SAPERDA INORNATA SAY, 1824, (INSECTA, COLEOPTERA): PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE A NEOTYPE TO STABILIZE THE NOMENCLATURE. Z.N.(S.) 1921

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The purpose of this application is to stabilize the name of an increasingly important economic pest, *Saperda inornata* Say, 1824, which has been confused for over 100 years. This will be done by requesting that the International Commission on Zoological Nomenclature use its plenary powers to designate a neotype for this species, the type of which has either been lost or destroyed. The details of the case are set out below.

2. (a) Generic name: *Saperda* Fabricius, 1775.

(b) Specific and sub-specific names used for a species inhabiting *Populus* and *Salix* in North America: *Saperda inornata* Say, 1824; *S. concolor* Le Conte, 1852; *S. concolor* var. *unicolor* Felt and Joutel, 1904; *Mecas inornata* (Say) (Horn, 1878).

3. *Genus Saperda Fabricius.*—The genus *Saperda* was erected by Fabricius in 1775. He included 16 species living mostly in angiospermous trees in Europe, "America" and New Zealand. He characterized the genus as follows:

> "*Palpi* filiformes.
> *Maxilla* membranacea, bifida.
> *Labium* cordatum, truncatum.
> *Antennae* setaceae."

The type-species of the genus, *Cerambyx scalaris* Linnaeus, 1758, was first designated by Curtis (1829). The exact location of the type specimen of *S. scalaris*—if indeed it does exist—is unknown, but according to Usinger (1964) Linnaeus' main collection belongs to the Linnean Society of London; a small number of others are in the Zoological Institute of the University, Uppsala and possibly in the Swedish Riksmuseum, Stockholm. Most of Fabricius' type material for the genus *Saperda* is located in various European museums (Zimsen, 1964). Felt and Joutel's (1904) monograph on the genus dealt mainly with North American species. They discussed the morphology of these species and their relationships and made some comparisons with European species. Breuning's (1952) revision covered the tribe Saperdini and it included all described species of *Saperda*. He recognized 37 species and numerous subspecies and morphae from Europe, North Africa, northern and eastern Asia, and North America, including *Saperda inornata* Say from Nevada eastward in the United States.

4. *S. inornata Say.*—*S. inornata* was described in 1824 by Say as follows:

> "4. *S. inornata.* Black, covered with cinereous hair; antennae annulate; elytra entire.
> Inhabits Missouri.
> *Body* black, immaculate, cylindrical, covered with short, prostrate hair, which conceals the punctures: *palpi* black: *antennae*

rather shorter than the body, and, excepting the basal joints, annulate, with cinereous and black: *thorax* cylindric, diameters subequal: *elytra* entire and subacute at tip, which is equally attenuated from the suture and exterior margins.

Length less than nine-twentieths of an inch."

He also noted that "the thorax is entirely destitute of glabrous spots". Most of Say's type material has been destroyed or lost as explained below.

5. *S. concolor Le Conte.*—*S. concolor* was described in 1852 by Le Conte from one specimen (host unknown) collected in Santa Fe, New Mexico. The original description follows:

"*S. concolor*, nigra, dense cinereo-pubescens, thorace lineis tribus densius pubescentibus, elytris punctatis, breviter cinereo villosus, antennis nigro-annulatis, basi nigris, tarsis articulo ultimo brevissimo. Long. . 47."

The claws are simple according to his description of the genus. The type is in the Museum of Comparative Zoology, Harvard University. At this time Le Conte (1852) was aware of *S. inornata* for he included it in his paper, and said that "This is possibly the male of *S. concolor* Lec." Felt and Joutel (1904) recognized two geographic variants of *S. concolor*: var. *concolor*, the western form which included the type (Sante Fe, New Mexico) and other specimens from New Mexico, Arizona, and Idaho; and var. *unicolor*, the eastern form from midwestern and northeastern U.S. and Canada. The type of var. *unicolor* is from Dover, Massachusetts (Norfolk County), and it is in the American Museum of Natural History. Felt and Joutel described var. *concolor* as "black, finely punctulate, and with numerous small, shallow punctures; entirely covered by a dense gray or yellowish gray pubescence except at the top of the thorax, where it is less dense, this giving it a darker appearance and increasing the effect of the lateral band; a slight median line on the thorax; antennae black, annulated with gray." Variety *unicolor* was described as "like type, but pubescence uniformly dark gray and finer. The punctures are much more numerous than the type and are apt to be confluent." In their key, they state that the lateral stripe on the prothorax of var. *unicolor* is wanting or nearly so.

6. *Mecas inornata* (*Say*).—In 1878 Horn placed *Saperda inornata* Say in the Genus *Mecas*. He did not mention specifically why he put *inornata* in *Mecas*. Although he said that he had studied Le Conte's and Haldeman's types in preparing the paper, he did not mention seeing Say's type material of *inornata*. In his key, Horn (1878) described *M. inornata* as follows:

Body above concolorous.

