ON THE STATUS OF *CRYPTOPS SAVIGNYI* LEACH, 1817, AND *CRYPTOPS ANOMALANS* NEWPORT, 1844, (CHILOPODA: SCOLOPENDROMORPHA: CRYPTOPIDAE)

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ABSTRACT

Previous opinions as to the relationship of *Cryptops savignyi* and *C. anomalans* are reviewed and the holotype of *C. savignyi* described. It is confirmed that the two are conspecific. Their relative status is discussed. It would appear that currently *C. anomalans* is to be regarded as the valid name.

Key words: *Cryptops savignyi*, *Cryptops anomalans*, synonymy

INTRODUCTION

There has long been confusion over the identity of *Cryptops savignyi* Leach, 1817 and its relationship to *Cryptops anomalans* Newport, 1844 which is a common and widely distributed species through Europe and North Africa and also occurs in the United States and Canada where it is presumably introduced. The literature on these species is here reviewed and the holotype of *C. savignyi* described.

The terminology for external anatomy follows Bonato *et al*. (2010).

HISTORICAL REVIEW

Leach described *Cryptops Savignii* from a specimen 'Habitat in Musei Britannici horto.' Newport (1844) used Leach's original spelling namely *C. Savignii*, but since Lucas (1850), authors have, except in a few cases, used the spelling *savignyi* when referring to Leach's original description. According to article 33.3.1 of the International Code of Zoological Nomenclature this subsequent spelling is deemed to be the correct as it is in prevailing usage.

Many workers, namely Koch (1853), Latzel (1880), Meinert (1886), Kraepelin (1903), Attems (1930) and Brade-Birks, (1934, 1939) considered *C. savignyi* to be a junior synonym of *C. hortensis* (Donovan, 1810). However, Brolemann (1928, 1930) considered *C. savignyi* to be a senior synonym of *C. anomalans* and described a new subspecies *C. savignyi hirtitarsis* Brolemann, 1928. Most recently, Iorio and Geoffroy (2008) gave *C. savignyi hirtitarsis*, *C. savignyi* sensu Brolemann, 1930 and *C. savignyi* sensu Demange, 1981 as junior synonyms of *C. anomalans*.

Verhoeff, (1931) considered specimens assigned to *C. savignyi hirtitarsis* to be female *C. anomalans* and those assigned to *C. savignyi* to be males. Demange (1947) based on his personal collection and material so labelled in the Muséum national d'Histoire naturelle - Paris, rejected Verhoeff's conclusion stating that *C. anomalans* and *C. savignyi* are identical apart from the arrangement of setae on the antenna, namely a basal whorl of long setae on antennomere 10 in *C. anomalans*, two whorls in *C. savignyi* and *C. savignyi hirititarsis*. As, however, these characters had been incompletely studied he did not proceed to formally separate the species, preferring to follow Brolemann (1928, 1930) in treating *C. anomalans* as a junior synonym of *C. savignyi.* The

difference may not be clear-cut and there seems little justification for separating them. Nevertheless, Schubart (1964) keyed out *C. savignyi* and *C. anomalans* using Demange's (1947) antennal characters.

Serra (1985), considered *C. anomalans* to be the junior synonym of *C. savignyi* and *C. savignyi hirtitarsis* to be valid.

In a paper that appears to have been largely overlooked, Crabill (1963) reported on his re-examination the holotype of *C. savignyi*. He wrote of *Cryptops savignii* Leach "the specimen is unquestionably referable to Newport's *anomalans* of 1844, but according to the stipulation of article 23 (b) of the International Code of Zoological Nomenclature it must be considered a *nomen oblitum*" Crabill was not happy with the then current limitations clause which stated that if a name had not been used as a senior synonym in the primary zoological literature for that more than fifty years it was to be considered a forgotten name (*nomen oblitum*). He was, in fact, incorrect in his conclusion that *savignii* was a forgotten name as several workers had used the name either as *savignii* or *savignyi* (see above).

Crabill gave no description of the type material of *C. savignyi* and it is here described and illustrated.

DESCRIPTION OF HOLOTYPE OF *C. SAVIGNYI*

The holotype is in the Natural History Museum, London.

Label 1. Holotype. *Cryptops Savignii* Leach. Discovered iv.16.60, dry on pin, condition very poor. Responded moderately well to 3-sod-phos. R. Crabill iv.18.60.

