

The Status of the Names *Clytus horridus* LeConte and *Clytus leucozonus* Castelnau & Gory (Coleoptera: Cerambycidae)

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Several years ago, while I was crouched beside a small stream in central Virginia trying to splash up a few bembidiids and other shoreline carabids, a small cerambycid flew down and lit on a nearby stone. As carabid collecting was marginal at best, I decided to add the newcomer to my accumulation, thereby commencing a chain of events that culminated nearly three years later with the completion of the following essay.

Eventually the specimen was pinned, labeled, and "keyed-out" in E. G. Linsley's great monograph on Nearctic Cerambycidae, coming at last to page 146 of Part V, where it agreed perfectly with the description of *Neoclytus fulguratus* Casey. The confidence of this identification was compromised, however, by the discovery that the beetle also corresponded in every stipulated detail to the description of *Clytus horridus* LeConte, quoted on page 158 of the same book. The question naturally occurred: was it possible that the two names might be synonyms?

A survey of the pertinent literature revealed inordinate confusion about the name of this very distinctive species. Since the nomenclatorial history of *C. horridus* is intricately tangled with that of the species currently being called *Neoclytus muricatus*, the status of that form also came under investigation, with surprising results. Although the conclusions which I have drawn require an unwelcome adjustment of existing nomenclature (the re-establishment of the names *C. horridus* and *C. leucozonus*), the synonymies of these two taxa have been so complex and mutable anyhow that a final and stabilizing action can hardly be disapproved.

Material Examined

Much of the confusion that has plagued the two species considered here originated from the failure of previous authors to examine pertinent type material. I made a special effort to examine types of as many names as readily available, and in addition appealed to a number of museums and individuals for the loan of (or information about) material of *horridus* and *muricatus* in order to account for the range and variation of these taxa. *C. horridus*, although widely distributed, is by no means common and many - even large - collections have few if any specimens of it.

Material was loaned (or made accessible *in situ*) by the authorities of Auburn University, Auburn (AU); the British Museum (Natural History), London, U.K. (BMNH); the Carnegie Museum, Pittsburgh (CMP); the Canadian Department of Agriculture, Ottawa (CNC); Cornell University, Ithaca (CU); the Field Museum of Natural History, Chicago (FMNH); the Florida State Collection of Arthropods, Gainesville (FSCA); the University of Kansas, Lawrence (KU); the Museum of Comparative Zoology, Cambridge (MCZ); and the United States National Museum, Washington, D.C. (USNM).

Acknowledgements

Material was examined through the courtesy of Dr. L. L. Pechuman, Dr. G. W. Folkerts, Mr. T. J. Spilman, Mr. Robert Davidson, Dr. Larry Watrous, Dr. G. W. Byers, Dr. R. E. Woodruff, Mrs. Jean McNamara, and Dr. Ales Smetana. I am under a special obligation to Drs. A. F. Newton, Jr. and Jane E. Marshall for loaning precious type specimens from the Museum of Comparative Zoo-

logy and the British Museum respectively.

Lists of material in their personal collections were provided by Dr. R. H. Turnbow, Jr., Mr. James E. Wappes, and Dr. Gayle H. Nelson. Dr. Donald M. Anderson kindly investigated the material of immature state *horridus* described by Craighead in 1923. I am extremely grateful to these helpful colleagues for their generous assistance. Dr. Lawrence S. Dillon merits special thanks for reviewing an early draft of the manuscript.

Taxonomy

Since the two species treated here have been adequately described in Linsley's monograph, diagnoses and descriptions are not included, aside from characteristic details shown in the figures and mentioned briefly in the text.

It is remarkable that the perspicacious J. L. LeConte combined (1873) these two taxa under the invalid name *longipes* Kirby. Aside from the differences in elytral pattern, they can be readily distinguished by the presence in *horridus* of short but distinct carinae near the posterior lateral corners of the pronotum. Such carinae do not occur in *leucozonus*, in which the pronotum also tends to be flatter with a subcircular discal depression surrounding the median row of carinules. The food plants of *horridus* are apparently oaks, those of *leucozonus* northern conifers.

Neoclytus horridus (LeConte)

Figure 1-2

Clytus horridus LeConte, 1862, Proc. Acad. Nat. Sci. Phila., v. 14, p. 42. Described from "Middle States", three syntypes in the LeConte Collection (MCZ).

