

Captain King's lost weevil – alive and well in the Northern Territory?

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Abstract

The discovery of a 'hairy' yellow weevil in Kakadu National Park in 1995, akin to a widely distributed pest species of agricultural crops in South-East Asia (but not Australia), the so-called 'Gold-dust Weevil' (*Hypomeces 'squamosus'*), prompted us to investigate the taxonomy and distribution of this weevil in order to determine the identity and origin of the Kakadu specimen. The 'Gold-dust Weevil', whose correct scientific name is *H. pulviger* (Herbst, 1795), is a sexually dimorphic and variable species and has been described under various names in the literature, but its taxonomy and nomenclature have never been investigated. The results of our research to date indicate that it comprises a complex of closely similar species and that the Australian specimen is not conspecific with those occurring further west and north in South-East Asia. We also found that a female conspecific with the Kakadu specimen was likely collected by Captain Phillip Parker King during his surveys of the northern Australian coast in about 1820 and described in 1826 by W. S. Macleay as *Cenchroma obscura*. King's weevil has been forgotten for over 200 years, but the discovery of the Kakadu specimen suggests that this species, correctly named *Hypomeces obscurus*, may be present in northern Australia, albeit scarce and seemingly of no current agricultural concern.

Introduction

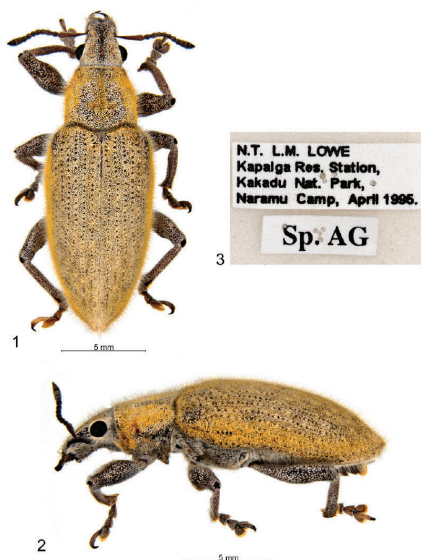
An unexpected discovery

In September 2009 one of us (RGO) came across a 'hairy' yellow weevil (Figs 1, 2) in the insect collection of the CSIRO Tropical Ecosystems Research Centre (TERC) in Darwin. He recognised it as a species of *Hypomeces* Schoenherr, a genus distributed throughout South-East Asia, from eastern India and southern China southwards through Indochina and Indonesia to Timor and New Guinea, but not known to occur in Australia. *Hypomeces* currently comprises about ten species and belongs in the tribe

Tanymecini of the subfamily Entiminae, a large group of typically short-snouted weevils with wide host ranges as adults and soil-dwelling, root-feeding larvae. One species of *Hypomeces*, named *H. squamosus* (Fabricius) in the literature and ‘Gold-dust Weevil’ in vernacular language, is a major agricultural and horticultural pest in South-East Asia.

Significantly, the specimen in the TERC collection (Figs 1, 2) is labelled as having been collected at the Naramu Camp of the former Kapalga Research Station in Kakadu National Park, Northern Territory, in April 1995 by Lyn Lowe, who then participated in a fauna survey forming part of the Kapalga Fire Experiment (Orgeas & Andersen 2001; Andersen *et al.* 2003). Moreover, the specimen, a male, is in a teneral condition (freshly eclosed), both its mandibles still carrying the deciduous cusp that occurs in Entiminae upon eclosion from the pupal case but breaks off when the weevil starts feeding, and its coating of yellow wax, which grows as the specimen ages and is more prominent in males, is only slightly developed. Its teneral condition and pristine state of preservation indicate that the specimen was collected on the day it hatched from its cocoon and was pinned shortly afterwards, not stored in ethanol as this fluid would have dissolved its covering of wax and matted down its erect silvery setae.

Comparison of the Kapalga weevil with specimens of *Hypomeces* in the Australian National Insect Collection (ANIC) in Canberra revealed that, although similar to the well-known *Hypomeces* ‘*squamosus*’ (an invalid name, see below), it differs in a number of characters from this species and agrees more closely with specimens from Timor. The status of the Timorese taxon is unclear from the literature; it is sometimes treated as a ‘variety’ of *H. ‘squamosus*’ but has also been named as a different species. In their recent catalogue of Australian weevils, Pullen *et al.* (2014) settled on calling it *Hypomeces rusticus* (Weber, 1801), following the distinction made between this and *H. ‘squamosus*’ by Marshall (1916) in his scholarly treatment of the weevil fauna of British India. However, Pullen *et al.* (2014) changed the name Marshall had used for it, *Hypomeces unicolor* (Weber, 1801), to *H. rusticus*, in accordance with a recent correction published by Ren *et al.* (2013) and necessary due to the fact that Weber’s original name *Curculio unicolor* is a junior primary homonym of the older name *Curculio unicolor* Herbst, 1795 and hence nomenclaturally



