

Ch. 30 - MONOCTENIA SMERINTHARIA F. & R.
(Oenochrominae) (Figs. 436-446)

O.D. = Felder & Rogenhofer 1875. Reise

öst. Fregatte Novara (Zool.) 2

(Abt. 2): p. 124, figs. 18-19.

TYPE in BMNH / DET. by IFC., DSF.

A SYN. may be calladelpa Lower 1921 (?)

RECENT REF's. are McF. 1972B: 206, 234-35; 1979: 45 (dot 3).

● McF. LARVAL COLL. CODE-NO. = G.94.

STAGES PRESERVED = 1-6 (1965-66: in SAM).

LOCALITY: Blackwood, SOUTH AUSTRALIA.

HABITAT PHOTOS: H1-57.

FOODPLANTS & PHENOLOGY

(at Blackwood)

Apparently restricted primarily (or entirely ?) to the tough mature lvs. of Eucalyptus spp. (both odorata and leucosylon accepted here). LARVAE are present from + April or May (L1) to early Oct., feeding and growing slowly from autumn to early spring, during the coldest and wettest part of the year. Best obtained from eggs in captivity, as they are rarely seen in the field. Strictly univoltine, spending 5-7 mo. in pupal diapause. ADULTS (♂♂, A) fly from mid Feb. to early May (peak late March to early April). Only ♂♂ came in abundance to uv. light, primarily from 1100 hrs. to dawn; ♀♀ were rarely seen at uv. and they usually arrived earlier in the evening (before 1100 hrs.); both sexes strictly nocturnal.

This sp. also occurs in the forested SW. of W.AUST., in the winter rainfall zone. "Typical" specimens, and others with a dusky suffusion on DFW, were collected at Ravensthorpe Caravan Park in late April 85 (McF.); deposited in AGWA.

ADULT (436-441)

This moth is number four of the 5 largest geometrids occurring at Blackwood.

DESCRIPTION: LFW 25-33 mm. (♀♀ larger). DFW g.c. (m) uniform soft pinkish-tan, with no mac. in typical specimens; evenly spaced, deep red-brown dots in fringe. DHW g.c. (m) similar to FW marginally, with a soft to med. pink suffusion centrally. Obscure median line (in most) pale, dull yellow-tan. ♂ ant. light yellowish-tan. DFW g.c. (♀) a deeper pinkish-tan than ♂, with a sprinkling of black scales, creating a black "frosted" effect, esp. toward the outer margin, with a greater intensity of black along the inner edge of the transverse median line. DHW g.c. (♀) as in ♂, but with a soft blackish suffusion near inner angle, and a deeper pink basally.

MISC. REMARKS: The specific name perhaps alludes to the colouration of the adult ♀ moth, somewhat reminiscent of the colouration seen in some Smerinthus spp. (Sphingidae), of which S. cerisyi Kirby is a N. American example. The mac. is entirely diff. in G.94, but the colour combinations do bring Smerinthus spp. to mind. The massive thx. and plump but caudally tapered abd. of the ♀ (436), and the relatively long FWs combined with short HWs, further increase the almost sphingiform illusion.

BEHAVIOUR: The r.p. could be classified as either low-profile open to semi-open tectiform or subtectiform, with a variable amount of HW exposure (+ 20-30%). Another unusual feature is the nearly total exposure of the abdominal dorsum at rest. The body axis is oblique; strongly depressed at the head and sloping up toward the rear, with an additional upsweep at the tip of the ♂ abd., which is consistently maintained (shows well in 439-41). The abdominal uptilt is accomplished with much the same leg positioning (T2-T3) as can be seen in Arhodia

lasiocamparia (Ch.2); compare 17 with 441 and 18 with 439. The wing positions held by these two moths at rest differ considerably, however. Both the wing position and stance of the resting **smerintharia** are quite at variance with its closer relative, **M. falernaria** (see 420-23). Angle of **M. falernaria** costal margin to body axis, when at total rest on a flat surface: 52-45° (1 ♂). The **smerintharia** colouration is superbly matched to the soft pinkish-tans seen in many dead eucalypt lvs., and its r.p. causes a major shadow to be cast. This evidence points to the probability of a leaf litter resting habit. They may also rest among dead lvs. on the trees, or on the curled and twisted loose bark that hangs from the trunks of many eucalypts when they are shedding....