Neoclytus longipes: LeConte, 1873, Smiths. Misc. Coll., v. 11, no. 264, p. 200 (misidentification of *Clytus longipes* Kirby, 1837, which is here considered a junior synonym of *C. leucozonus* Castelnau & Gory, 1835).

Neoclytus fulguratus Casey, 1912, Mem. Coleopt., v. 3, p. 36?. Described from "Tex.", holotype in the Casey Collection (USNM). **New Synonymy.**

Neoclytus longipes: Craighead, 1923, Canada Dept. Agr. Bull. (n.s., no. 27, p. 55 [description of larva, see discussion below]).

Neoclytus kirbyi: Hopping, 1932, Ann. Ent. Soc. Amer., v. 25, p. 558 (not *N. kirbyi* Aurivillius, 1912, which is a replacement name for *Clytus longipes* Kirby nec Drury 1770, and thus a synonym of *C. leucozonus* Castelnau & Gory, 1835).

Neoclytus kirbyi: Brimley, 1938, Insects of North Carolina,

p. 215 (records for Raleigh and Southern Pines, N.C., "larvae in oak").

Neoclytus confusus Van Dyke, 1937, Bull. Brooklyn Ent. Soc., v. 32, p. 115. Described from Rockville, Pennsylvania, type in Calif. Acad. Sci.--Knull, 1946, Bull. Ohio Biol. Surv., v. 39, P. 221. **New Synonymy.**

Neoclytus fulguratus: Linsley, 1964, Univ. Calif. Publ. Ent., v. 22, p. 146.

Neoclytus horridus: Linsley, 1964, op. cit., p. 158 (first use of combination).

Neoclytus fulguratus: Kirk, 1969, Tech. Bull. S. C. Agr. Exp. Stat., no. 1003, p. 85 (record for Florence, South Carolina).

Types: LeConte's original description did not state how many specimens were before him, but more than one was implied by a stated range of length: .30-.40 inch. Dr. A. F. Newton, Jr. consulted the LeConte Collection on my behalf, and found six specimens standing under the name *Neoclytus longipes*. The first three - which Dr. Newton loaned for my examination - have the small pink paper disk on the pin that was LeConte's code symbol for "Middle States." The first specimen of these three is also labeled "N. longipes (Kirby)" in LeConte's handwriting. The second is labeled "C. horridus LeC." and "longipes 2", and the third "longipes 3", both in a script of unknown authorship. These specimens agree exactly with the stipulations of the original description, and as suggested by the pink disks, must be the type material of *Clytus horridus*. The other three specimens are labeled only "Tex." with no identification label; they obviously are not part of the original material.

It seems clear that after publishing *horridus* in 1862, LeConte decided that this name was a synonym of *C. longipes* Kirby, 1832, and changed the name label on his first specimen to reflect that opinion. This specimen is herewith designated lectotype of *horridus*, the second and third as lectoparatypes. All three, judged from the antennae, appear to be males. The lectotype is illustrated in Fig. 1. Regrettably there seems to be no way to determine the provenance of the three specimens.

I have examined the holotype of *N. fulguratus* Casey (USNM). The type material of *N. confusus* Van Dyke was not seen, but I examined a small series of topotypes from Rockville, Pennsylvania, and numerous others from nearby Harrisburg.

Synonymy: The tangled nomenclatorial history of this species is summarized in the foregoing citations to synonyms, but warrants a more detailed narrative account as well.

