Teleiopsis diffinis (Haworth, 1828) (Lepidoptera: Gelechiidae): larvae found mining leaves of Rumex acetosa L. in Devon, England; behaviour and foodplant apparently not previously published

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Abstract
An account is given of the discovery of the early instar(s) larva of Teleiopsis diffinis (Haworth, 1828) found mining leaves of Rumex acetosa L. in Devon, England. Not only does this appear to be the first occasion when the larva has been observed to be a leaf-miner but it also appears to be only the second time that Rumex acetosa has been recorded as a foodplant in Europe (the first was nearly 130 years ago and was unpublished). Leaf-mines on Rumex acetosa found in the same area made by the larva of a Mantura species of Coleoptera are also considered. Various British and mainland European publications on the biology and larval description are reviewed.

Key words: Lepidoptera, Gelechiidae, Teleiopsis diffinis, Rumex acetosella, Rumex acetosa, new foodplant, mines, larva, Mantura sp.

Introduction
Teleiopsis diffinis (Haworth, 1828) is a comparatively common and widespread species both in the British Isles and mainland Europe, yet in the autumns of 2016, 2017 and 2018 we made apparently previously unrecorded, or at least unpublished, observations on its biology. The species is generally considered to be at least bivoltine in the British Isles, with larvae occurring from August–May and again in July–August according to Emmet (2002: 141–142) but Palmer (2018: 152) gives ‘8?–5; 7–8’. The questioning of August for the start of one generation may be based, at least in part, on our observations, set out later in this paper.

Huemer & Karsholt (1999: 91–92) state that the only reliable host-plant records are Rumex acetosella L. and Rumex crispus L. Subsequently Huertas-Dionisio (2012: 137–138) describes the species from Rumex tingitanus L. in Huelva, Spain. We are not aware of any later publication citing any additional foodplant until Palmer (loc. cit.), who gives Rumex acetosa and comments that the larva initially mines the leaf. This appears to be the first occasion when leaf-mining in this species has been published. The information given by Palmer is based on our observations that we provided to him, as acknowledged, and are set out later in this paper.

We have found larvae in the spring, over the years, in coastal areas of south Devon feeding on the leaves of Rumex acetosa and have reared moths. Rumex

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acetosa, like Rumex acetosella, is widespread in the British Isles. It appears, however, that we were not the first to rear the species from Rumex acetosa. E. R. Bankes (1861–1929), who lived in Dorset, England, made the following diary entry for 8 July 1887 (p. 154) ‘Gel. Diffinella emerged from plants of sorrel (containing pupae of S. Chrysidiformis) sent to me from Deal by R. Harbour on June 2nd.’ Bankes’ very detailed diaries are in the Natural History Museum (BMNH), London. Gelechia diffinella Doubleday, 1859, is an unjustified emendation of Recurvia diffinis Haworth, 1828. Sesia chrysidiformis (Esper, 1782) is now Pyropteron chrysidiformis. In the British Isles the larva of P. chrysidiformis mines the thick roots of Rumex crispus, Rumex hydrolapathum Huds. and Rumex acetosa. The usual vernacular names of the first two named species are Curled Dock and Water Dock respectively. The usual vernacular name of the last named species is Common Sorrel; the usual vernacular name of Rumex acetosella is Sheep’s Sorrel. On this basis the ‘sorrel’ plants sent to Bankes must have been those of Rumex acetosa.

At the end of October 2016, mid-November 2017 and mid-October 2018, and in the same coastal area of south Devon, we found larvae mining the leaves of Rumex acetosa. The larvae differed in body colour from the later instars. Larvae of Teleiopsis diffinis were not the only larvae we found mining the leaves of Rumex acetosa in November 2017. Larvae of a species of Mantura Stephens, 1831 (Chrysomelidae, Coleoptera) also made similar mines.

We describe and illustrate the mines and larvae of Teleiopsis diffinis and those of the Mantura species. We also describe and illustrate the pupa of Teleiopsis diffinis, based on one found at Icklingham, Suffolk in May 2015, because according to Emmet (loc. cit.) it is undescribed, but in fact Heyden (1862: 175) provides a detailed account.

Consideration of certain published accounts of the larval biology of Teleiopsis diffinis

We do not attempt to list every publication that gives the larval biology but we consider that the following are representative. We provide translations of the publications that are not in English.

As far as we can trace, the first larval account was given by Stainton (1854: 112) who states that ‘The larva feeds in April on Rumex Acetosella, forming a burrow down towards the root of the plant.’