Figs 1–3. *Hypomeces obscurus* (Macleay, 1826), male, Kapalga Research Station, Kakadu National Park, Australia. 1. dorsal view; 2. lateral view; 3. label.

unavailable. For the same reason, *H. squamosus* had to be renamed as *Hypomeces pulviger* (Herbst, 1795) (Ren *et al.* 2013), an unfortunate but unavoidable change of the name of a well-known pest species. The identification of the Timorese taxon as *H. rusticus* remained somewhat insecure, however, as Marshall (1916) had expressed some doubt about the distinction of this species from *H. pulviger* (as *H. squamosus*), considering the few differences he could find between them to be ambiguous in some cases. Also, there is no recent and proper taxonomic study of the genus *Hypomeces* to verify them. Due to the fresh nature of the Kapalga specimen, Pullen *et al.* (2014) treated *H. rusticus* as occurring in Australia.

Aims and objectives

In this paper we report the results of further research into the taxonomy and nomenclature of the Kapalga weevil and outline the apparent history of the species in Australia. Although additional study is required (and in preparation) to fully resolve its taxonomic affinities, we here aim to draw attention to the indicated occurrence of this weevil in the Northern Territory and to list and illustrate the morphological differences between it and the more northerly pest species *Hypomeces pulviger*. We hope that this report will assist in the determination of whether this weevil species is established in northern Australia.

Material and Methods

We undertook a morphological study of 113 relevant specimens (including 13 types) of *Hypomeces* from the following collections:

- ANIC – Australian National Insect Collection, Canberra, Australia;
- MAGNT – Museum and Art Gallery of the Northern Territory, Darwin, Australia;
- MMUS – Macleay Museum, University of Sydney, Sydney, Australia;
- NAQS – Northern Australia Quarantine Strategy Entomology Collection, Darwin, Australia;
- NHMD – Natural History Museum of Denmark, Copenhagen, Denmark.

Selected specimens were photographed using a Leica DFC500 digital camera mounted on a Leica M205C microscope, combining (“montaging”) image stacks in Leica Application Suite 4.4 and cleaning and enhancing the final images as necessary in Adobe Photoshop CS3. The genitalia of 15 specimens (mostly males) from different localities were dissected in the standard manner, temporarily stored in glycerine or KY Jelly® and photographed using the same equipment.

Results

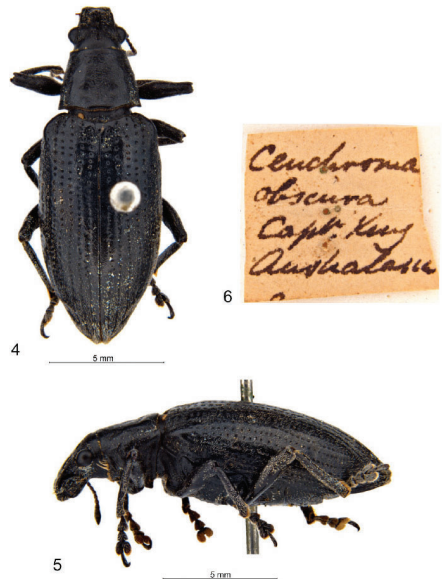
Captain King’s lost weevil

No other Australian specimen of *Hypomeces* has been located in any collection so far, but Zimmerman (1993: 667), in his bibliographic notes on William Sharp Macleay,

asserted that a specimen collected during Captain Phillip Parker King's survey of the northern Australian coast in the 19th century and described by Macleay (1826) as *Cenchroma obscura* is an "abraded, mislabeled *Hypomeces squamosus* (Herbst), an Indonesian species and not Australian, which remains in Macleay's collection". Zimmerman had examined this specimen, housed in the Macleay Museum in Sydney, and in ANIC's copy of Macleay's (1826) paper he scribbled next to description of *Cenchroma obscura*: "A specimen thought to be the type of this is in the Macleay Mus. It is labeled 'Cenchroma / obscura / Capt' King / Australia'. It is an abraded *Hypomeces squamosus* (Herbst) var. & is therefore a mislabeled specimen.", and he dated this note as "Z. x. 83". The author of the species name given by Zimmerman is incorrect, however; it is not Herbst but Fabricius. The addition of the epithet "var." (variety) in Zimmerman's note is important as Zimmerman had also labelled the Timorese specimens in the ANIC as "*Hypomeces squamosus* (Herbst) var.", indicating that he was aware of their differences from the typical *H. 'squamosus'* (now *H. pulviger*) occurring further west and north, though regarding them as being conspecific.

