

THE ENTOMOLOGICAL COLLECTION OF THOMAS SAY

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ABSTRACT

The 770 remaining specimens of the entomological collection of Thomas Say presently housed in the Museum of Comparative Zoology are catalogued for the first time, including 71 specimens representing 56 species described by Say which are labelled in Say's handwriting and which are probably those specimens on which Say's species descriptions were based. The history of the Say entomological collection is recounted. Based on signatures on labels in the present Say collection material, it is apparent that Say exchanged specimens with many European entomologists, including Dupont, Germar, Laporte de Castelnau, Motschulsky, Schoenherr, Sturm, and Wiedemann. A protocol for the designation of Say lectotypes and neotypes is proposed.

INTRODUCTION

The entomological collection of Thomas Say has become one of the legendary "holy grails" of entomology, in part because Say described over 1575 species of insects, and in part because Say's collection is conventionally assumed to have been completely destroyed (LeConte 1859a:v-vi, xix (footnote); Mallis 1971:25). In the present paper, I report for the first time on the 770 remaining specimens from the Say collection preserved at the Museum of Comparative Zoology, including 71 specimens representing 56 species described by Say and which presumably are those on which Say's original descriptions were based.

I have proposed below a protocol for designation of Say lectotypes and neotypes. Specimens determined by Say and which may

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have been used by Say in formulating his descriptions are by no means rare, but many recent authors have overlooked this material (nearly all of which is housed in the MCZ) when designating Say neotypes.

HISTORY OF THE SAY ENTOMOLOGICAL COLLECTION

Thomas Say began to collect insects in his youth, and his collection continued to grow during the years of his residence in Philadelphia (1787–1825), enhanced by numerous collecting trips to various parts of the country (for a map of Say's travels, see Weiss and Ziegler 1931:189). Following his move to New Harmony, Indiana, Say's collection came under relentless attack from various insect pests. If contemporary accounts are to be believed, Say's entomological collection was consumed in part by no fewer than 6 species of pests, including lepidopterans, several species of Dermestidae, a species of Cleridae, and a mite (Weiss and Ziegler 1931:154). Following Say's death in 1834, the collection was shipped by his widow, Lucy Say, to the Academy of Natural Sciences in Philadelphia, where it was advanced in 1836 to T. W. Harris of Cambridge, Massachusetts, for proper curation. Harris was at the time librarian of Harvard College, and his official duties prevented him from examining the collection for almost a year, during which time it sat relatively unprotected in Harris's barn. When Harris finally was able to examine the collection, he found that many specimens had been destroyed or disarticulated by dermestid larvae. Harris wrote at least 8 letters which have survived bemoaning the deplorable state of the collection, but an extensive series of manuscript notes published 43 years after Harris's death by S. Scudder (1899a; 1899b) reveal that the collection might not have been so badly damaged as was implied by Harris's letters.

Harris's comment that "the [Say] cabinet does not contain one half of the species which he has described" (Weiss and Ziegler 1931:206) is particularly important for taxonomists interested in locating type specimens of Say. It is well known that Say had an extensive foreign and domestic correspondence (see below), and specimens described by Say and labelled in his distinctive handwriting (for samples see Weiss and Ziegler 1931:72, 147, 156) will doubtless be found in the collections of many of Say's correspondents. An informal perusal by the present author of the surviving

portion of the collection of Say's principal domestic correspondents Frederick V. and John F. Melsheimer has revealed a number of such specimens. In addition, 768 specimens identified by Say for T. W. Harris in 1834 but not used by Say in his descriptions are presently in the Harris collection in the Museum of Comparative Zoology (Weiss and Ziegler 1931:176) and are suitable for consideration as potential neotypes (see below).

Harris retained a number of specimens from the Say collection and returned the remainder to the Philadelphia Academy. Beginning in the last decade of the previous century, S. Scudder and later S. Henshaw and N. Banks at Harvard began to collect the surviving specimens of Say. Their efforts were so successful that by 1931 the Philadelphia Academy possessed only one specimen from the Say collection (Weiss and Ziegler 1931:211). At the same time, Harvard possessed four boxes of Say specimens (mentioned in Weiss and Ziegler 1931:211). These four boxes, labelled "probably from Say" and "Say material found in MCZ when Mr. Henshaw left," have been stored with Harvard's historic Coleoptera collections since 1931. In June 1993, I transferred the contents of these boxes into 5 Cornell drawers and unit trays which are presently housed at the end of the combined LeConte and Horn collections.

THE SAY ENTOMOLOGICAL COLLECTION

The species listed by name below are represented in the surviving Say material by specimens bearing Say's hand-written determination labels which are either signed "Say" or initialed "TS." A number of these specimens also bear the labels of T. W. Harris which usually state "T. SAY TYPE" or "TYPE MEXICO." I have refrained from designating any of these specimens as lectotypes, preferring to leave this task to specialists in the groups to which these species belong. I have given here the original generic combinations, family placement, and references as recorded in LeConte (1859a; 1859b) and Bousquet (1993) as well as the number of specimens (numbers written out) presently in the Say collection. Non-type material (which is predominantly European in origin) is listed below as "undetermined specimens" (although many of these specimens were provisionally identified by Say and his foreign correspondents); numbers of these specimens present in the Say collection are given in Arabic numerals. Taxonomists wishing to

examine these specimens are requested to visit the MCZ in person, as many of these specimens and their labels are extremely fragile and would be destroyed in the mail.