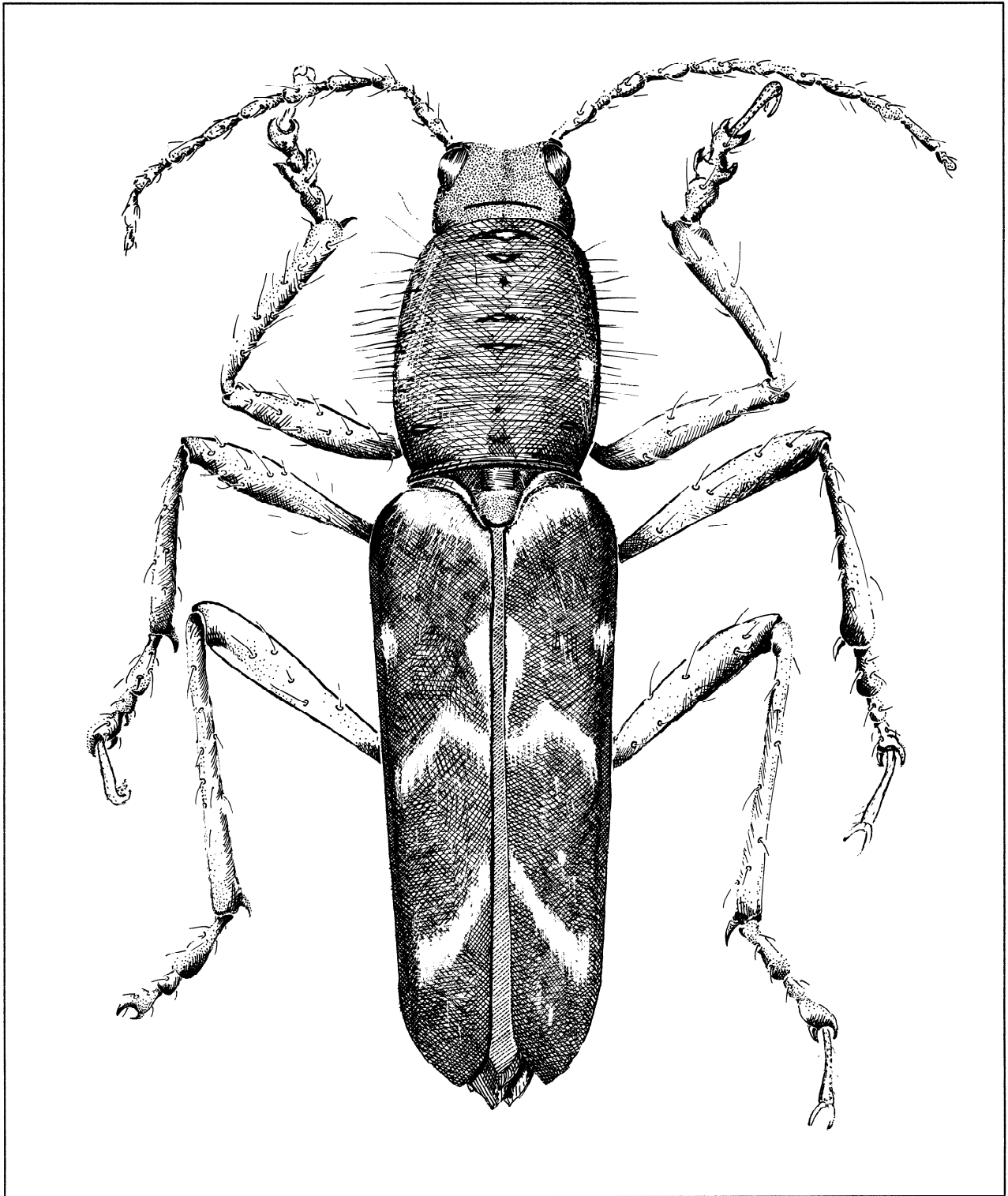


Figure 1. *Neoclytus horridus* (LcConte). Drawing of lectotype showing "M" shaped clytral crossbar characteristic of this species. Ruth Steinberger, del.

