

## Re-discovery of *Lamyctes africanus* (Porath, 1871) in Britain (Chilopoda: Lithobiomorpha: Henicopidae)

Steve J. Gregory<sup>1</sup> and Nicola Garnham<sup>2</sup>

<sup>1</sup> E-mail: [stevejgregory@btopenworld.com](mailto:stevejgregory@btopenworld.com); Brook Cottage, Uffington, Oxfordshire SN7 7RE, UK.

<sup>2</sup> E-mail: [garnhamnicola@hotmail.com](mailto:garnhamnicola@hotmail.com)

### Abstract

*Lamyctes africanus* (Porath, 1871) was collected from glasshouses at the Royal Botanic Garden Edinburgh in 1986, but there have been no subsequent records from Britain or Ireland. Here we report the re-discovery in December 2021 of a colony *L. africanus* from an inside a plant propagator inside a domestic dwelling in northern England. An immature specimen collected from the same propagator three years previously suggests that this is a well-established population, possibly feeding upon the sciarid fungus gnat larvae present therein. It is highly likely that *L. africanus* has been overlooked elsewhere in Britain or Ireland, both inside glasshouses and in outdoor synanthropic localities.

### Introduction

Specimens referred to *Lamyctes africanus* (Porath, 1871) by Ted Eason were collected by Charles Rawcliffe from glasshouses at the Royal Botanic Garden, Edinburgh in 1986 (Barber, 1992). However, the species was not included within the standard identification guides by Barber (2008; 2009) and there have been no additional British or Irish records for this species. Recently, *L. africanus* has been recorded from several sites across continental Europe as an introduction. This includes seven outdoor sites in Denmark, where it is typically associated with railways (Enghoff *et al.*, 2013), within plant pots in a garden in France (Iorio, 2016), from greenhouses at Olomouc, Czech Republic (Dányi & Tuf, 2016) and from seven localities of various types in Germany (Decker *et al.*, 2017).