The discovery of the Kapalga weevil thus raised the possibility that *Cenchroma obscura* might be the same species and also that Captain King's weevil might indeed have been collected in Australia. We were able to borrow from the Macleay Museum the single specimen of *Cenchroma obscura* as well as two specimens labelled "*Hypomeces lanuginosus*" and "Timor", in the handwriting of a former curator of the Macleay Museum, George Masters, who is known to have replaced many original labels with his own (Zimmerman 1993). Macleay (1826) indeed recorded another *Cenchroma* species from King's voyages, as *C. lanuginosa* Dejean. This name had been published by the French Count P. F. M. A. Dejean in a catalogue of the Coleoptera in his collection (Dejean 1821), for a species occurring in Timor. Our study of these specimens revealed the following:

1. the specimen (holotype) of *Cenchroma obscura* is an abraded female, missing virtually all its scales and setae (Figs 4, 5);
2. its origin is given on its label as "Australasia", not Australia as recorded by Zimmerman (Fig. 6);



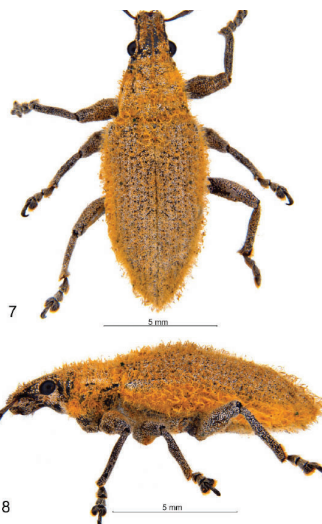
Figs 4–6. *Hypomeces obscurus* (Macleay, 1826), female, holotype. 4. dorsal view; 5. lateral view; 6. label.

3. the two specimens from Timor labelled *Hypomeces lanuginosus* are males, both with a complete vestiture of pale setae and a thick layer of yellow floccular wax between them (Figs 7, 8); and
4. the three specimens are conspecific with each other and also conspecific with a series of specimens from Timor in the ANIC and with the Kapalga specimen.

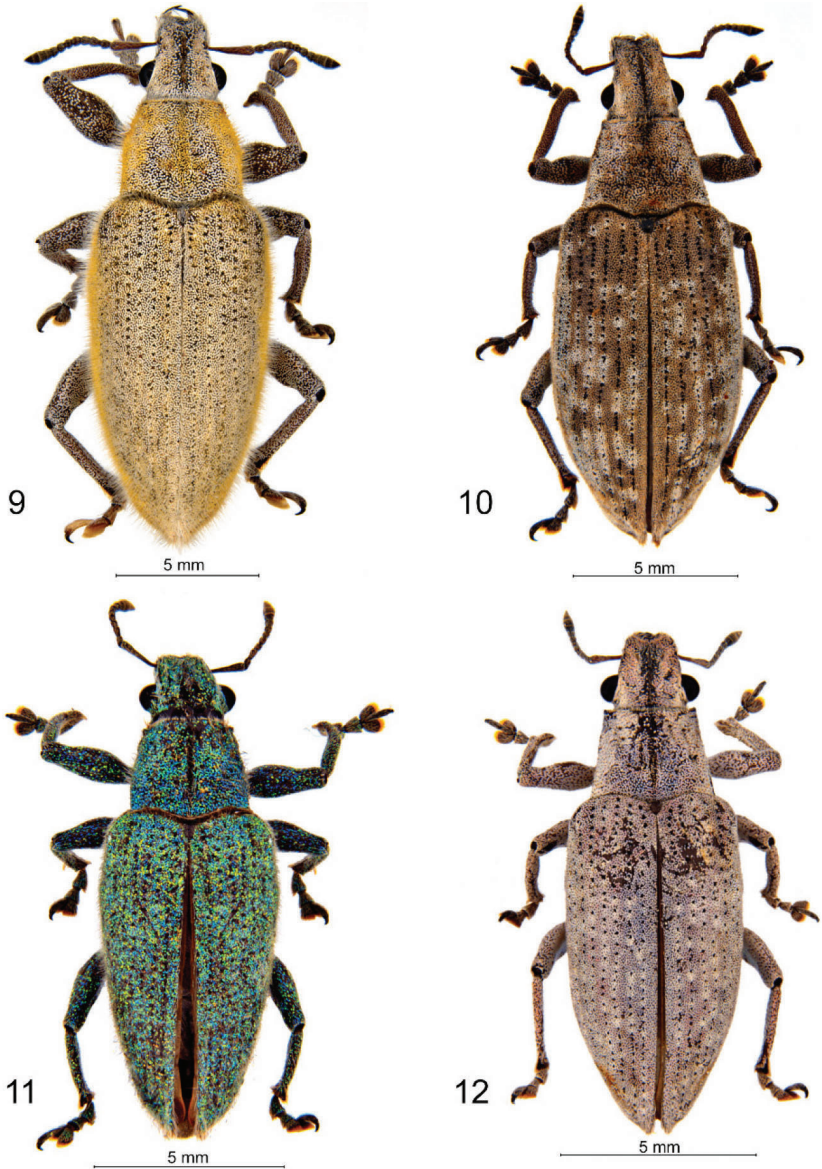
Taxonomic and nomenclatural tangles

The taxonomic boundaries of *H. pulviger* (formerly *H. squamosus*) have been unclear for a long time, as pointed out a century ago by Marshall (1916), and have not been satisfactorily resolved. The most noticeable difference between *H. pulviger* and the Timorese taxon is the presence of