Legs black. Thorax usually with two feeble callosities. Body above uniformly clothed with cinereous pubescence . . *inornata*.

In the text, Horn (1878) added, "The callosities of the thorax which are feeble at best may be wanting," and he placed *M. saturnina* Lec. as a synonym.

7. In 1924 Martin stated that Le Conte (1852) did not differentiate *concolor* from *inornata*. He emphasized the fact that Say (1824) said that there was no trace of thoracic callosities. Because of the latter statement and the fact that *concolor* otherwise agreed with Say's description, Martin thought that Say's *inornata* belonged in *Saperda*, not *Mecas*. On the basis of Le Conte's descrip-

tion, Martin called *concolor* a synonym of *inornata* Say. He proposed the name *Mecas bicallosa* for the species of *Mecas* which had been called *inornata* by Horn (1878). Breuning (1952), in his revision of the Saperdini, placed *inornata* Say in the Genus *Saperda* and called *concolor* Le Conte a synonym; *concolor* var. *unicolor* Felt and Joutel was listed as a subspecies. Despite Martin's (1924) suggestion and Breuning's (1952) revision, *S. concolor* is in common use today. However, a search of the literature produced evidence which substantiates Martin's claim that *inornata* must stand. For reasons stated below, it is believed that Say's specimen of *inornata* has been lost or destroyed and it is necessary to designate a neotype in order to stabilize the nomenclature.

8. Thomas Say collected *S. inornata* in "Missouri" on Long's expedition to the Rocky Mountains in 1819–20. In a letter to John F. Melsheimer in 1821 (Fox, 1901) Say stated that the insects collected on this expedition were ordered by John C. Calhoun, Secretary of War, to be deposited in Peale's Museum in Philadelphia. This was presumably done since Dr. T. W. Harris of Harvard (Weiss and Ziegler, 1931) found none of the "Rocky Mountain" specimens in Say's personal collection in 1836 when he catalogued it. The Peale's Museum collection was sold in 1842 to P. T. Barnum and Moses Kimball (Barnum, 1855). Half of it went to Barnum's American Museum in New York City and the other half went to Kimball's Boston Museum. Barnum's Museum burned to the ground in 1865 with everything in it (Barnum, 1883). The Boston Museum, which was a combination museum and stock theater, was presenting plays and apparently had displays until about 1900 (McGlinchee, 1940). The whereabouts of the Boston Museum collection after 1900 is unknown. To which museum the Say "Missouri" collection might have gone is also unknown. Le Conte in 1859 stated in the preface to his compilation of Say's writings (1859a), and in the preface to another paper (1859b), that Say's original specimens had been entirely destroyed. Say's personal collection was found to be almost entirely destroyed by dermestids in 1836 by T. W. Harris (Weiss and Ziegler, 1931). Fox (1892) stated that only one of Say's types remained in the collection of the Academy of Natural Sciences of Philadelphia where his personal collection was finally deposited in 1842 (Weiss and Ziegler, 1931). This was *Chionabas semidea* [=*Hipparchia semidea* Say]. The Melsheimer collection in the Museum of Comparative Zoology at Harvard University, which Le Conte said contained "the only authentic types of many of Mr. Say's species" (Weiss and Ziegler, 1931), did not contain the type of *inornata* or of *S. pergrata* Say, the species described by Say immediately following *inornata* (John F. Lawrence, in conversation). The collection of the Boston Society of Natural History did not contain the *inornata* type either (Prof. Arthur G. Humes, Boston University, in conversation). It is the conclusion of the author that the Say type has either been destroyed or lost.

9. Le Conte (1852) did not distinguish his *S. concolor* from *S. inornata* Say. In fact, he said that *inornata* might be the male of *concolor*. There is only one characteristic of Say's description that does not agree entirely with Le Conte's description of *concolor*: Say stated *inornata* was immaculate, or destitute of spots or marks; Le Conte's *concolor* had three dense pubescent lines on the

thorax (pronotum). Say may have been referring to the absence of spots or callosities which were present on the pronotum of the species he described after *S. inornata*, *S. pergrata* [=*Mecas pergrata* (Say)]. On the other hand, although these pronotal lines to which Le Conte referred are usually present in specimens collected in North America, they are also faint or absent on many specimens. Therefore, Say's one specimen could have been different from Le Conte's one specimen in this respect and still represent the same species. In the opinion of the author, Le Conte did not adequately distinguish *concolor* from *inornata* and the two names probably apply to the same species.