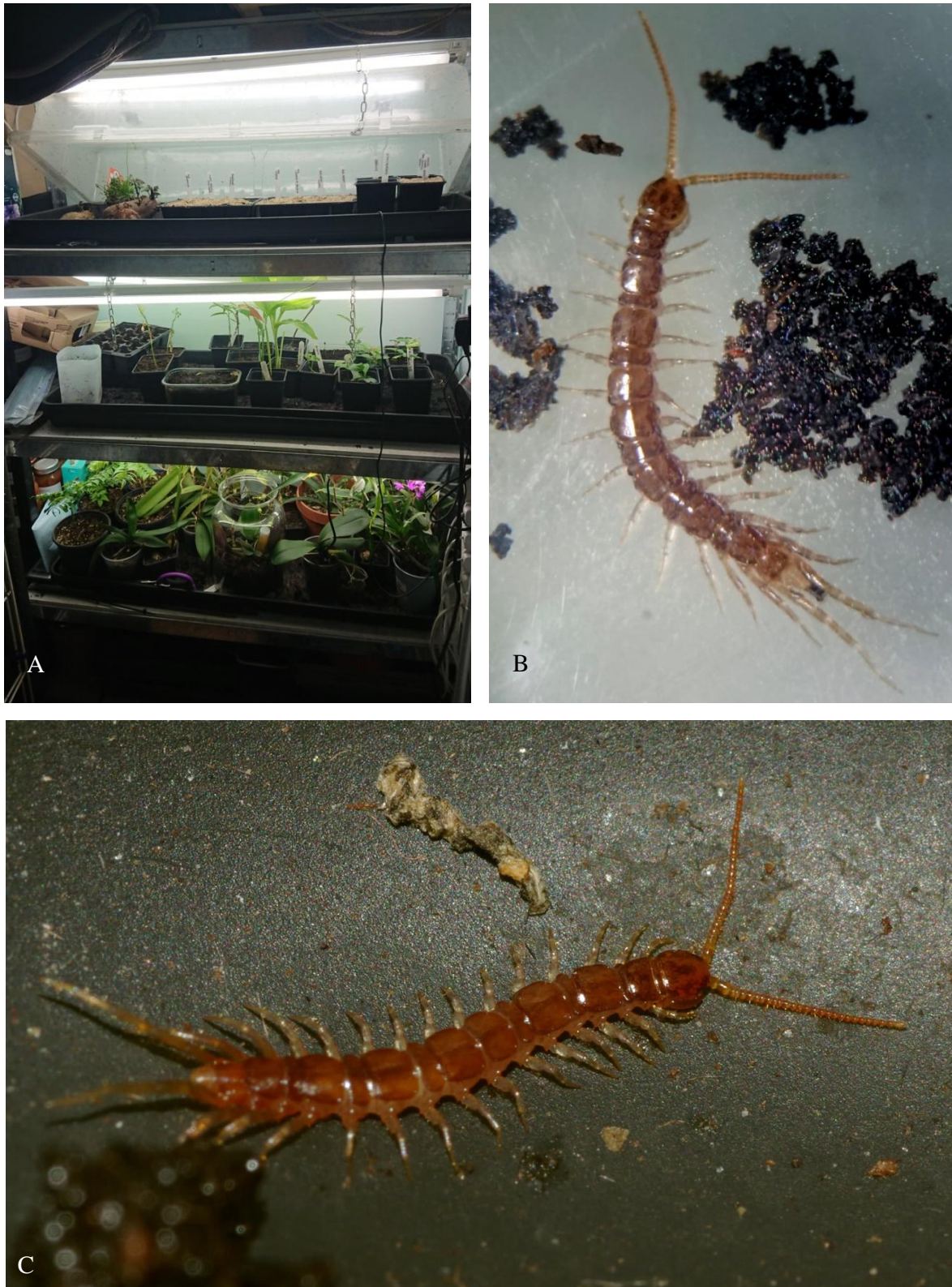
Here we report the re-discovery of *Lamyctes africanus* from an indoor location in Lancashire, northern England.

### The re-discovery

On 9<sup>th</sup> December 2021 NG found a *Lamyctes* centipede within a pot of compost inside a heated plant propagator located inside a domestic dwelling (Fig. 1A, B) in Lancashire (SD504679, VC60). However, the antennae seemed to comprise 28 antennal articles and the widespread *L. emarginatus* (Newport, 1844) usually has about 25 (Barber, 2008; 2009). On 16<sup>th</sup> December two additional specimens were seen, also with about 28 antennal articles, suggesting that they could be *L. africanus*.

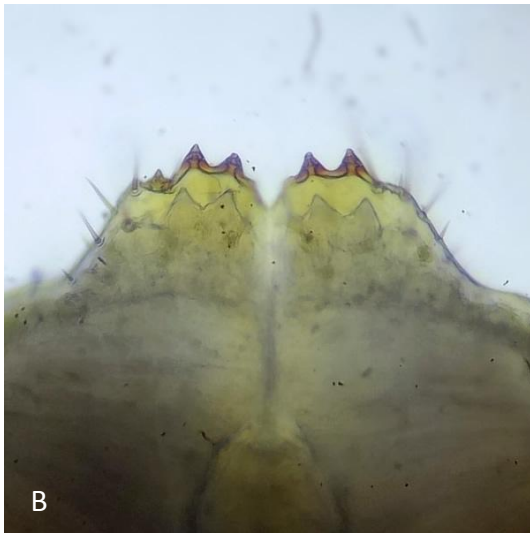
These three specimens, preserved in 75% ethanol (specimens 1, 2 & 3 in Figs. 1-3), were sent to SJG for examination. They are between 8.5 and 9.0 mm in length. The ocelli are noticeably pale and surrounded by a darkened area (described as a ‘raccoon mask’ by Enghoff *et al.*, 2013). The antennae comprise 28 or 29 articles (Fig. 2A) (about 25 in *L. emarginatus*), but it proved difficult to count articles precisely as although some articles were quite distinct other appeared to be weakly defined and open to interpretation, though clearly more than 25. There are 2+2 prominent forcipular teeth, with the third outer ‘tooth’ barely discernible (Fig. 2B, C) (3+3 distinct teeth in *L. emarginatus*). Leg 12 bears a triangular projection on the tibia (Fig. 3A) (absent in *L. emarginatus*). Leg 15 is relatively long and slender (Fig. 3B); with the ratio of length/width of 15<sup>th</sup> tibia between 5.0-5.1; length/width of 15<sup>th</sup> tarsus 1 between 7.4-7.6 and length/width of 15<sup>th</sup> tarsus 2 between 8.9-9.2 (leg 15 shorter and stouter in *L. emarginatus*). On leg 15 the two accessory claws are almost half the length of the central claw and