EGG (442)

1.75-1.65 x 1.40-1.30 x 1.10-1.00 mm.

Most were deposited singly on a muslin strip. Chorion very tough and firm; surface with a soft satiny gloss. COLOUR CHANGES: At first pale yellow-gray; then gray with irregular dark red-purple speckles and blotches; then opaque pale gray with dark red-brown markings. Took 28-37 days to hatch; no moisture required.

MISC. REMARKS: These eggs are distinguished from **falernaria** by the heavier and more irreg. blotching, and by the darker (more purplish) tinge of the markings during incubation. They are, for the most part, slightly smaller than **falernaria** eggs, but the latter are so variable (in both length and width) that a percentage of the **falernaria** eggs can be even smaller than those of **smerintharia** (compare measurements given). The incubation time is only about half as long (or even less) in **falernaria**.

LARVA (443-444)

BEHAVIOUR (L1): No evidence of L1 dispersal activity, nor should it be expected when the ♀ moth has already dispersed them in the process of oviposition. The small larva rests rigidly stick-like (at a 30-40° angle to stem), and is already clinging with great tenacity, as it lacks any silk drop-line for attachment.

DESCRIPTION (L2): Now has a more "stick-like" appearance when at rest than it did in L1. Body g.c. light to darker brown or yellow-brown, with much irreg. and variable black mottling. Usually a black band over A6-A7 contrasts strongly with the pale flesh-tan anal claspers (A10 prolegs) and suranal plate. Large mdd. welt on A2 usually + surrounded by black. Head pale brown marked with dark brown; not shiny. BEHAVIOUR (L2): Not very active; locom. with high looping. Feeds only at night. Usually drops on silk when dislodged.

DESCRIPTION (L5): Very similar to **falernaria** in general appearance, colours and mac., with the exception of the slightly differing head shape and colour of the T1 spiracle (see below). Skin rather tough; the larvae feel distinctly "firm" when handled. Skin shows no surface shine whatsoever. The raised, gray-brown transverse welt or "leaf node hump" on the dorsum (above the A2 spiracles) is somewhat less prominent and less elongate in this sp. than it is in **falernaria**, once the larvae have reached full size. All larvae have a short oblique line of med. brown extending from just behind the A6 spiracle down the side of the proleg. Venter from A6 to A8 nearly pure white. The small, fleshy finger-like projections fringing the sbv. area between A6-A10 are discussed under **falernaria**; the same remarks apply here as well (see also Poulton, 1887d: 293, fig.1). T1 spiracle

black; all others rich orange-brown (rust) with thin, jet-black peritremes (as in **falernaria**). [The all-black T1 spiracle is the best "fieldmark" for quickly separating mature **smerintharia** larvae from **falernaria**.] Cervical shield pale olive-green with a very faint gloss. Truelegs with a faint gloss, the outer surfaces appearing slightly "granular" due to small white dots; the inner surfaces mostly pure white. Head dull med. brown with some darker brown markings, a sprinkling of dull whitish dots and a slight lavender-gray tinge on top; faintly glossy; somewhat more rounded above (less sharply angular) than in **falernaria**. These larvae showed more variation (in both colour/mac.) in the earlier instars than they do in L5. Head position at rest: MPl-2 / PF: 0016 / Max. length: 80-86 mm.

PRASS: Elongate and noticeably narrower at one end, almost tapering to a point; easily crumbles into fine particles (not well consolidated).

BEHAVIOUR (L5): Identical to **falernaria** in all observed aspects of behaviour. Clings with great tenacity and can hardly be pulled off without damage to the prolegs. Usual r.p. is as described and illustrated for **falernaria** (427-29). No L5s were observed standing out "stick-like", although all earlier instars (up to and including L4) commonly use this posture (see 443-44, both of which are L4). A stance sometimes assumed in L5, when at rest and still bridging or slightly arched, is to uptilt the head to the extent that the larva is only clinging by its T2-T3 legs, with the T1 legs up in the air. [This pose can frequently be observed in (mature) larvae of **Erannis tiliaria** (Harr.), a N.American ennomine (Tribe Bistonini; see also Mutuura (1969), pl.21, fig.82(b), where this larval posture is illustrated with a photo of the Japanese **E. golda** Djakanov.] Locom. rather slow, with high looping and little reaching about. Quite sedentary, moving to a new location only when all available nearby lvs. have been consumed down to the petioles. Only observed feeding at dusk and after dark.