COLEOPTERA

CARABIDAE: 108 undetermined specimens. HALIPLIDAE: 5 undetermined specimens. DYTISCIDAE: *Hydroporus bifidus* Say 1830–1834:31 (One specimen); *Hydroporus interruptus* Say 1830–1834:32 (One specimen); *Dytiscus taeniolis* Say 1823b:94 (One specimen); *Colymbetes nitidus* Say 1823b:98 (One specimen); *Laccophilus proximus* Say 1823b:101 (One specimen); 15 undetermined specimens. HYDROPHILIDAE: *Hydrophilus obtusatus* Say 1823a:201–202 (One specimen); 15 undetermined specimens. STAPHYLINIDAE: 3 undetermined specimens. PSE-LAPHIDAE: 1 undetermined specimen. SILPHIDAE: *Silpha caudata* Say 1823a:192–193 (One specimen); 2 undetermined specimens. LEIODIDAE: 1 undetermined specimen. HISTERIDAE: One specimen bearing a label with a manuscript name never published by Say; 23 undetermined specimens. LUCANIDAE: 3 undetermined specimens. SCARABAEIDAE: *Ateuchus humectus* Say 1832:4–5 (One specimen); *Copris incerta* Say 1835:175 (One specimen); *Copris prociua* Say 1835:176–177 (One specimen); *Onthophagus incensus* Say 1835:173 (Two specimens); *Onthophagus viridicatus* Say 1835:173–174 (One specimen); *Anomala cincta* Say 1835:181–182 (Two specimens); *Anomala gemella* Say 1835:181 (One specimen); 27 undetermined specimens. TROGIDAE: *Trox canaliculatus* Say 1824a:278–279 (Three specimens); *Trox capillaris* Say 1824a:238 (One specimen); *Trox scutellaris* Say 1824a:238–239 (Two specimens); 3 undetermined specimens. BYRRHIDAE: 7 undetermined specimens. CHELONARIIDAE: 1 undetermined specimen. HETERO CERIDAE: 1 undetermined specimen. DRYOPIDAE: 8 undetermined specimens. BUPRESTIDAE: *Buprestis divaricata* Say 1823a:163–164 (One specimen); 3 undetermined specimens. ELATERIDAE: *Elater baridius* Say 1830–1834:79 (One specimen); *Elater inflatus* Say 1825b:258 (One specimen); *Elater plebejus* Say 1825b:263 (One specimen); 16 undetermined specimens. CANTHARIDAE: 3 undetermined specimens. LYCIDAE: 1 undetermined specimen. LAMPYRIDAE: *Lampyrus trilineata* Say 1835:157 (One specimen); 2 undetermined

specimens. DERMESTIDAE: *Dermestes marmoratus* Say 1823a:197 (One specimen); 1 undetermined specimen. PTINIDAE: 1 undetermined specimen. ANOBIIDAE: 4 undetermined specimens. BOSTRICHIDAE: 5 undetermined specimens. LYCTIDAE: 1 undetermined specimen. TROGOSITIDAE: 1 undetermined specimen. CLERIDAE: 9 undetermined specimens. MELYRIDAE: 3 undetermined specimens. LYMEXYLONIDAE: 2 undetermined specimens. NITIDULIDAE: 7 undetermined specimens. CUCUJIDAE: 7 undetermined specimens. PHALACRIDAE: 6 undetermined specimens. EROTYLIDAE: 10 undetermined specimens. COCCINELLIDAE: 16 undetermined specimens. BYTURIDAE: 6 undetermined specimens. COLYDIIDAE: 5 undetermined specimens. TENEBRIONIDAE: *Hegeter punctatus* Say 1835:182 (One specimen); *Blaps celsa* Say 1835:185 (One specimen); *Blaps hispilabris* Say 1824b: (no page numbers given) (One specimen); *Blaps inaequalis* Say 1835:185–186 (One specimen); *Blaps opaca* Say 1824a:263 (One specimen); *Blaps parva* Say 1835:186 (One specimen); *Blaps ruida* Say 1835:183 (Two specimens); *Opatrum striatum* Say 1835:186–187 (One specimen); 89 undetermined specimens. ALLECULIDAE: 2 undetermined specimens. LAGRIDAE: 1 undetermined specimen. PYTHIDAE: 1 undetermined specimen. OEDEMERIDAE: 5 undetermined specimens. MORDELLIDAE: 4 undetermined specimens. RHIPIPHORIDAE: 2 undetermined specimens. MELOIDAE: 2 undetermined specimens. ANTHICIDAE: 2 undetermined specimens. CERAMBYCIDAE: *Moneilema inaequalis* Say 1835:193 (One specimen); 9 undetermined specimens. CHRYSOMELIDAE: *Chrysomela auripennis* Say 1824a: 452 (One specimen); *Chrysomela spiraeae* Say 1826:297 (Two specimens); *Colaspis puncticollis* Say 1824a:444 (Two specimens); *Cryptocephalus confluentus* Say 1824b:(no page numbers given) (One specimen); *Galeruca circumdata* Say 1824a:457 (One specimen); *Altica bimarginata* Say 1825a:85 (One specimen); *Hispa atricornis* Say 1835:196 (One specimen); *Imatidium cyaneum* Say 1824a:435–436 (Three specimens); *Cassida unipunctata* Say 1824a:434 (Three specimens); 58 undetermined specimens. BRENTHIDAE: Two specimens bearing labels with a manuscript name never published by Say; 1 undetermined specimen. CURCULIONIDAE: *Graphorhinus vadosus* Say 1831:8–9 (One specimen); *Tanymecus lacaena* Say 1831:9 (One specimen); *Barynotus granulatus* Say 1831:12 (One specimen);