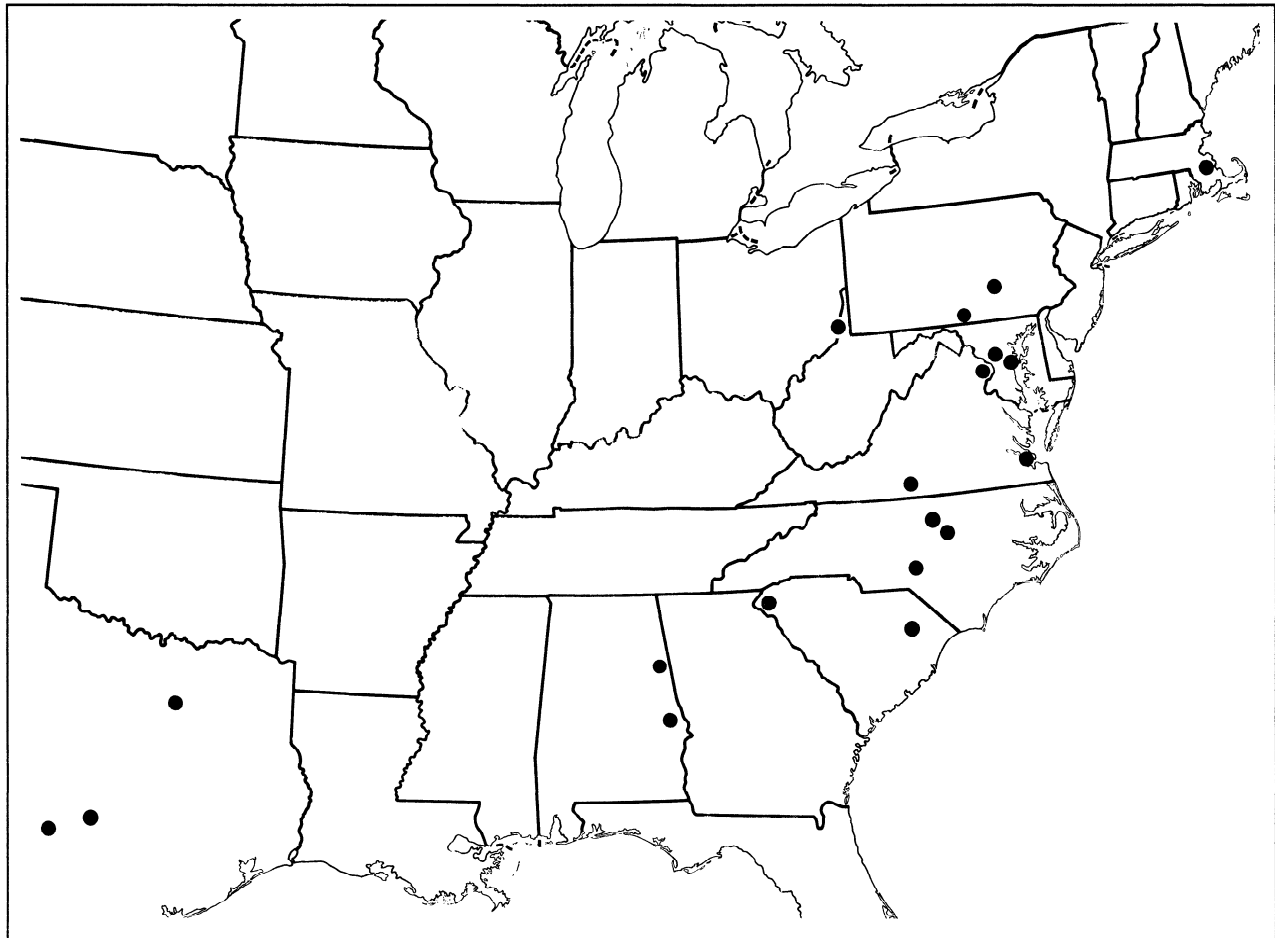


Figure 2. Distributional records for *Neoclytus horridus* in southern and eastern United States. Spots represent both museum specimens examined and literature records considered to be reliable.

LeConte's 1862 description was concise and accurate, wanting only a specific type locality, and compared the species with *Clytus leucozonus* (up to the present wrongly regarded a synonym of *C. muricatus* Kirby). LeConte later studied beetle types in the British Museum, and decided, in one of his rare lapses of judgment, that *horridus* was the same as the Canadian species described as *Clytus longipes* by Kirby in 1837. This conclusion must have been based on LeConte's recollection of *horridus*, as it seems most unlikely that he would have reached it after actual comparison of specimens. In any event, his decision to combine the names was unaltered for the remainder of his career. At the time of publishing the combination *Neoclytus longipes* (Kirby) in 1873, LeConte remarked that he had seen material of the species "...in Parisian collections..." labeled *N. fulguratus* Thomson (apparently an unpublished MS name).

The common West Indian species which had been variously described under the names *Cerambyx longipes* (Drury 1770), *Cerambyx Drurii* (Fabricius 1775), *Callidium angulatum* (Fabricius 1792), *Callidium rhombifer* (Olivier 1795), and *Clytus Hopei* (Castelnau & Gory, 1835), was gradually recognized as a member of this genus as the identity of the various names was established and they were transferred into *Neoclytus*: *angulatus* by Chevrolat in 1862, for instance, and *longipes* by Gahan in 1895. The second change resulted in a conflict of the names *longipes* Drury 1770 and *longipes* Kirby 1837, resolved in 1912 by Aurivillius who renamed the latter as *Neoclytus kirbyi*.