the posteroventral (pv) spine is over half the length of central claw (Fig. 3C) (these are shorter in *L. emarginatus*). These characters are all in keeping with the detailed description of *L. africanus* in Enghoff *et al.* (2013) and confirm the presence of this species in the UK.



**Figure 1: *Lamyctes africanus* from Lancashire**

A) Plant propagator supporting the colony; B) Specimen 1, live habitus, collected on 9<sup>th</sup> December 2021; C) Live specimen observed on 26<sup>th</sup> January 2022. Images © Nicola Garnham.



**Figure 2: *Lamyctes africanus* from Lancashire, head features**

A) Specimen 1, head showing pale ocelli and 29+29 antennal articles; B) Specimen 1, forcipular coxosternite bearing 2 + 2 'teeth' (with a hint of a third); C) Specimen 2, forcipular coxosternite and forcipules (ventral view).

## Discussion

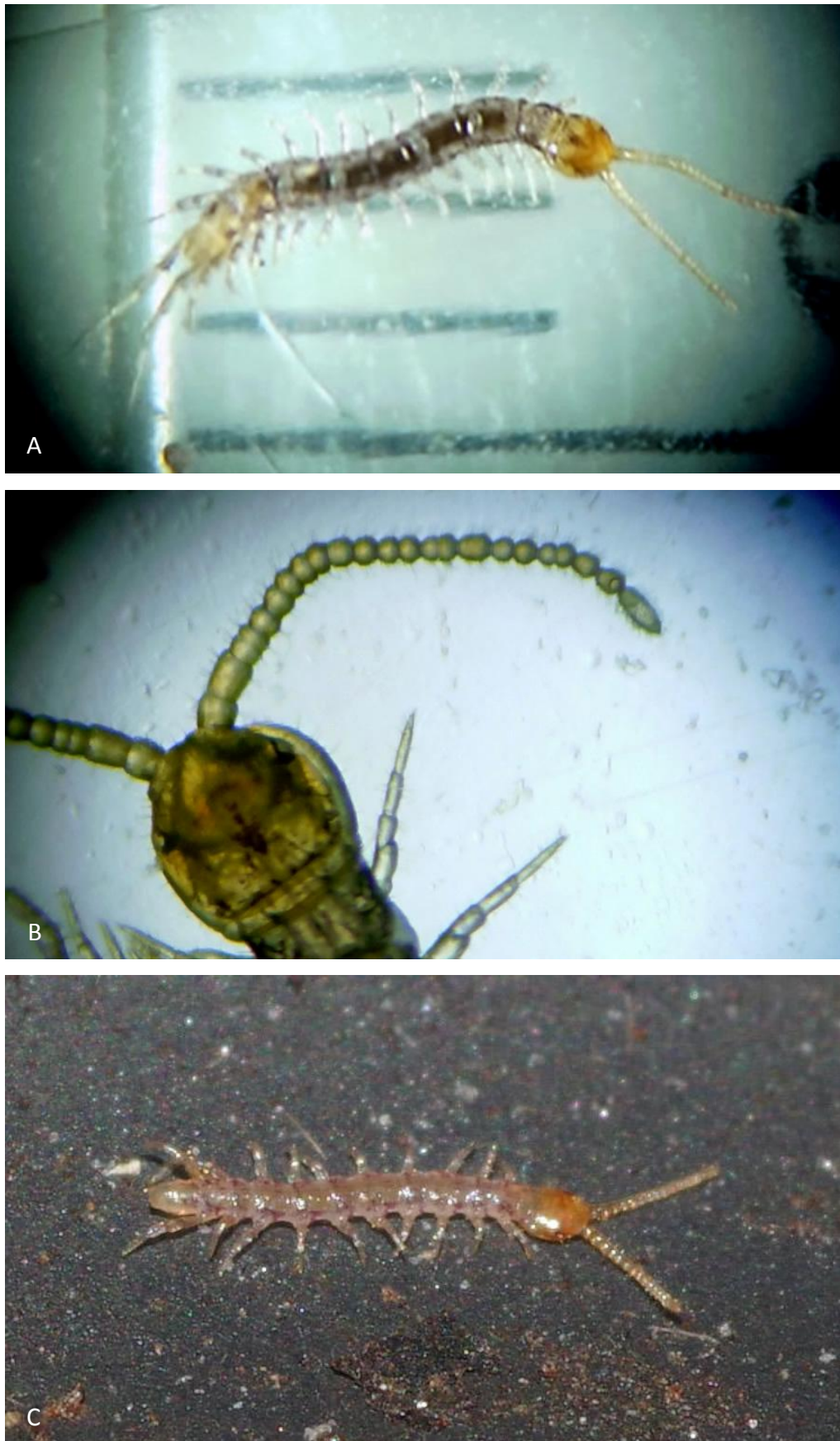
There are a number of shelves within the propagator on which plants are grown under artificial light (Fig. 1A). The first *Lamyctes* specimens were found in pots on the top row which is heated with a thermostatically controlled heat mat recently set to 25°C. There is a plastic tray with wool based capillary matting and usually there is a lid is to control humidity. The lower shelf is used for orchids, many originating from the Netherlands (which may be a potential source of introduction?). Specimens have been observed in pots of compost and under the cap matting. The compost used is a peat free and made in the UK from coir (imported as dehydrated and compressed blocks). It is of interest that specimens of an unidentified sciarid fungus gnat larvae (Diptera: Sciaridae), a potential food source, are also present within the propagator. A number of sciarid species are commonly found in household plant pots and greenhouses (Freeman, 1983).





**Figure 3:** *Lamyctes africanus* from Lancashire, leg characters

A) Specimen 2, leg 12 with triangular projection on tibia (arrowed); B) Specimen 3, leg 15, indicating tibia, tarsus 1 and tarsus 2; C) Specimen 3, leg 15, central claw, accessory claws (acc.) and posteroventral spine (pv).



**Figure 4: *Lamyctes africanus*, immature specimens from Lancashire.**

A) Specimen observed 13<sup>th</sup> January 2019, body length c. 3.5 mm; B) Ditto, head and right antenna bearing 23 articles; C) 3<sup>rd</sup> larval stadium observed 10<sup>th</sup> March 2022. Images © Nicola Garnham.