Then Heyden (1862: 174–175), under Gelechia scabidella Zeller, 1839 (subsequently found to be a junior synonym of Teleiopsis diffinis) provides an account translated by Stainton (1868: 21) as:

‘This rather lively larva is not scarce at the beginning of July on Rumex acetosella, especially in the sandy places of this neighbourhood; it forms a fine tubular web on the seed-bearing stems, interwoven amongst the seeds, on which it feeds. In this abode it assumes the pupa state in a rather thicker cocoon. The imago appears at the end of July.’

At the end of this account Stainton follows Heyden by adding ‘(1836)’. He explains at the beginning of his paper that the figures in brackets at the end of each entry indicate the date of entry in Heyden’s journal. On this basis it seems likely that Heyden was the first to have found the larva.
Gartner (1866: 197), also under Gelechia scabidella, purports to provide the first larval description of the species, but it does not appear to us that the account applies to Teleiopsis diffinis. Even if it does apply to T. diffinis, Gartner was not the first to describe the larva: Heyden (loc. cit.) was the first to do. Gartner also gives a different foodplant, Festuca ovina L. We deal with larval descriptions, including those of Heyden and Gartner, in the next section. The part relating to the biology reads as follows:

‘I have discovered the hitherto unknown larva in the roots of the Festuca ovina, where it can be found still in the larval state during the autumn and, after overwintering, in the spring.’


Heinemann & Wocke ([1876]: 224) record that it is ‘Widespread, in May and June and again in late July, the larva until April, low down inside the stem of Rumex acetosella.’

Hartmann (1880: 77) gives, ‘Rumex acetosa, in tubular galleries. Spun on seed-bearing stems.’ The foreword (1880: 1) indicates that ‘Hd.’ means Heyden, but without specifying a publication. Nevertheless, Hartmann’s wording closely follows that of Heyden (1862: 174–175) and so on that basis the citing of Rumex acetosa is probably an error for Rumex acetosella.

Sorhagen (1886: 188) states:

‘The larva lives in the summer in fine tubular galleries on the seed-bearing stem of Rumex acetosella on the seeds. The second generation from autumn to spring low down in the stems, according to Gartner also in the roots of Festuca ovina.’

Sorhagen cites Heyden (1862: 174) and Gartner (1866: 197) for this information.

Meyrick (1895: 601–602) records that the larva occurs ‘in a gallery along stems, amongst seeds, or in rootstock of Rumex acetosella; 8–4.’ He makes the same comments in [1928]: 624.

Meess (1910: 364) states that the larva occurs ‘in fine tubular galleries on the flower spikes of Rumex acetosella; in summer and from autumn to April.’

Benander (1965: 15), based on his own observations, gives, ‘Rumex, larvae 13/5–21/5 in silken tubes amongst moss with silken threads to the leaves’.

Sokoloff (1979: 329–330) records that on 29 September 1979 at Dungeness, Kent, England he disturbed a few adult Teleiopsis diffinis from Rumex acetosella, and that on ‘digging up the foodplant, small larvae of diffinis were found in their silken tubes around the upper portions of the roots.’

A few years later, Sokoloff (1985: 105) states, ‘Feeding August to April (occasionally July and August as well) in a silken gallery amongst roots or occasionally along the stem and in [our emphasis] seeds of Rumex acetosella.’

Pitkin (1988: 176) in a detailed review of the genus Teleiopsis Sattler, 1960, comments that in Great Britain the larva has been recorded from August to April and from July to August. She states that the larva of the July generation spins a tube on the seed-bearing stems, feeding on the seeds, and pupates in the same place, citing Heyden (1862: 175). The larva of the autumn to spring generation...
Fig. 1. Teleiopsis diffinis (Haworth, 1828). England: Devon, Black Stone, tenanted mine on Rumex acetosa found on 13.xi.2017 and photographed 14.xi.2017.

Fig. 2. Teleiopsis diffinis (Haworth, 1828). England: Devon, Black Stone, tenanted mine on Rumex acetosa found on 18.x.2018 and photographed that day.
Fig. 3. *Teleiopsis diffinis* (Haworth, 1828). England: Devon, Black Stone, early instar larva found in mine in Fig. 2 and photographed that day.