Casey's description (1912) of a new species of *Neoclytus* from Texas begins as follows: "*Neoclytus fulguratus* n. sp. (Thomson in litt.)---" and compares the new form with *longipes*, *sensu* Kirby. The reason for choice of the name is an interesting mystery. It is unknown if Casey sent material to Thomson (who was alive when

Casey was young) for identification, or simply deduced the identity of his species on the basis of LeConte's 1873 remark and appropriated the name *fulguratus* for his own use on realizing it was until then a *nomen nudum*. After the formal description Casey made the following curious statement: "This species is frequently confounded with the northern *longipes* of Kirby, but differs..." Considering that he had only one specimen from an unknown place in Texas, and mentioned no specific cases of the confusion he cited, why did he write "frequently"?

Casey was at the time unaware that *longipes* Kirby, pre-empted in *Neoclytus* by *longipes* Drury, had been re-named *kirbyi* by Aurivillius. He did, however, make a good case for the validity of *fulguratus*, which was not, to the best of my knowledge, mentioned again until 1932, in Hopping's revision of the Nearctic species of Clytini. Hopping disagreed with Casey's opinion, and listed *fulguratus* as a synonym of *kirbyi*, with the enigmatic remark "*N. fulguratus* Csy., is described as a subspecies of *kirbyi*. It differs from the latter by the absence of the rhombus at basal elytral fourth." Did Hopping write "described" when he really meant to say "regarded"? In any event he unwittingly confirmed Casey's opinion, because he clearly described and figured material (from Pennsylvania and Virginia) that agreed exactly with *fulguratus* and not with the Canadian "*kirbyi*". Since Hopping's paper was widely used to identify and arrange museum material, it resulted in a lot of *fulguratus* specimens being labeled *Neoclytus kirbyi*.

Not long afterward Van Dyke (1937) came to the correct conclusion that what Hopping had described as *kirbyi* was not the same as the more boreal species that rightly bore the name, and in 1937 he proposed to remedy the situation by giving the southern form the new name *Neoclytus confusus*. Why he did not simply revive *fulguratus* from the premature burial given it by Hopping evades my understanding, and his paper gives no insights on this point. Perhaps he ruled it out because the "Texas" type locality suggested a more Sonoran or Neotropical species. Van Dyke did make one important clarification in his 1937 paper, however; having seen the types of both names in London, he could state correctly that "*N. kirbyi* Auriv. (*longipes* Kirby) as shown by an examination of the Kirby types in the British Museum (Natural History) is but a very weak color phase of *muricatulus* Kirby."

Linsley (1964) reorganized the synonymy of the species by validating *N. fulguratus*, and showing that *kirbyi* Auriv. was in fact a junior synonym of *muricatulus*. Unfortunately, by then Van Dyke's *confusus* had existed long enough that many museum specimens now stand under that name: in one collection I found specimens of *horridus* identified as *longipes*, *kirbyi*, *confusus*, and *fulgu-*

ratus, housed in four separate pinning trays (and in a fifth tray, mixed in with material of *N. muricatulus*!)

Considering the involved nomenclatorial history of this species, I feel less reticence in reviving the long-forgotten name *horridus* than if its resurrection would have upset a familiar name with a long tradition of stable usage. Linsley (1964) quoted LeConte's description in full and speculated that *horridus* was probably related to *muricatulus*. Unquestionably, had he compared a specimen of what he treated as *fulguratus* directly against the LeConte description, he would have reached the conclusions that are set forth here.

Variation: I recorded variation in size, shape of prothorax, and elytral color pattern and wish to comment briefly on this subject.

It is well-known that the size attained by adult cerambycids is a function of larval nutrition, climate, etc. Appreciable variation in length may be noted in material from one locality. The smallest specimen I measured was 5.8 mm. in total length (Horse Valley, PA), the largest was 11.2 mm. (Rockville, PA). The average length appears to be about 8 mm.

In most specimens seen, the prothorax is appreciably longer than wide. A few Texan specimens however have prothoraces as wide as long, and initially I suspected that *fulguratus* might be maintained as a subspecies on this basis. Examination of additional material however showed that broad prothoraces occur sporadically but not uncommonly in eastern specimens as well.