Other topics discussed under this heading in the **M. falernaria** text apply equally to **smerintharia**, re. indoor vs. outdoor colour phases, slow rate of growth and problems with larval preservation; none of this need be repeated here.

FIELD NOTES: (1) S.AUST., N. Adelaide suburb of Walkerville — 15 SEP. 66 (D. Muirhead): A large fullgrown L5 was found on the ground after strong winds. G.c. a dull lavender-purple all over; very diff. from the indoor-reared larvae. (2) S.AUST., Eden Hills, 2 km. WSW. of Blwd. — 24 SEP. 66 (G. Furness): A newly moulted L5 was found in grass beneath **E. odorata** after high winds. This larva was entirely a deep red-pink. As the larva fed and filled out, the red-pink diluted to a dull lavender-purple, due to more intensity of green now showing through the red-pink of the epidermis.

PUPA (445-446)

Max. length: 26-31 mm. Integ. firm, smooth and very shiny; the surface sheen is somewhat greater than in **falernaria**. Blackish red-brown; dorsum of abd. darker than venter. Dull greenish-brown-translucent through the very smooth and shiny wing cases. Outer margin of wingcase slightly more angulate than in **falernaria** (not evident in the rather poor photos). Cremaster deeply bifurcate, terminating in 2 thin, attenuate, half-hyaline sharp spines (nearly the same as described in more detail under **falernaria**, but shorter); easily broken off and rarely seen on preserved specimens. Fig.445 shows

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them unbroken, but the \pm transparent and colourless tips are practically invisible against a pale background. Capable of lively side-to-side and circular abd. movement, behaving as described under falernaria (see details). COCOON: A silk-and-soil cell, beneath litter; large for size of pupa and weakly constructed.

DATA for Figs. 436-446 (G.94)
(all depicted are from Blackwood)

436: ♀ (LFW=32.5 mm.), 8 Apr. 67, uv.
437: ♂ (LFW=25.5 mm.), H. mid. Apr. 67.

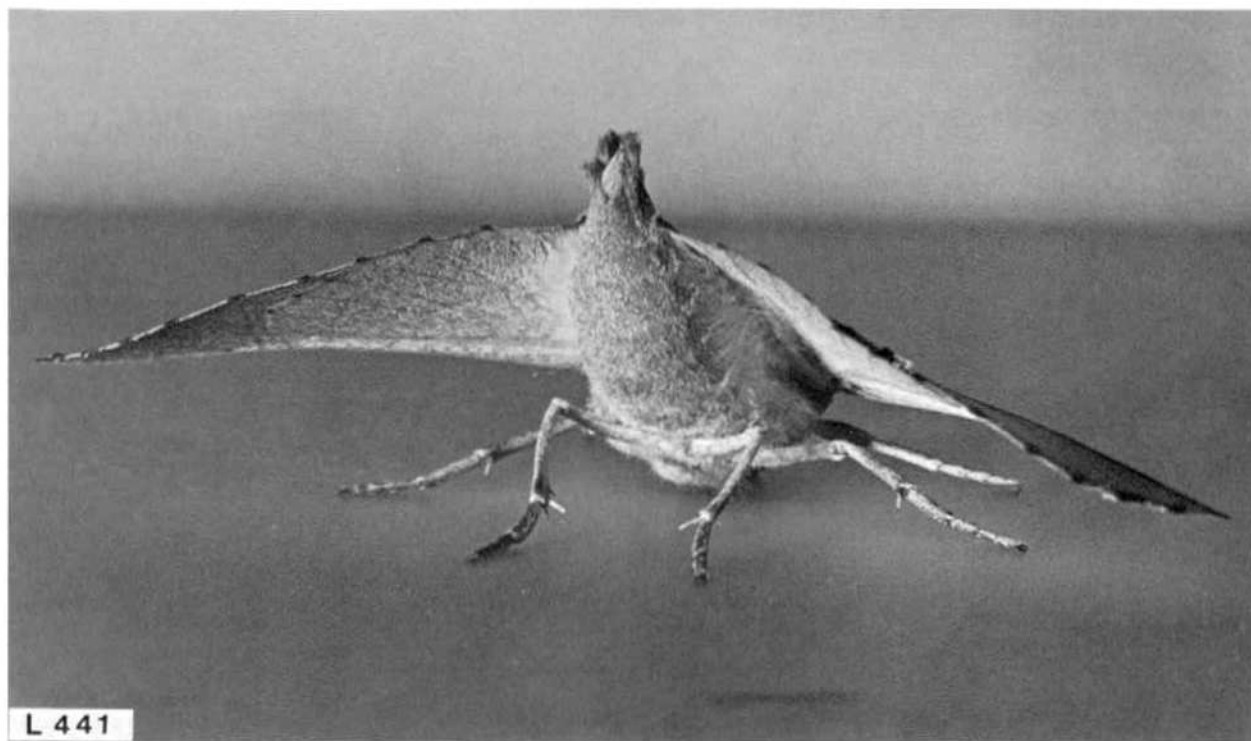
438-441: Live ♂ r.p. (LFW=27 mm.), 17 Mar. 68, uv. 442: Live eggs, 17 Apr. 67.
443-444: Living L4 in r.p., not filled out (45 mm.), 7 July 65, on Euc. odorata. Unfortunately no L5 photos were made; these rather poor earliest photos were all I had in the file. They should not be compared with the falernaria (L5) photos, because there are changes in appearance and mac. as the larvae fill out and reach full size; by then they look much more like falernaria, and the preferred r.p. changes to "bridging". Note, also, that these 2 photos show early L4; thus, the mdd. lf. node hump or