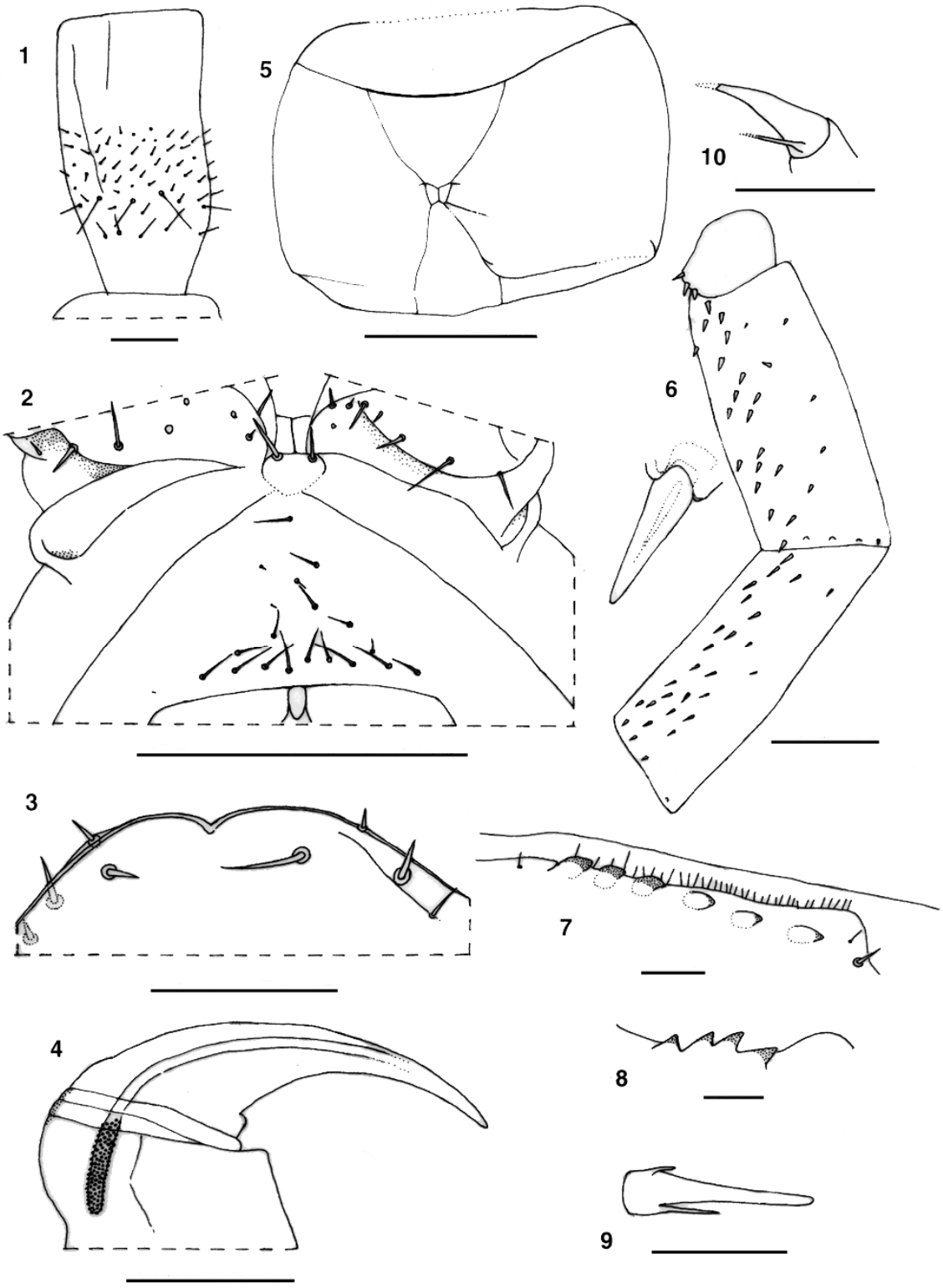
Label 2. This is *C. savignii* of Leach's Zool. Misc., 1817; the label appears to be in his handwriting rather than in Newport's. The species is clearly the senior synonym of *C. anomalans* Newport. Crabill iv.18.60. (NB The original label referred to by Crabill is missing.)

Label 3 (printed). *Cryptops savignii* Leach Holotype Italy: BMNH(E) #200018. (NB The correct locality is the garden of the British Museum.)

The specimen is in four microvials the first with head and maxillae, the second with the anterior half of the trunk, the third with the posterior half of the trunk and the fourth with the two ultimate legs.