Lixus lateralis Say 1831:14 (One specimen); *Anthonomus (Odonotopus) calceatus* Say 1831:15 (One specimen); *Orchestes pallicornis* Say 1831:16–17 (One specimen); *Baridius striatus* Say 1831:17–18 (One specimen); *Baridius trinotatus* Say 1831:17 (One specimen); *Ceutorhynchus inaequalis* Say 1831:20 (One specimen); *Ceutorhynchus triangularis* Say 1831:20 (One specimen); *Rhynchophorus truncatus* Say 1831:22 (Two specimens); *Rhynchophorus venatus* Say 1831:22 (One specimen); *Rhynchaenus lineaticollis* Say 1824a:313 (One specimen); One specimen bearing a label with a manuscript name never published by Say; 180 undetermined specimens. SCOLYTIDAE: One specimen bearing a label with a manuscript name never published by Say; 3 undetermined specimens.

HEMIPTERA

PENTATOMIDAE: 3 undetermined specimens.

HOMOPTERA

MEMBRACIDAE: One specimen bearing a label with a manuscript name never published by Say.

HYMENOPTERA

ICHNEUMONIDAE: *Ichneumon comptus* Say 1836:229 (One specimen); *Ichneumon duplicatus* Say 1836:230–231 (One specimen); *Ichneumon navus* Say 1836:229–230 (One specimen); *Ophion brachiator* Say 1836:240 (One specimen).

SAY'S FOREIGN CORRESPONDENCE AND EXCHANGES

Weiss and Ziegler (1931:185–188) noted that Say's foreign correspondence probably exceeded that of any of his American contemporaries. Among his known foreign correspondents were Audouin, Dejean, Fallen, Germar, Gravenhorst, Klug, Mannerheim, Pagenstecher, Sturm, Schoenherr, and Wiedemann. That Say exchanged specimens with many of his correspondents is revealed by numerous foreign specimens in the MCZ Say material bearing labels with the signatures of Dupont, Germar, Laporte de Castelnau, Motschulsky, Schoenherr, Sturm, and Wiedemann. It is possible that Say was not in direct communication with some of these

entomologists but instead received their specimens from other correspondents.

PROTOCOL FOR DESIGNATION OF SAY LECTOTYPES AND NEOTYPES

The lack of any consistent methodology in the work of previous taxonomists who have designated Say neotypes has led me to propose the following protocol for designation of Say lectotypes and neotypes. Taxonomists are strongly advised to keep in mind the provisions of Article 75 of the International Code of Zoological Nomenclature when designating neotypes.

DESIGNATING SAY LECTOTYPES

- 1.) Specimens should be labelled in Say's handwriting.
- 2.) Specimens should belong to one of the collections known to possess material used by Say in preparing his descriptions (Say collection or Melsheimer collection, Museum of Comparative Zoology, or the collections of Say's foreign correspondents).
- 3.) Specimens should (preferably) be specifically mentioned in Say's descriptions.

DESIGNATING SAY NEOTYPES

- 1.) "Exceptional circumstances" (as defined in Article 75b(ii) of ICZN, third edition) must be demonstrated.
- 2.) Specimens should be designated preferentially from material examined by Say but not necessarily used in his descriptions (primarily Harris collection, Museum of Comparative Zoology, but also some material in the Say collection and in the collections of Say's foreign correspondents).
- 3.) If no suitable specimen examined by Say is available, neotypes should then be designated preferentially from material in the LeConte collection (Museum of Comparative Zoology), as LeConte is responsible for modern conceptions of most species described by Say (LeConte 1859a:v-vi; Mallis 1971:24-25).
- 4.) If no suitable specimens are available in any of the above collections, taxonomists may designate neotypes from other

material which they deem suitable. Original type localities of Say species should be conserved through neotype locality designations as much as possible.

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