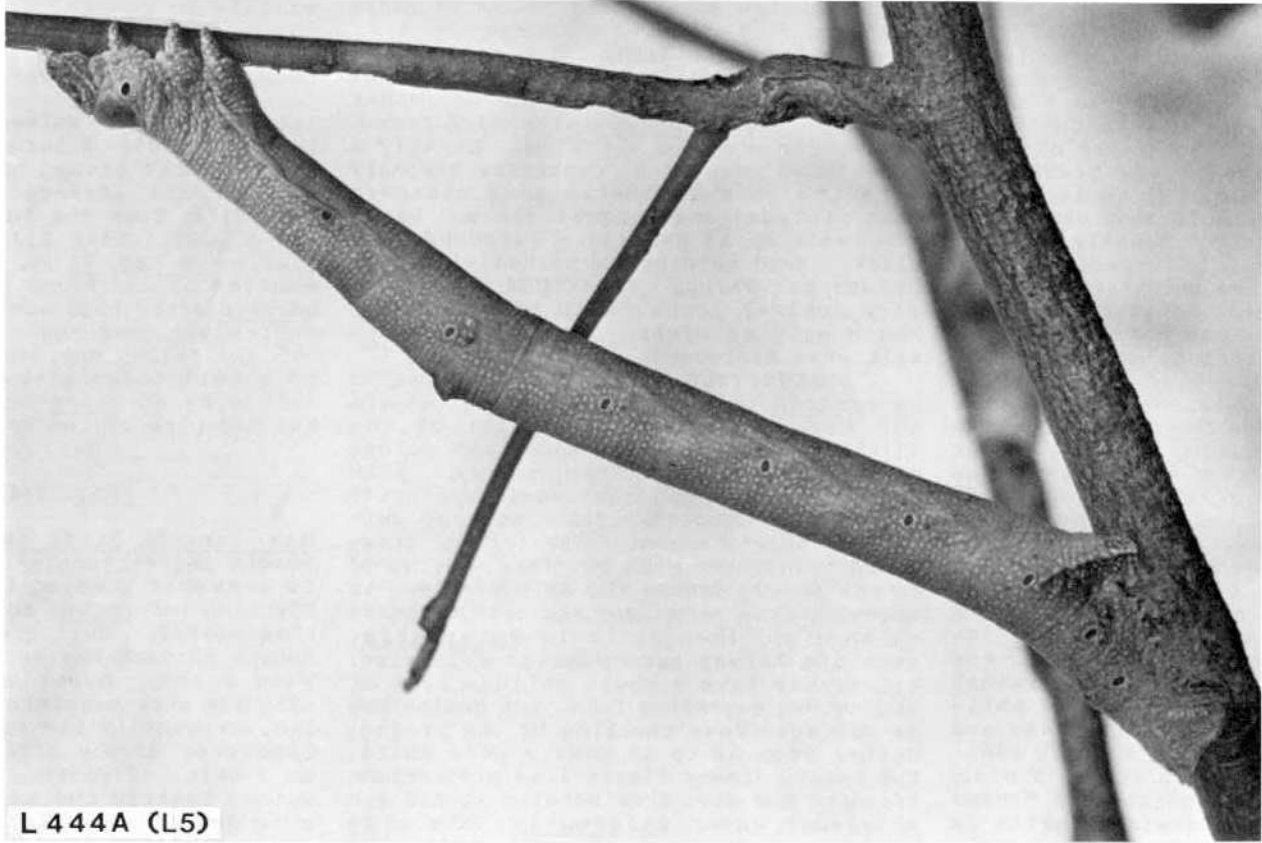
"welt" on A2 appears in these photos as much more prominent than it would be later (after the larva fills out). 445-446: Live pupa (measurements not recorded), 14 May 67.