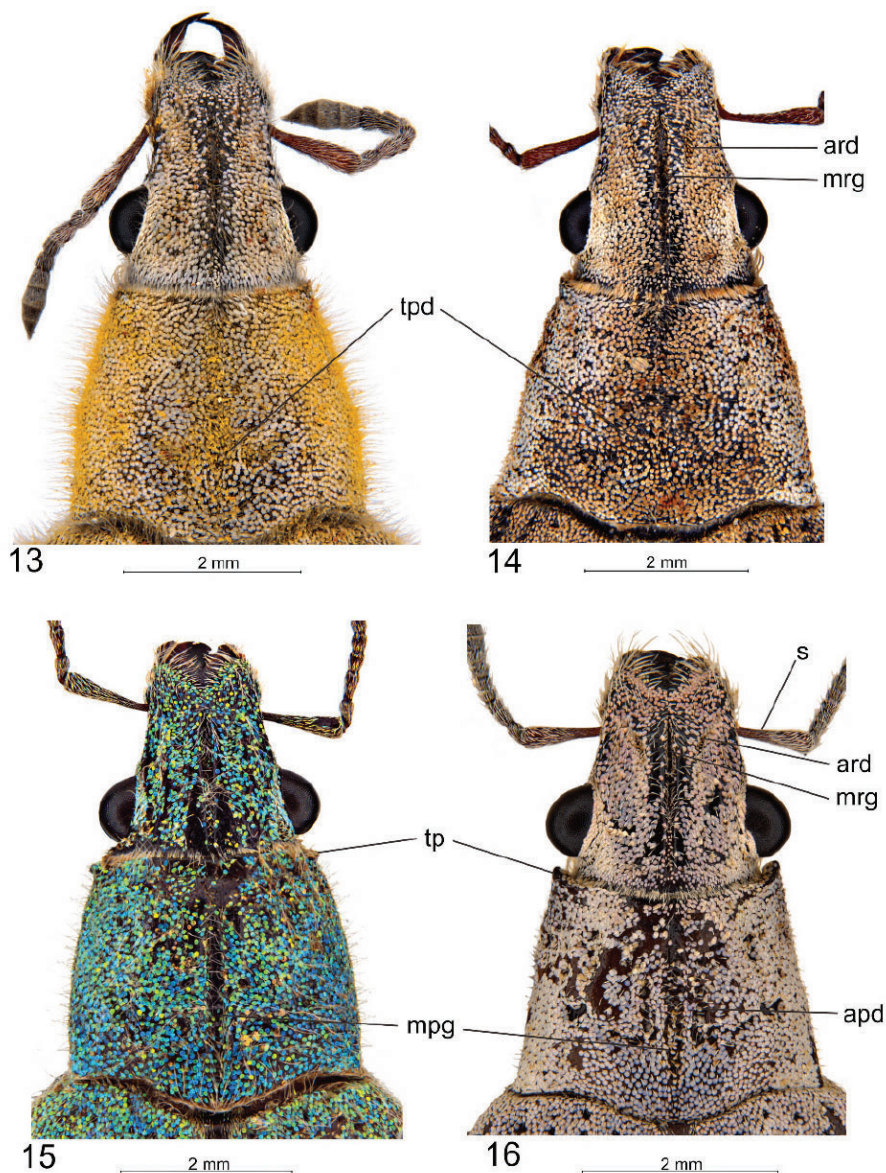
one or more tooth-like projections at the anterolateral corners of the prothorax, behind the eyes, in the former but not the latter (Figs 17, 18). However, as noted by Marshall (1916), these projections are sometimes only feeble in *H. pulviger* and evidently not a reliable distinguishing character. There are, however, a number of other, more consistent differences between the two taxa (Table 1). Although these differences are somewhat relative and difficult to assess when looking at only one species, they become clearer in a side-by-side comparison of both and appear consistent enough to enable a reliable distinction. Whether they are suitable indicators of species delimitations is difficult to assess in the absence of a comprehensive study of specimens from throughout the range of these two taxa, but they are similar to species differences in other entimine weevils and likely to have the same significance in this case too. This conclusion is supported by a preliminary analysis of the 'barcoding' fragment of the COI gene of a number of *Hypomeces* specimens, from Malaysia south to Timor, which revealed a clear divergence between the Timorese specimens and those from further west and north (Greg Chandler, pers. comm.), so congruent with the morphological differentiation. Furthermore, comparable differences in these as well as in other morphological characters indicate the existence of additional *Hypomeces* species on the Sunda Islands. A more comprehensive morphological and molecular analysis of additional specimens is in preparation to assess the number of species in this complex and the precise affinity of the Kapalga specimen.