Fig. 4. *Teleiopsis diffinis* (Haworth, 1828). England: Devon, Black Stone, early instar larva removed from mine in Fig. 3 and photographed 19.x.2018.
is recorded as making a burrow in the stem towards the root, with Stainton (1854: 112) and Sorhagen (1886: 188) given as the authorities for this information. Pitkin notes *Rumex acetosella* as the only confirmed larval host-plant.

Kaitila (1996: 89) cites the host-plants in Finland as *Rumex acetosella* and *Rumex crispus* and gives the larval habits, stated to be based on Finnish observations, as:

‘Larva in May–June (gen. I) in a silken tube near the lower part of the stem and close to the root in the ground.

In July (gen. II), the larva lives in a silken tube in the inflorescence.

Pupation in the ground.’

Huemer & Karsholt (1999: 92) state that the only reliable host-plant records are *Rumex acetosella* and *Rumex crispus*, citing respectively Stainton (1854: 112) and Kaitila (*loc. cit.*). They note that the species occurs in at least two generations with the larval stage from August to April and from July to August in Great Britain. They record that:

‘The larva of the spring generation spins a tube on the stems – where it also pupates – feeding on the seeds. That of the summer generation makes burrows in the stem towards the root (Heyden, 1862: 174–175, Stainton, *op. cit.*).’

The reference to ‘Stainton, *op. cit.*’ is to Stainton, 1854: 112.

Huemer & Karsholt also note that according to Benander (1965: 15) the larva of the spring generation occurs in spun silken tubes amongst moss with threads to the leaves of the host-plant.

Emmet (2002: 141) states that the larva:

‘Feeds from a silken gallery spun on the upper part of the roots, along the stem or occasionally among the seeds of the foodplant. August–May; in most years also July–August.’

No references are provided for this account.

Huertas-Dionisio (2012: 137–138; 146–147, figs 34–50) records that the larva feeds on leaves of *Rumex tingitanus* in sand dunes in the province of Huelva, Spain. Figure 50 shows part of a plant with feeding signs on three leaves. The position of this figure might suggest that the plant is growing upright, but although *Rumex tingitanus* can grow upright, it can also be procumbent. It is not stated whether the feeding signs are on leaves that are close to or touching the substrate.

The latest account of the larva in the British literature is provided by Palmer (2018: 152) who gives the foodplants as *Rumex acetosella* and *Rumex acetosa* with the larval period as ‘8?–5; 7–8’. As regards the larval biology he states:

‘In autumn, initially mines leaves of *R. acetosa*; one leaf can contain up to three mines. Later, probably on the leaves of both *Rumex* species, from a silken gallery spun on the upper part of the roots or along the stem; possibly then bores into the stem and root. *In summer, feeds on the seeds of *R. acetosella* from a silken tube on the stem.*’

The first sentence is based on information that we provided to him. The prefacing of the last sentence by an asterisk indicates that the information that follows has been taken from Continental authors.
In summary the larva has reliably been recorded from *Rumex acetosella*, *Rumex crispus*, *Rumex tingitanus* and *Rumex acetosa*. As regards its feeding modes these have been given as:

1. Forming a burrow downwards towards the root of *Rumex acetosella* (Stainton, 1854: 112).
2. Feeding on the seeds of *Rumex acetosella* (Heyden, 1862: 174–175).
3. Low down inside the stem of *Rumex acetosella* (Heinemann & Wocke, [1876]: 224).
4. In a gallery along the stems of *Rumex acetosella* (Meyrick, 1895: 601–602).
6. Occurring in silken tubes with silken threads to the leaves of *Rumex*, species unstated (Benander, 1965: 15).
9. Feeding on the leaves of *Rumex acetosa* (our observations unpublished until now).

**Consideration of certain published accounts of the description of the larva of *Teleiopsis diffinis***

The first larval description that we have found was provided by Heyden (1862: 174–175) who states that the larva is:

‘almost spindle-shaped, dull, greenish grey, more reddish grey dorsally; with very small, pale-haired black warts surrounded by a paler ring.

Head as wide as the nape of the neck, somewhat depressed, shiny, brownish yellow with darker mouth and eyes.

Prothoracic plate nearly half as wide as the second segment, shiny, brownish yellow, with some dark spots on the sides and a very indistinct lighter midline.

Anal plate with a round dark spot. Legs brownish yellow. Anal claspers projecting, slightly darkly speckled.’

He then describes the pupa as:

‘somewhat flattened, broad, narrowed towards the back, with long wing-cases, leaving the last 3 segments clear, shiny, smooth, reddish-brown. The last segment rounded, with very short, fine bristles.’