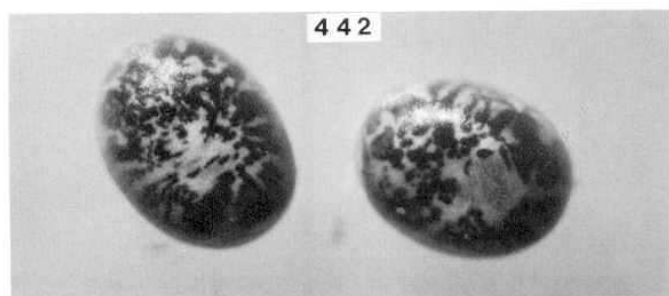
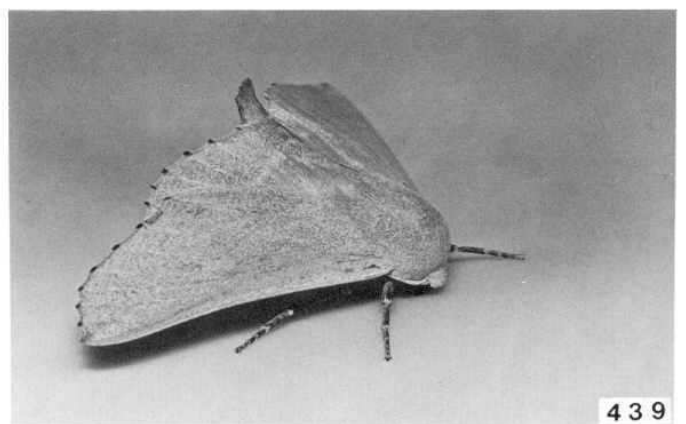
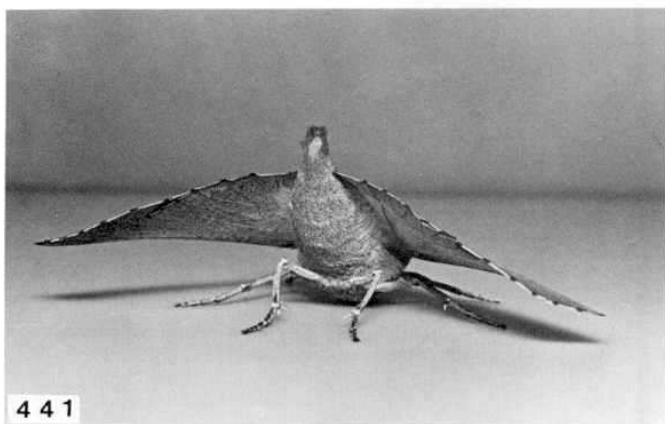
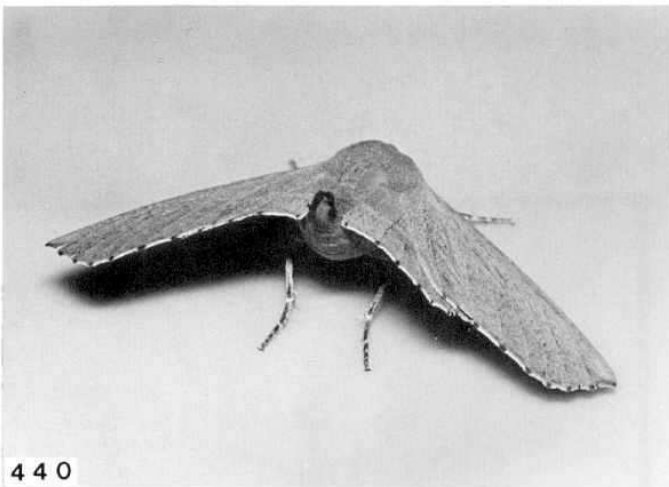