10. It is apparent that Horn, who collaborated with Le Conte and later carried on his work, did not see Say's types either; and therefore he had no justification for putting *inornata* in genus *Mecas* (Horn, 1878). In distinguishing *M. inornata* Say from *M. saturnina* Lec., Horn (1888) made the following statement: "The specimens which *served* [italics added] as the types of *Mecas inornata* Say and *M. saturnina* Lec. and which formed the basis of my study of that genus are identical." Although Horn made this statement in 1888, from which one might infer that he saw Say's specimen of *inornata*, there is evidence elsewhere that he did not. Blanchard (1887) pointed out to Horn the difference between the two specimens (*M. inornata* and *M. saturnina*) and mentioned that he and Dr. Horn looked at the *Le Conte* [italics added] specimens of *inornata*—not Say specimens. Furthermore, Blanchard gives the range of *inornata* as "Dak., Kans., Tex." not mentioning Missouri, the locality of the Say specimen. Therefore, one can conclude that a Le Conte specimen served as the "type" for *M. inornata* (Say) in Horn's (1878) study, not Say's specimen. This, together with Le Conte's comments on the destruction of the Say types (1859a, 1859b), seems to point to the fact that Horn never saw Say's types either. It follows then that not having seen Say's specimen of *inornata*, Horn had no justification whatsoever in putting *inornata* in the genus *Mecas*.

11. In summary, therefore, *Saperda inornata* Say should remain in *Saperda* and should stand, by reason of priority, as the name for our common eastern species on *Populus tremuloides*; *S. concolor* Le Conte is a synonym of *inornata*, if it actually applies to the same species.

12. It is highly probable that Say's type material has been destroyed or at least lost according to published accounts and the author's recent correspondence. Therefore, a neotype should be designated. The type of *S. concolor* var. *unicolor* Felt and Joutel is proposed as the neotype of *S. inornata*, thus also making this variety a synonym of *inornata* Say and clearing up one of the persisting nomenclatural problems. This specimen was selected for the following reasons: (1) The locality of the original type is impossible to determine, even to the state, and therefore it would not be possible to select a more western specimen with any more confidence—in fact, with less confidence—of conspecific identity. The published locality is Missouri, which was Missouri Territory in 1819–1820 (Paullin, 1932); and according to the map of Say's travels (Weiss and Ziegler, 1931), it could have been found in any one of the present states of Missouri, Iowa (southwestern), Nebraska, Colorado (eastern), Kansas, or Oklahoma (north central). Furthermore, most of Say's notebooks, which probably contained more precise locations, were stolen among other

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belongings of the expedition by three soldiers on August 31, 1820, and never recovered (Weiss and Ziegler, 1931). (2) Most authors have felt this varietal name indicated the same species as *inornata* Say, although they did not designate a neotype, and therefore by usage *unicolor* has become a junior synonym. (3) The *unicolor* type is like most of the individuals examined by the author (Nord, 1968) which have been collected east of the Rocky Mountains (where Say's specimen of *inornata* was found) including some from eastern Colorado, eastern Wyoming, Kansas, Iowa and North Dakota, and it is the type of the eastern variety recognized by Felt and Joutel (1904). In particular, this type matches the light specimens reared from *P. tremuloides* by the author.

13. The type specimen of *S. concolor* var. *unicolor* is like Felt and Joutel's (1904) description. It is a female, 10.5 mm. long and 3.0 mm. across the bases of the elytra. It agrees with Say's description of *inornata* except that the pronotum has three faint longitudinal lines, and the elytra are not equally attenuated from the suture and exterior margins. Both of these latter characteristics were found to be variable among conspecific individuals raised from the same host species in the same area by the author (Nord, 1968). The pronotal lines may be pronounced, faint or absent, and the elytral tips vary from subequally attenuated to asymetrically attenuated.

14. Le Conte's type specimen of *concolor* from New Mexico is inappropriate because it differs from specimens found east of the Rocky Mountains in two respects and may represent yet another species: (1) specimens from Tempe, Arizona, which were very similar to the *concolor* type according to Dr. John F. Lawrence (in correspondence), have much denser and more lightly coloured pubescence distributed over more parts of the body such as legs, scapes of the antennae and mouth parts; and (2) the punctures on the elytra are smaller and shallower than in eastern specimens, and they are scattered instead of partly confluent and partly contiguous.

15. The International Commission of Zoological Nomenclature is therefore requested:

(1) to use its plenary powers to designate a neotype as follows: *Saperda inornata* Say, 1824, (*J. Acad. Nat. Sci. Phila.* **3** (II) : 407).

Neotype: the type of *S. concolor* var. *unicolor* Felt and Joutel, 1904 (*New York State Mus. Bull.* **74** : 74), a female preserved in the American Museum of Natural History, New York City, N.Y., U.S.A.; type number 147, bearing the labels: "Dovr. N. Co. Mass. 6-8-95" and "*Saperda concolor* var. *unicolor*, Type."

(2) to place the following specific name on the Official List of Specific Names in Zoology:

inornata Say, 1824, as published in the binomen *Saperda inornata*, as interpreted by the neotype designated under the plenary powers in (1) above.

(3) to place the following generic name on the Official List of Generic Names in Zoology:

Saperda Fabricius, 1775 (gender : masculine) type species, by designation by Curtis (1829), *Cerambyx scalaris* Linnaeus, 1758.

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