Gartner (1866: 197), stating, as noted in the previous section, that he had discovered the hitherto unknown larva and, apparently unaware of Heyden’s account, published the following that differs considerably from the latter’s:

‘It is about four lines long, very lively, its front part narrowed; the very small head pale brown, with dark brown spots on its sides, the mouth similar, and a slightly darker adfrontal suture. The prothoracic segment, into which the head is retracted, is likewise dark brown; dorsum pale reddish, laterally with a line of the same colour, which is interrupted by the brownish white transverse incisions. Generally there are no distinctive markings, as the larva appears scattered with brownish spots. Spiracles light reddish-brown; anal plate [?]brick-brown; underside reddish white.’
**Fig. 5.** *Teleopsis diffinis* (Haworth, 1828), England: Devon, Black Stone, larva about 5 mm long, the same as in Fig. 1 but now feeding outside the mine, and photographed 20.xi.2017.

**Fig. 6.** *Teleopsis diffinis* (Haworth, 1828). England: Devon, Black Stone, probable penultimate instar, the same larva as in Fig. 5, photographed 5.ii.2018.
As stated in the previous section, it does not appear to us that Gartner’s account applies to *Teleiopsis diffinis*, but we have included it for completeness as it has been cited by Hofmann (1875: 103) and Sorhagen (1886: 188).

Hofmann (1875: 103) describes the larva as:

‘Almost spindle-shaped, dull, greenish grey, above reddish grey with a black tubercle bearing a very small hair. Head shiny, brownish yellow, as well as the prothoracic plate, anal plate with round darker spots’.

Meyrick (1895: 601–602 and [1928]: 624) states, ‘Larva brownish-green, reddish marbled; head and plate of 2 yellow-brown’.

Meess (1910: 364) describes the larva as ‘dull greenish grey, above reddish grey, with very fine black warts. Head and prothoracic plate shiny, brownish yellow. Anal plate with round darker spots’.

Benander (1965: 15), based on his own observations, records that the larva is ‘green in front, reddish brown behind; head and f-pl [front plate] yellow; a-pl [anal plate] dark brown; warts pale with black fix-points of the setae.’

Sokoloff (1985: 105) states, ‘Larva green, tinged brown with red markings; head and prothoracic plate yellow brown.’


Finally, Huertas-Dionisio (2012: 137–138; 146–147, figs 34–50) provides a very detailed account of the final instar, together with monochrome figures, which reads:
'The larva in its final instar (figs 34 and 35) measures 12 mm in length, light green with a pinkish hue posteriorly; light brown setae that arise from dark grey pinacula (fig. 36); spiracles small, except those on the prothorax and abdominal segment 8 are larger, yellowish with a dark peritreme; translucent thoracic legs with a greenish hue; abdominal legs the colour of the body, the ventral ones with yellowish crochets, alternatively large and small in a complete circle, with 37 to 44 hooks (fig. 41); the anal prolegs with 17 to 22 hooks (fig. 42). Head capsule (fig. 37) 1 mm wide, light yellow with greenish tones, sometimes with pale brown marks, stemmata dark. The prothoracic plate (fig. 38) is light green with a yellowish hue. The anal plate (in fig. 39 with abdominal segment 9) light green with dark brown spots in the anterior area; in some young larvae the anal plate is very dark. The anal comb (fig. 40) measures approximately 0.40 mm wide, has two central spines that are broad at the base and then narrow to the apex, on each side two to four smaller spines (usually three spines), all grey with dark tips; in some examples the spines are translucent or very dark brown.'

In summary and in general terms, the larva has been described as almost spindle-shaped, head and prothoracic plate brownish yellow or head light yellow with greenish tones and prothoracic plate light green with a yellowish hue; body dull greenish grey, more reddish grey dorsally or with a pinkish hue, or green tinged brown with red markings, or marbled reddish with no mention of a different colour anteriorly; pinacula dark grey or black; anal plate with a dark round spot, or brownish yellow with round darker spots, or dark brown, or light green with dark brown spots.

**Discovery of larvae of *Teleiopsis diffinis* mining leaves of *Rumex acetosa* in 2016–2018 and other larval observations**

Over the years we have found larvae of *Teleiopsis diffinis* in coastal areas of south Devon feeding on leaves of *Rumex acetosa* between 3 February and 3 May and have reared moths. The larvae have always been feeding on the basal leaves, usually those lying on, or close to, the surface of the ground. The larvae often spin part of the edge of a leaf downwards, feeding from the tube thus formed, or spin fairly conspicuous white silk from the leaves to the substrate and feed on the underside of the leaves, often windowing them.