Figs 7, 8. *Hypomeces obscurus* (Macleay, 1826), male from Timor collected during Captain King's voyages. **7.** dorsal view; **8.** lateral view.



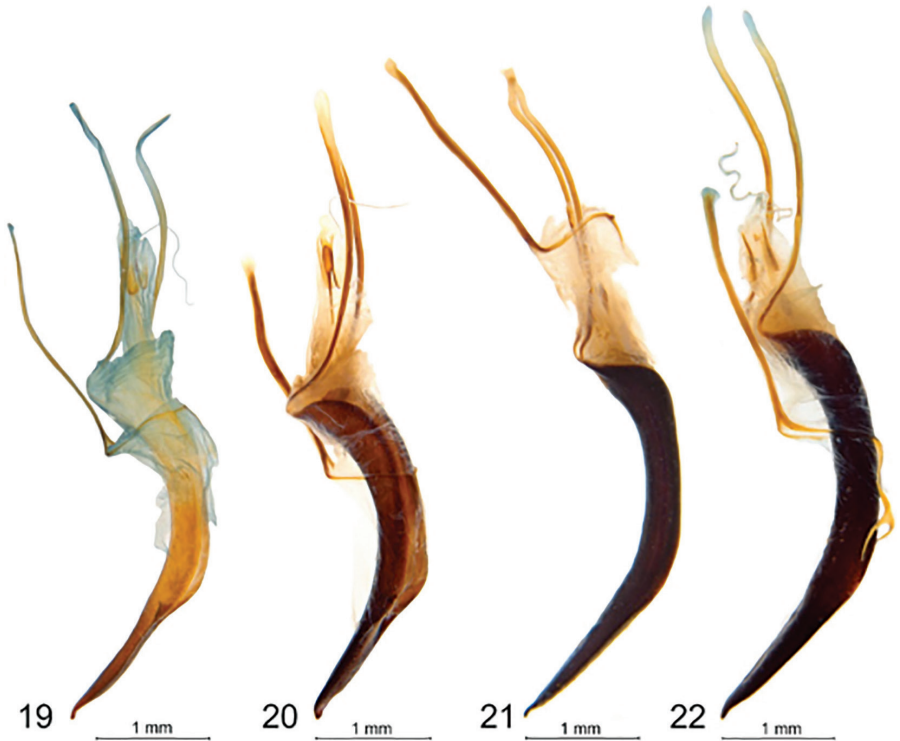
Figs 9–12. *Hypomeces obscurus* (Macleay, 1826) and *H. pulviger* (Herbst, 1795), dorsal habitus. **9.** *H. obscurus*, male, Kapalga Research Station, Kakadu National Park, Australia; **10.** *H. obscurus*, female, Pante Macassar, Oe-Cusse, Timor-Leste; **11.** *H. pulviger*, male, Tatham, Laos; **12.** *H. pulviger*, female, Chatthin Wildlife Sanctuary, Myanmar.



Figs 13–16. *Hypomeces obscurus* (Macleay, 1826) and *H. pulviger* (Herbst, 1795), dorsal aspect of head and prothorax. **13.** *H. obscurus*, male, Kapalga Research Station, Kakadu National Park, Australia; **14.** *H. obscurus*, female, Pante Macassar, Oe-Cusse, Timor-Leste; **15.** *H. pulviger*, male, Tatham, Laos; **16.** *H. obscurus*, female, Chatthin Wildlife Sanctuary, Myanmar. (s – scape, mrg – median rostral groove, ard – admedian rostral depression, tp – tooth-like projection, mpg – median pronotal groove, apd – admedian pronotal depression, tpd – transverse pronotal depression).



Figs 17, 18. *Hypomeces obscurus* (Macleay, 1826) and *H. pulviger* (Herbst, 1795), lateral aspect of head and prothorax. **17.** *H. obscurus*, male, Kapalga Research Station, Kakadu National Park, Australia; **18.** *H. pulviger*, male, Kuala Lumpur, Malaysia.



Figs 19–22 (at left). *Hypomeces obscurus* (Macleay, 1826) and *H. pulviger* (Herbst, 1795), aedeagus, lateral view. **19.** *H. obscurus*, Kapalga Research Station, Kakadu National Park, Australia; **20.** *H. obscurus*, Pante Macassar, Oe-Cusse, Timor-Leste; **21.** *H. pulviger*, Kuala Lumpur, Malaysia; **22.** *H. pulviger*, India.