Estimated length 31 mm. Antennal articles 15+7 (both damaged). Article 10 with a basal whorl of medium length setae and one of long setae (Fig 1). Cephalic plate paramedian sutures complete. Setose clypeal plate poorly defined with two setae followed by 1+2 + 1 + 2 + 2 + 2, some very small, in front of a row of nine prelabral setae (Fig 2). A groove on each side of the clypeus diverging from the clypeal plate clearly defining the clypeus. Anterior border of forcipular coxosternite bilobed apparently with a single marginal and three submarginal setae on each side (Fig 3), but these may have become displaced. The elongated poison gland calyx is situated in anterior part of forcipular trochanteroprefemur (Fig. 4).

Tergite 1 with anterior transverse suture, cruciform suture enclosing a small area at the point of intersection at the centre of the tergite and some short, insignificant lateral branches, also a faint incomplete posterior transverse suture (Fig 5). Details of other tergites, sternites, endosternites and spiracles not observable.



FIGURES 1 – 10: ***Cryptops savignii*** **Leach, holotype**

1) Antennal article 10 dorsal. Setae not shown in distal half of article. 2) Clypeus and antennal bases. N.B. There is some folding of the cuticle. 3) Anterior border of forcipular coxosternite. 4) Forcipule showing poison calyx and duct. 5) Tergite 1. 6) Prefemur and femur of ultimate leg medial with detail of spinous seta. 7) Tibial saw teeth of ultimate leg. 8) Tarsal saw teeth of ultimate leg. 9) Pretarsus of leg 2. 10). Pretarsus of leg 1.

Scale bars = 0.1 mm except figures 2, 4, 5 & 6 = 0.5 mm.

Pore field of ultimate leg coxopleuron virtually reaching posterior border as in Eason's (1964) figure 247. Ultimate legs with spinous setae on the ventrolateral and ventromedial but not the ventral face of the prefemur and only the one face of the femur, presumably the ventromedial, with the exception of a very few small spinous setae ventrolaterally (Fig 6). Tibia with very short fine setae, these denser on tarsus 1 and tarsus 2. Tibia (Fig 7) with seven, tarsus 1 (Fig. 8) with three or four saw teeth. As noted by Brolemann (1928), these are not visible from the lateral aspect. Dense brush of setae flanking the tibial saw teeth laterally.

Ambulatory legs with undivided tarsus (no data for leg 20). Pretarsi (tarsal claws) with one long and one short sensory spine (Fig. 9) but can appear that there is only a single long spine (Fig. 10). N.B. Most of legs 1 to 20 are missing.

Remarks: *Cryptops savignyi* has been well described and illustrated by Brolemann (1930) and as *C. anomalans* by Attems (1930) and Eason (1964). The holotype here redescribed, despite having been dried and pinned, shows a number of characters very clearly so that there can be little doubt that it is the same species as the specimens described by Brolemann, Attems and Eason.

CONCLUSION

Crabill (1963) stated that *Cryptops savignyi* Leach, 1817 was the senior synonym of *C. anomalans* Newport, 1844 and the redescription of the holotype reported here confirms that the two are conspecific. He noted, however, that according to article 23 of the ICZN then in force, *C. savignyi* was a *nomen oblitum* (forgotten name), not having been used since 1899. Crabill was, however, incorrect as *C. savignyi* had been used, albeit very occasionally, since 1899 and if strict priority is applied the valid name is *C. savignyi* and it was an erroneous reversal of precedence.

Currently the International Code of Zoological Nomenclature article 23.9.1 gives two conditions to be met if prevailing usage is to be maintained. The first that the senior synonym has not been used as a valid name after 1899. The second condition, that the junior synonym has been used as its presumed valid name in at least 25 works published by at least 10 authors in the immediately preceding 50 years. This has been met as the junior synonym has been used by at least 29 authors in at least 50 works in the last 50 years. The senior synonym has only been used three times during that period, namely by Schubart (1964) in a key, Demange (1981) and Serra (1985).

Article 23.12. states that a name rejected between 6 November 1961 and 1 January 1973 under Article 23b then in force on the grounds that it was a *nomen oblitum* is not to be given precedence over a junior synonym in prevailing usage unless the commission rules that the older but rejected name is to take precedence. So pending any such ruling the valid name is *C. anomalans.* Minelli *et al*. (2006 onwards) give *C. anomalans* as the valid name for *C. savignyi*.

C. anomalans is now used universally and to revert to *C. savignyi* now would only cause very considerable unnecessary confusion.

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