Unlike the observations cited earlier in the section that considered published accounts of the larval biology, we have never found larvae either burrowing into the stems or roots, in a gallery along the stem or feeding on the seeds or seed-head. We did, however, offer a seed-head of *Rumex acetosa* to a larva collected on 3 May 2018 and this was accepted.

On 31 October 2016 at Black Stone, Devon, a coastal site, we found a few larvae feeding on leaves of *Rumex acetosa* and three early instar larvae mining the leaves. We did not record the exact dates that the latter emerged from the mines but it was within a few days or about a week at the most. They continued feeding on the leaves until later that year when they spun slight silk hibernacula, usually amongst the tissue lining the closed plastic containers in which they were kept. Unfortunately we did not succeed in getting them through the winter.

Then on 13 November 2017 we found a few larvae mining leaves of *Rumex acetosa* at the same locality, but on this occasion we also found different larvae
mining the leaves. These mines were rather similar to those made by *Teleiopsis diffinis* but could be distinguished from them, if tenanted. If part of the mine close to the larva were pressed and the larva hardly moved, if at all, then it was not *T. diffinis* because that larva moves reasonably quickly in such circumstances. Also the head of these larvae was black, and not the yellow or yellowish brown of *T. diffinis* which is sometimes visible in the mine. One such larva was removed from a mine and examined. We did not succeed in rearing adults but determined these larvae as those of a species of *Mantura* Stephens, 1831 (Chrysomelidae, Coleoptera). This was on the basis that, as far as we can trace, the only known species of Coleoptera in the British Isles whose larvae mine leaves of *Rumex acetosa* are three species of *Mantura*: *M. chrysanthemi* (Koch, J. D. W., 1803), *M. obtusata* (Gyllenhal, 1813) and *M. rustica* (Linnaeus, 1767). The British leafminers website www.leafmines.co.uk under the name ‘*Mantura* sp.’ illustrates three mined leaves of *Rumex acetosa* and a larva, all of which are similar to the mines and larvae that we found. Also, the mines key out to three species of *Mantura* in the accounts of leaf-miners of *Rumex* species by Hering (1957: 913), although we recognise that his publication is over 60 years ago.

Like those found on 31 October 2016, all the *Teleiopsis diffinis* larvae vacated their mines within a few days or about a week at the most. They then fed externally on the leaves. One hibernaculum, comparatively large, white and spindle-shaped, was found on 12 December but the larva was later observed feeding on 20 December. On 5 February it was found when about to change skin, possibly to enter the final instar, but it subsequently died.

On 18 October 2018 a few leaves of *Rumex acetosa* were found with part of the edge of each leaf folded down, forming a slight tube, each with a larva, as well as a few tenanted mines, again at the same site. The larvae vacated the mines shortly after collecting them and then fed externally on the leaves. At the time of writing this paper (December 2018) the larvae are still feeding.

Like those found between 3 February and 3 May, all the larvae fed on basal leaves that were close to the surface of the substrate.

All the larvae found mining the leaves were kept indoors in closed plastic containers lined with tissue. Although we have so far failed to rear adults from the leaf-mining larvae, we are satisfied from their appearance after vacating the mines that they are *Teleiopsis diffinis*.

We have also found larvae feeding on leaves of *Rumex acetosella* at different places in Devon including Dawlish Warren, where, for example, larvae were found feeding on the leaves on 20 October 2007 with moths resulting on 21 and 25 December 2007.

**Description of mine, larva and pupa of *Teleiopsis diffinis***

**Mine** (Figs 1, 2). A long, linear, often sinuous mine sometimes edged purplish red, occasionally with black frass in part, sometimes becoming a blotch towards the edge of the leaf. Occasionally a leaf may have two or three long, linear mines but we have only ever observed one of these mines to be tenanted. Despite that, we do not believe that this means that a larva has vacated one mine and then made one or two similar mines in the same leaf. This is because we found shorter and slightly wider mines with larvae that were rather larger than those in the long, linear mines. This suggests that in the wild the larva can vacate the initial mine and make a slightly different fresh one in another leaf. Certainly in captivity we have observed such behaviour.
We found it difficult to ascribe instars to three of the larval stages that we observed and so these are described below simply under the headings of ‘Early instar in mine’, ‘Larva about 5 mm long’ and ‘Probable penultimate instar’. Figs 1, 5 and 6 are of the same larva that was initially found as a leaf-miner but with the exception of the description of the early instar larva removed from the mine (Fig. 4) all the larval descriptions are based on more than one larva.