What then is the correct name for the Timorese and Australian specimens? The oldest species name in contention is *rusticus*, which was given by Weber (1801), and also by Fabricius (1801), to specimens collected by the Danish naturalist O. K. Daldorff in Sumatra, probably at Bengkulu (Reid & Beatson 2015). Photos of the two type specimens of *rusticus* in Fabricius' collection, kindly provided to us by the Natural History Museum of Denmark in Copenhagen, show these to possess a strong prothoracic tooth and thus not to be conspecific with the Australian and Timorese specimens (but apparently representing *H. pulviger*). The next oldest name is *lanuginosa*, which was proposed by Dejean (1821) for a species in Timor but not accompanied by a description and which is therefore unavailable for nomenclatural purposes (it was also never validated afterwards). Next in line of nomenclatural priority is *obscura*, which was established by Macleay (1826) with a proper description and is therefore nomenclaturally available, although it has not been used for almost two centuries. Given the existence of the holotype of *obscura* in the Macleay Museum and its agreement in characters with the Kapalga and Timorese specimens (rather than with *Hypomeces pulviger*), this species is to be named *Hypomeces obscurus* (Macleay, 1826) – the ending of the adjectival species name changing to accord with the different gender of the genus name (*Hypomeces* is masculine, *Cenchrroma* feminine).

Table 1. Differences between *Hypomeces obscurus* (Macleay, 1826) and *Hypomeces pulviger* (Herbst, 1795) (see Figs 9–22).

| Structure | <i>Hypomeces obscurus</i> (previously <i>H. rusticus</i>) | <i>Hypomeces pulviger</i> (previously <i>H. squamosus</i>) |
|-------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Body scales | colour always creamy; separate from each other | colour usually iridescent green, at least in male; partly overlapping |
| Rostrum | longer | shorter |
| Admedian linear depressions on rostrum | indistinct, very shallow, straight | distinct, deep, curved |
| Antennal scapes | longer | shorter |
| Eyes | flatter, less prominent | more acute, very prominent |
| Anterolateral corners of prothorax | never tooth-like extended | usually tooth-like extended |
| Median pronotal groove | shallow, indistinct | deep, distinct (sharply edged) |
| Pronotal impressions | broad, shallow, transverse impression across base of median groove | pair of short, narrower, deeper, irregular longitudinal impressions parallel to median groove |
| Elytral bases | more strongly rounded | less rounded, partly straight |
| Elytral setae of female | very fine, slightly longer | shorter and thicker |
| Penis | shorter, more strongly curved; dorsally more open | longer, less curved; membranous dorsal strip narrower |

Discussion

Captain King's voyages and collecting localities

Having clarified the identity and taxonomic status of Captain King's weevil, its origin remains to be determined. Captain Phillip Parker King (1791–1856) was one of the famous Australian explorers of the 19th century. He undertook four voyages around Australia between 1817 and 1822, charged by the British Admiralty and the Colonial Office to survey the north-west coast of New Holland, which his predecessor, Matthew Flinders, had not been able to chart during his circumnavigation of Australia in 1802–1803. The Admiralty thus instructed King to “examine the hitherto unexplored Coasts of [the Continent of] New South Wales, from Arnhem Bay, near the western entrance of the Gulf of Carpentaria, westward and southward as far as the North-West Cape, ...”, and specifically to discover “any river or that part of the coast likely to lead to an interior navigation into this great continent.”. The Colonial Office wanted him “to obtain information” of, *i.e.*, the “general climate ...”, the “directions of the mountains ...”, the “animals, whether birds, beasts, or fishes; insects, reptiles, &c., ...”, the “vegetables ... applicable to any useful purposes, ...” and the “descriptions and characteristic differences of the several tribes or people on the coast” (King 1827).

On his first voyage, from December 1817 to July 1818, King sailed his sole ship, the cutter *Mermaid*, around the south and west coast of Australia and got as far east, on 26 March 1818, as Braithwaite Point on the coast of western Arnhem Land. He then turned westwards again, exploring the nearby Goulburn Islands and surveying the coasts of the Cobourg Peninsula, Van Diemens Gulf and Melville Island before heading to Timor to reprovision his ship and then returning to Sydney. On his second voyage, from May 1819 to January 1820, he sailed the *Mermaid* northwards along the Australian east coast, around Cape York and across the Gulf of Carpentaria and explored the Arnhem Land coast from the Wessel Islands to Bathurst Island as well as the Cambridge and Admiralty Gulfs on the Kimberley coast, then ran for Timor again to take on provisions and home to Sydney along the west coast. On his third voyage, from June 1820 to December 1820, he followed the same route, but the *Mermaid* was “nail-sick” (leaking badly) by then and allowed him little opportunity for exploration, and he limped back from the Prince Regent River mouth to Sydney, this time without replenishing in Timor. On his fourth voyage, from May 1821 to April 1822, he had a new and larger ship, the brig *Bathurst*, which he again sailed around Cape York and the Gulf of Carpentaria to the Goulburn Islands, but he surveyed and explored mainly the coast of the western Kimberley region south to the Dampier Peninsula, returning to Sydney via Mauritius. Although King failed to find the fabled waterway into the interior of Australia, he explored practically every inlet along the north-western coast of Australia for about 1200 km west of Cape Wessel. King published a two-volume *Narrative* of his surveys soon afterwards (King, 1827), and a comprehensive and splendid account of his voyages, as well as of the many trials and tribulations he and his crew experienced during them, was published by Hordern (1997).

