state, the larva firmly fixes itself with silken fibres to some branch or paling, drawing together and permanently closing the head opening. It then reverses its position in the case, and envelopes itself in a beautiful soft silken cocoon of a yellowish white colour. On opening a considerable number of cases I found the insect in various stages of growth in June. The pupa of the largest cases are about two inches in length and half an inch in diameter, and are of a dark chesnut colour. Those of the smaller cases are darker, inclining to black, with the abdomen much attenuated, and about one inch and a half in length. The former are females, the latter males.

Notwithstanding the extraordinary care bestowed upon the larvæ to protect them from enemies, I have many examples of the depredations of a parasite, and an ichneumon has appeared in more than one instance.

August 30. On this day I first observed a yellowish white substance protruding at the lower end of the largest cases, which upon close examination proved to be a portion of the females in the imago state, one-third of their bodies being exposed. About an hour afterwards, examining the cases again, I found the females had receded, and in opening a case the female moth became evident within, and thus they emerge and recede as occasion may require. The female is a large apterous moth, with very little of the ordinary appearance of an insect of the moth kind. The length is about  $1\frac{3}{4}$  inches, diameter full half an inch, colour yellowish white, fawn or buff. Head and three first segments of the body naked and glossy on the upper part. Feet very short. Antennæ none, or at least not visible to the unassisted eye. Anal segment of the body clothed all round with a dense covering of silky down



of a deeper colour than the rest of the body. Ovipositor well developed.

September 5. Examined some of the females, no males having yet appeared. Two or three were dead; one nearly so, having deposited a great number of ova within the pupa case, which were enveloped in a short silky material. When the female has deposited all her ova, she is literally nothing but thin skin, which soon desiccates, leaving room for the young larvæ to pass. I have examined other species of *Oiketicus*, and find all the females are apterous.

September 20. A male imago appeared this morning; it had been in active operation a good while, as evinced by its wings, being much broken at the tips and otherwise much abraded. It is an insect of very peculiar construction, and seems to have some affinity with *Zeuzera*. It has the extraordinary power of extending the abdomen to two inches in length, and of turning and twisting it in all directions. When in this state it has alternate rings of black and yellow, with a curious appendage at the extremity. The male appears very eager to accomplish the grand object of nature, namely, the continuation of its species, as its existence appears to be of short duration. The large fat or rather distended females have not room to turn their bodies so as to present the generative organs conveniently to the male, consequently the immense development of the abdomen in the males is of the greatest importance; but it appears very extraordinary that the head of the female should be inverted, when it is known that she never emerges from the case unless by accidentally falling therefrom, which position obliges the male when in the act of coition to stretch his abdomen all along the side of the female full  $1\frac{3}{4}$  inches. This peculiarity appears to me to be the design of the all wise Creator in order to afford a secure place for the defenceless larvæ, viz. that of the pupa case of their parent, from which they emerge after the disappearance of their mother's body, and immediately form themselves silken cases covered with small pieces of any thing they can procure, arranged in every respect like the larger ones.

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The foregoing interesting details were forwarded to me by Mr. W. Stephenson, and as they refer to an insect which appears to be undescribed I shall here give a short character of the species to enable future observers to identify it. I shall retain it in the



genus *Oiketicus* for the present, although I feel convinced that the genus *Oiketicus*, as established by Mr. L. Guilding in the Linnæan Transactions, will not properly admit the so called species of *Oiketici* from New South Wales and our East Indian possessions. Indeed Mr. E. Doubleday has already created a subgenus for one (*Thyridopteryx*, Stephens) of the clear winged species from Western Australia, in the propriety of which I fully concur.

*Oiketicus elongatus*, W. W. S.

*Male*.—Head rufous brown, with the eyes black. Antennæ short, of the same colour. Thorax black, with the anterior half rufous brown. Wings sooty black, with the nervures hyaline; the anterior pair long, narrow, and sharp pointed, the posterior pair about two-thirds the length of the anterior. Abdomen black, tipped with rufous brown, occasionally much elongated, when it appears as if it were black and brown banded. The brown bands are occasioned by the membrane of the abdomen showing itself at the joints. Legs anterior pair rufous brown, the two posterior pairs black. Tarsi black.

Expansion of wings 2 inches.

Abundant about Sidney, New South Wales.

In the Collections of the British Museum, W. W. Saunders, &c.

*Female*.—Apterous, cylindrical, of a yellowish brown or fawn colour. Head and three first segments of the body naked and glossy above; anal segments covered with silky down of a deeper colour than the rest of the body.

Length  $1\frac{3}{4}$  inch, diameter  $\frac{1}{2}$  inch.

In the Collection of W. W. Saunders.

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