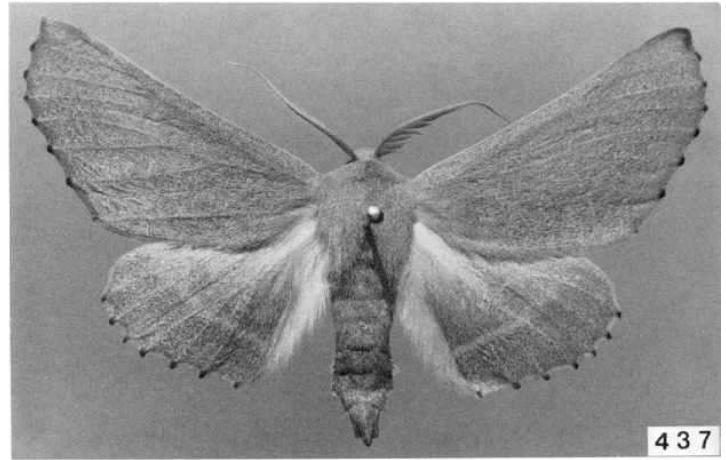
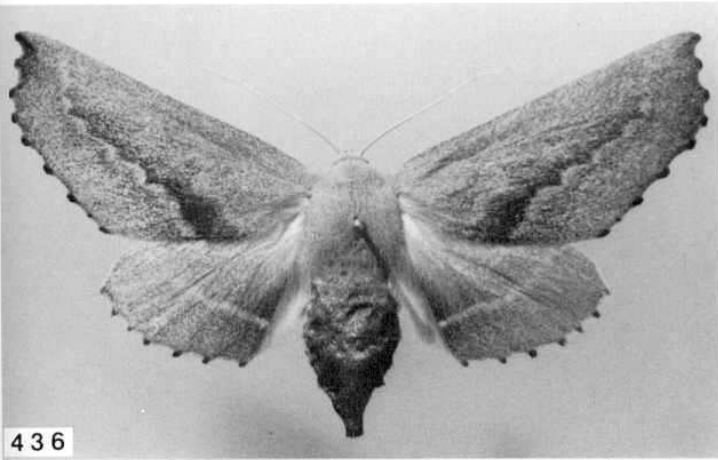
B. & W. PHOTOS: Made 50 (used 11 herein).