Captain King was given two marine surveyors, Frederick Bedwell (1796–1853) and John Septimus Roe (1797–1878), to assist him in this task, and the botanist Allan Cunningham (1791–1839) joined him in Sydney. The animals collected by King, Cunningham and Roe on these voyages were studied and described in Appendix B of Volume II of King's *Narrative*. William Sharp Macleay (1792–1865) studied the 'Annulosa', the ringed or segmented animals, the majority (188) being insects, among them 108 beetles (Coleoptera) and among these 20 weevils (Curculionidae) (Macleay 1826). He described nine of the weevils as new, although some turned out to have already been described by earlier authors and others belonged to different genera than those to which Macleay assigned them (Zimmerman 1993). Macleay did not provide the names of the collectors of these beetles or the localities where they were taken, and not all occur along the 'intertropical and western coasts' of Australia. The weevil specimens he named *Cenchrroma lanuginosa* evidently originated from Timor, not only because this name had been published by Dejean (1821) for a species from Timor (and Dejean was an acquaintance of Macleay) but also because the two specimens with this name in the Macleay Museum carry a label reading "Timor". King briefly visited the harbour of Kupang in western Timor on his first two voyages, and Cunningham collected specimens (mainly plants) in the vicinity of the town on both occasions (Hordern 1997; Orchard & Orchard 2013). In contrast, the single specimen of Macleay's *Cenchrroma obscura* is labelled as "Australasia", in Macleay's hand, suggesting that it was not collected together with the two males from Timor but separately and from somewhere else. But where?

Looking for a weevil in a haystack

The name "Australasia" was coined in the 18th century for the lands south of Asia, so encompassing Australia, New Zealand, New Guinea and their neighbouring islands in the Pacific Ocean (but not Timor). In King's and Macleay's times, the name "Australia" was not yet established and commonly used for the Australian continent, which was generally referred to as "New Holland" or, as on King's instructions from the British Admiralty, "New South Wales". Macleay used both names "Australasia" and "New Holland" on the labels of his insect specimens, the former probably when he was unsure of their exact origin. The holotype of *Cenchrroma obscura* is not the only Macleay type labelled as having come from "Australasia". Among the Macleay types in the ANIC there are another 11 with the same locality name on the label (*Acanthocinus piliger*, *Callidium erosum*, *Chrysomela klugii*, *Chrysomela nigrovaria*, *Cistela securifera*, *Clerus cruciatus*, *Coccinella kingi*, *Lycus septemcavus*, *Lycus rhipidium*, *Notoecia splendens*, *Telephorus pulchellus*), whereas nine others (*Chrysolopus echidna*, *Chrysolopus tuberculatus*, *Elatér nigroterminatus*, *Elatér xanthomma*, *Epholysium velutinum*, *Hybauchenia nodulosa*, *Oedemera punctum*, *Talaurinus kirbyi*, *Trox alternans*) are labelled as from "New Holland" instead. Most of the species whose Macleay types are labelled "Australasia" do not occur in Timor but only in Australia, i.e. the coccinellid *Coccinella kingi* (now *Archegleis kingi*; Pope 1989; Ślipiński 2007; Adam Ślipiński, pers. comm.), the cantharid *Telephorus pulchellus* (now *Chauiognathus lugubris* (Fabricius)), the lycids *Lycus rhipidium* and *L. septemcavus* (now both *Porrostoma rhipidium*; Lodislav Bocak,

pers. comm.) and the cerambycids *Acanthocinus piliger* (now *Rhytidophora piligera*; Adam Ślipiński, pers. comm.) and *Callidium erosum* (now *Pytheus erosus*; Adam Ślipiński, pers. comm.). The exact distribution ranges of the species described by Macleay from King's material are often not known; some of them are widespread in Australia and others are restricted to the south-eastern or south-western parts, but at least two occur in the Northern Territory and northern Western Australia, i.e. the clerid *Clerus cruciatus* (now *Orthrius cruciatus*) and the tenebrionid *Cistela securigera* (now *Nocar securigerus*). It is thus manifest that most of the beetles described by Macleay (1826) and labelled "Australasia" must have been collected in Australia, and some indeed likely in the Northern Territory or north-western Western Australia, and there is no *prima facie* evidence that the type of *Cenchrroma obscura* was not collected there either.