**Early instar in mine** (Fig. 3). Head, prothoracic plate and body pale yellowish brown. The following more detailed description is based on a larva, about 3 mm long, removed from a mine (Fig. 4). Head pale yellowish brown, adfrontal sutures slightly darker, clypeus and labrum slightly darker reddish brown, stemmata black; prothoracic plate pale yellowish brown; body very pale greenish yellow, pinacula very small, pale grey; anal plate dark grey. Peritremes of spiracles, and thoracic and prolegs undescribed.

**Larva** We found it difficult to ascribe instars to three of the larval stages that we observed and so these are described below simply under the headings of ‘Early instar in mine’, ‘Larva about 5 mm long’ and ‘Probable penultimate instar’. Figs 1, 5 and 6 are of the same larva that was initially found as a leaf-miner but with the exception of the description of the early instar larva removed from the mine (Fig. 4) all the larval descriptions are based on more than one larva.

**Fig. 8.** *Teleopsis diffinis* (Haworth, 1828). England: Suffolk, Icklingham, pupa found 15.v.2015 and photographed 16.v.2015, dorsal aspect. Moth reared.

**Fig. 9.** *Teleopsis diffinis* (Haworth, 1828). The same pupa as in Fig. 8, ventral aspect.

Fig. 11. *Mantura* sp. England: Devon, Black Stone, larva removed from mine in Fig. 10 and photographed 15.xi.2017.
Larva about 5 mm long (Fig. 5). Feeding outside the mine. Head pale yellowish brown, adfrontal sutures, clypeus and labrum slightly darker yellowish brown, stemmata black; prothoracic plate pale yellowish brown; body, thoracic segments 1 and 2 pale greenish, thoracic segment 3 pale greenish anteriorly almost imperceptibly becoming pale reddish brown posteriorly, abdominal segments pale reddish brown becoming darker reddish brown posteriorly, pinacula small, pale grey with a small black area surrounding the base of the setae, but giving the appearance, without magnification, of being entirely black; peritremes of spiracles dark grey; anal plate large, black or very dark grey; thoracic legs translucent, pale greenish, pale yellowish brown on upper surface, prolegs base translucent very pale reddish brown, with a very pale reddish brown sclerotized area distally, planta translucent, colourless, crochets black.

Probable penultimate instar (Fig. 6). The image is of a larva about to undergo ecdysis as evidenced by the protruded head capsule. Similar to larva about 5 mm long, but head slightly marbled darker yellowish brown, clypeus whitish, labrum dark reddish brown; body with two very faint, short, whitish, transverse marks dorsally in the middle of each of abdominal segments 2–5, and similar marks laterally on all abdominal segments.

Final instar (Fig. 7). Similar to probable penultimate instar, but prothoracic plate with a narrow pale green medial line; body with pinacula encircled very pale green anteriorly becoming whitish posteriorly.

Pupa (Figs 8, 9). Slightly shiny, dark reddish brown, metathorax and dorsal abdominal segment 1 to approximately abdominal segment 6 yellowish brown. In a silken cocoon covered with fragments of vegetation. Exuviae not extruded on emergence of moth.

Description of mine and larva of Mantura sp.

Mine (Fig. 10). Similar to that of Teleiospis diffinis, but with scattered black frass.

Larva (Fig. 11). Head black, adfrontal sutures pale yellowish; prothoracic plate pale greyish brown with a narrow medial line concolorous with body; body yellow, gut generally distinct, body contents showing pale grey.

Discussion

It is perhaps surprising that the larva of Teleiospis diffinis has not been recorded previously feeding on Rumex acetosa (except for the accidental rearing of one moth by E. R. Bankes in 1887). It may be less surprising that the larva has not been found previously mining the leaves, because possibly few people look at the leaves during mid-October to mid-November. We have not sought to find larvae in the summer, on the basis that the species is at least bivoltine, and so do not know whether those of a different generation also initially mine the leaves. It will be interesting, although not entirely surprising, if searches elsewhere on Rumex acetosa result not only in finding larvae but also the discovery of mines.

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