COLOUR SLIDES: 1 of adult ♀ spd. (dor.);
2 of living adult m r.p.; 10 of living L5 r.p. (mostly poor).

NOTES WRITTEN: 5 pp. (M).

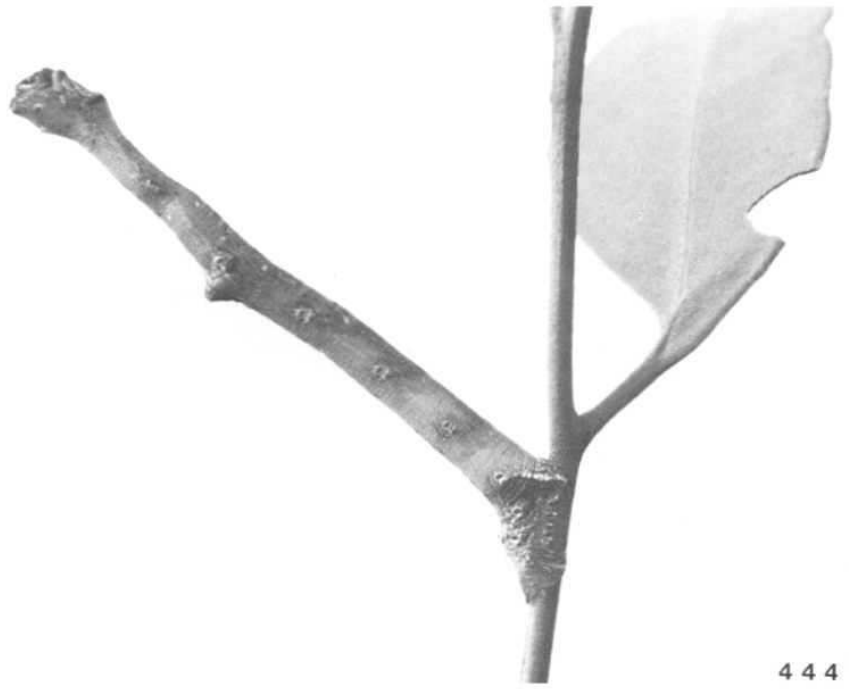








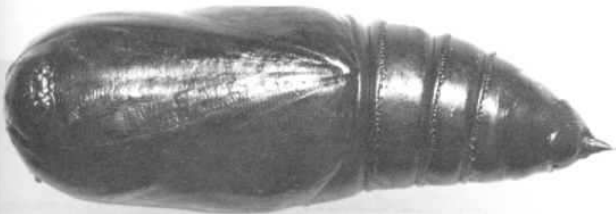
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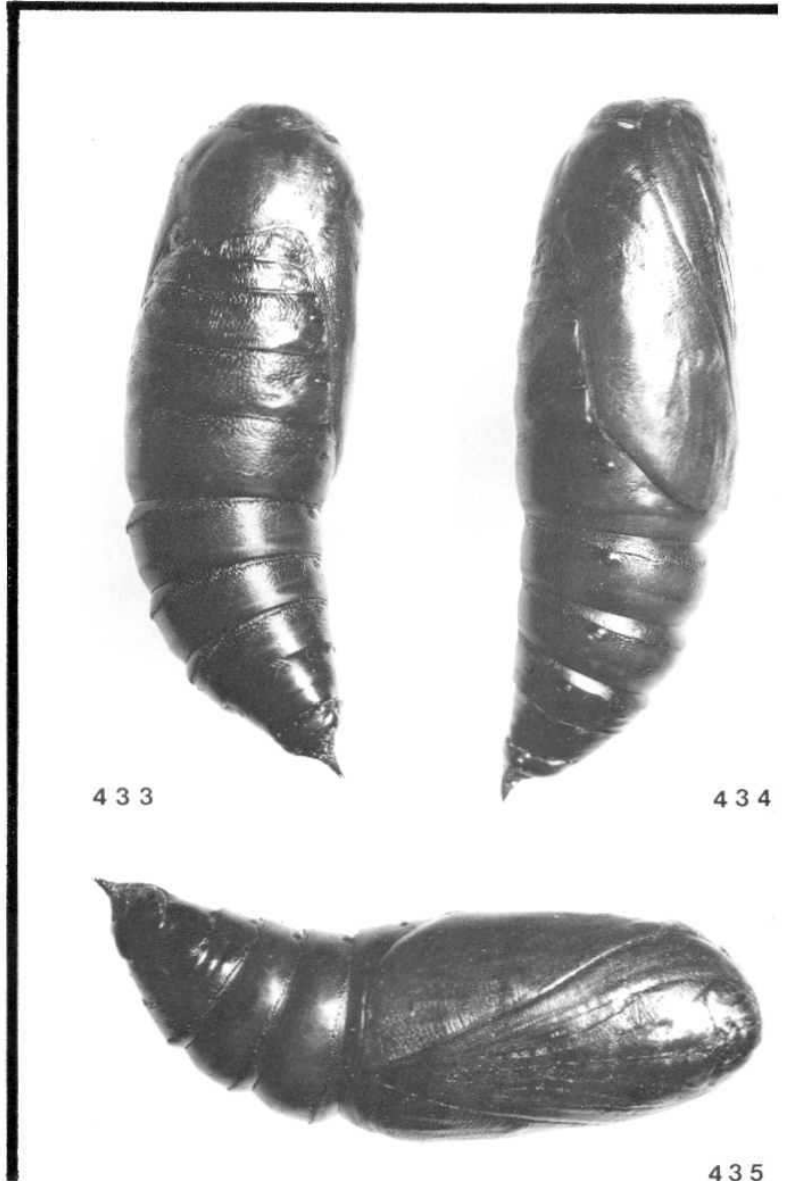
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