There appear to be at least six individuals of *L. africanus* remaining in the propagator (three additional specimens having been collected for examination). This is not a large population but being a parthenogenetic species will facilitate recolonisation from just a single female. Indeed, on 10<sup>th</sup> March 2022 three 3<sup>rd</sup> larval stadia (with 10 leg pairs; <3 mm in length) were observed (Fig. 4C), in addition to several adults. Three years earlier, on 13<sup>th</sup> January 2019, a 3.5 mm long *Lamyctes* specimen with both antennae comprising 23 antennal articles was collected from within the same plant propagator (Fig. 4A, B). This was collected by NG and examined by SJG and at the time was thought most likely to be an immature *L. emarginatus*. However, the number of antennal articles is in keeping with observations by Iorio (2016) that immatures between 6 mm to 7.1 mm in length have 25-26 articles. Thus, with hindsight this also appears to be an immature *L. africanus* and, if so, the species is clearly well established at this site for a number of years. Later in spring 2022 a single specimen was found outdoors in the garden and it will be interesting to see if the species becomes widely established outside.

*Lamyctes africanus* is of very similar appearance to *L. emarginatus* and it is has become apparent that on several occasions in continental Europe the former species has been mis-identified as the latter (Enghoff *et al.*, 2013; Iorio, 2016, Decker *et al.*, 2017). Thus, it is highly likely that *L. africanus* has been overlooked in indoor or outdoor localities in Britain or Ireland. Synanthropic sites, such as gardens, garden centres and glasshouses are perhaps the most likely place to look, but other outdoor locations should not be dismissed. The glasshouses at RBG Edinburgh were re-surveyed in April 2015 during the BMIG field meeting but *L. africanus* was not refound (Sivell, 2021). It may that the species is no longer present there, or perhaps it is seasonal in a similar way to *L. emarginatus* (which has a one year life cycle; Barber, 2009). In Germany *L. africanus* was found to favour sparsely vegetated sandy or gravel habitats (Decker *et al.*, 2017), which is in keeping the association with railway lines noted in Denmark (Enghoff *et al.*, 2013). It is also worth checking voucher specimens held in collections. Many records for *L. africanus* in Europe are from collections where specimens have been previously mis-identified as *L. emarginatus*.

Surely, in Britain the only known extant population of *L. africanus* cannot be confined to just a single house in northern England.

## Acknowledgements

We thank Tony Barber for providing much relevant information and for his helpful comments.

## References

- Barber, A.D. (1992) Distribution and Habitat in British Centipedes (Chilopoda). *Ber.nat.med.Verein Innsbruck Suppl.10*: 339-572.
- Barber, A.D. (2008) *Key to the identification of British Centipedes*. AIDGAP. Field Studies Council, Shrewsbury.
- Barber, A.D. (2009) *Centipedes*. Synopses of the British Fauna (NS) **58**. Linnean Society of London and the Estuarine and Brackish-Water Sciences Association/Field Studies Council, Shrewsbury.
- Dányi, L & Tuf, I.H. (2016) Out of Africa: The first introduced African geophilomorph centipede record from a European greenhouse (Chilopoda: Geophilidae). *Zootaxa* **4067** (5): 585-588. DOI: 10.11646/zootaxa.4067.5.6.
- Decker P., Wesener T., Spelda J., Lindner E. N. & Voigtländer K. (2017) Barcoding reveals the first record of *Lamyctes africanus* (Porat, 1871) in Germany (Chilopoda: Lithobiomorpha). *Bonn Zoological Bulletin* **65** (1): 3-10.
- Enghoff H., Akkari N. & Pedersen J. (2013) Aliquid novi ex Africa? *Lamyctes africanus* (Porath, 1871) found in Europe (Chilopoda: Lithobiomorpha: Henicopidae). *Journal of Natural History* **47**: 1-24.

- Freeman, P. (1983) *Sciarid flies - Diptera, Sciaridae*. RES Handbooks for the identification of British Insects. Volume 9 part 6, 68pp.
- Iorio, E. (2016) Confirmation of the presence of *Lamyctes africanus* (Porath, 1871) in France (Chilopoda, Lithobiomorpha: Henicopidae) *Bulletin of the British Myriapod & Isopod Group* **29**: 44-48.
- Sivell, D. (2021) Report on the BMIG spring field meeting to Linlithgow 2015. *Bulletin of the British Myriapod & Isopod Group* **33**: 94-104.