King and his crew explored almost the entire north-west coast of Australia and went ashore on many islands and points and bays on the mainland, and especially Cunningham collected specimens wherever and whenever he could (Curry *et al.* 2002). Among the likely places he (or King or Roe) could have taken the type of *Cenchrroma obscura* are South Goulburn Island and Sims Island, where Cunningham collected specimens on all four of King's voyages, and especially the banks of the South Alligator River, which King and Cunningham explored upstream for about 64 km from its mouth on the first voyage and where, on 8 May 1818, they collected near the present site of Kapalga (Curry *et al.* 2002: Map 8). In his journal Cunningham recorded some plants he encountered there on that day but nothing about any insects, but as his journal entries generally only deal with botanical specimens (Tony Orchard, pers. comm.), this does not mean that he could not have taken such a weevil there. An exact locality for the type of *Cenchrroma obscura* can probably never be established, but it is very likely that it was indeed collected along the Northern Territory coast.

No further specimens of *H. obscurus* have been found in Australia to date, despite 25 years of quarantine inspection of numerous locations in the Northern Territory by the NAQS team in Darwin (Glenn Bellis, pers. comm.). A recent search at the Kapalga site also failed to find another specimen, but it was undertaken in July 2015, in the dry season when the parched condition of the vegetation greatly reduces insect activity. The absence of further specimens so far suggests that, if the species is present in the Northern Territory, it may have a restricted distribution and/or occur in very low numbers, and the time of collection of the Kapalga specimen (April) and also of King's 1818 visit to the site (March) indicate that it may only be active during the wet season.

Potential impact

The indicated occurrence of a *Hypomeces* species in northern Australia is important as *H. pulviger* remains a target (under the name *H. squamosus*) of quarantine surveillance efforts in the area (Glenn Bellis & Luke Halling, pers. comm. 2015). This notorious pest (the 'Gold-dust Weevil') has a wide range of hosts in South-East Asia. Hill & Abang (2006) recorded it from 42 hosts in Malaysia alone. The highly polyphagous nature of both

adults and larvae can cause significant damage on a number of agricultural crops, the major hosts being rice, maize, sugarcane, cotton and tobacco (Kalshoven, 1981), along with *Citrus* spp. and sweet potato (Hill, 2008). Other hosts include cocoa, coffee, durian, guava, jackfruit, long-bean, mango, rambutan and sapote (Muniappan *et al.* 2012), and additional ones are listed, together with a summary of the weevil's impact on crops and additional references, on CABI's Plantwise Knowledge Bank (<http://www.plantwise.org/KnowledgeBank/Datasheet.aspx?dsid=27783>). In contrast, little information exists about the hosts of *H. obscurus* in Timor. Specimens in the ANIC have been collected on Pigeon Pea (*Cajanus cajan*, Fabaceae) and Jujube or Chinese Apple (*Ziziphus mauritiana*, Rhamnaceae) in West Timor, and it has been found defoliating mango and was also taken on guava, maize, long-bean, peanut, sweet potato, sorghum, cucumber and rice (Glenn Bellis, pers. comm.). This host range suggests that *H. obscurus* may also be able to feed on a variety of plants (both native and cultivated) in Australia if it is established here now or in the future.

Conclusions

Our intricate sleuthing work revealed that Lyn Lowe, quite unbeknown to her, succeeded in rediscovering Captain King's lost weevil in the Kakadu National Park and that the name William Sharp Macleay gave it, forgotten in the scientific literature for almost 200 years, is in fact valid. While it seems impossible to determine the exact locality where King and his party may have collected this specimen nearly 200 years ago, King and his botanist, Allan Cunningham, did collect specimens in the vicinity of Kapalga, the site where Lyn Lowe took a freshly hatched male in 1995. As far as currently known, *Hypomeces obscurus* occurs mainly on Timor, and it is not the same species as *Hypomeces pulviger* (formerly *H. squamosus*), the notorious "Gold-dust Weevil" (a misnomer as its colour is neither golden nor due to dust). Further collecting efforts at the Kapalga site as well as in similar habitats elsewhere in Kakadu National Park and other parts of the Northern Territory are needed to confirm the presence of *H. obscurus* in Australia and verify whether King's lost weevil is indeed alive and well in the Northern Territory. Such confirmation would indicate that the species is either native to Australia or was transported there by humans (e.g. by Indonesian fishermen) at least two centuries ago and has been established for a considerable time.

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