Color pattern is likewise known to vary appreciably, even at one locality, among clytines, and *N. horridus* is no exception. The rhomboid sutural spot at basal third is constantly present (a point of difference from *N. leucozonus*), but sometimes it is prolonged anteriorly to merge with the transverse basal white band (or area), and sometimes extends posteriorly to contact the median transverse band, as in the figure. In all of the Texan specimens seen, the sutural spot is triangular with base transverse instead of rhomboidal, an interesting geographic variant but hardly noteworthy by itself. In occasional specimens (e.g., Rockville and Mt. Alto, PA, and Moundsville, WV), the sutural spot is prolonged laterad to contact the small lateral subhumeral spots, suggesting that the present markings are the remnants of an original basal circle of white.

Occasionally the median band is very broad and almost transverse, but always the "angulation" of this band occurs near midwidth of the elytron, rather than at the suture, thus producing the effect of a letter "M". In one specimen (Moundsville, WV) with a broad median band, there is a long, thin extension running from each down the center of each elytron almost to the sub-

apical band, creating a most disjunct appearance. Two other specimens from the same locality were, however, normally patterned.

In a few specimens, out of the 115 seen, the elytral surface between the median and subapical bands is somewhat darker than elsewhere, imparting a "black spot in a light circle" effect.

Aside from the Texan phase of the sutural spot mentioned above, none of the various departures from normal pattern have any geographic correlation and occur sporadically with typical beetles taken at the same place and time. I am therefore unable to justify the recognition of any geographic races of *horridus*, despite its extensive distribution.

Immature stages: Craighead (1923: 55) published under the name *N. longipes* Kirby, a succinct account of the larval and pupal stages. Although no locality was cited for this material, it was identified by the reference number Hopk[ins U.S.] 9765. Dr. Donald M. Anderson kindly checked the files of the Division of Entomology, U. S. National Museum, and provided copies of two index cards bearing this code number. Information on the cards shows that F. C. Craighead himself obtained the oak saplings (species regrettably not stated) at Harrisburg, PA; the samples were caged on 29 August 1912, and adults emerged on 30 March 1913. One card states "adult *N. longipes* emerged, mtd. [mounted], larval skin preserved" and "1. and pupa pickled." Dr. Anderson advised me (in litt.) that the USNM collection of immature beetles contains a pupa, five larvae, fragments of a larval skin, and an adult in alcohol, under A. D. Hopkin's field no. 9765. The adult was identified as *N. longipes* by W. S. Fisher, obviously without consideration of Casey's newly-published *fulguratus*.

The USNM collection contains 13 adult specimens of *horridus* (under the name *confusus* Van D.) from Harrisburg, PA, and single specimens from that locality are in various other museums. There can be no doubt that Craighead's "*longipes*" description applies to *N. horridus*.

Ecological notes: Although complete pin label data were not recorded for all specimens seen, by far the great majority were collected during the months of April and May, reflecting an overwinter metamorphosis. Despite the general paucity of specimens from throughout the range, the species may be locally abundant: large series have been taken, for instance, around Harrisburg and Mt. Alto, PA. Elsewhere the story seems to be different: usually a single specimen found fortuitously. Mr. James Wappes informed me (in litt.) that he spent nine years in residence in southeastern United States, specifically collecting with this species in mind, and found it only

once (Cheahah Mountain, AL).

The few published records of host plant indicate restriction to *Quercus* (the exact species unspecified). One specimen (CNC) from Raleigh, NC, is indicated as being taken on *Q. coccinea*. Dr. George Folkerts advised me that a specimen in the Auburn collection was collected from a "sticky trap" on maple -- certainly an adventitious occurrence.

Distribution: Specimens known to me were taken, chiefly in the Coastal Plain and Piedmont, from Massachusetts to west central Texas (Fig. 2) The two places in Pennsylvania shown on the map (Mt. Alto and the vicinity of Harrisburg) lie on the eastern side of the Blue Ridge or just west of its low summit. Moundsville, West Virginia, is the only locality west of the Appalachians at which *horridus* is known so far; this station essentially confirms Knull's prediction (1946) that this species would eventually be found in Ohio. Probably it will be discovered also in Kentucky, Tennessee, Mississippi and Louisiana.

LeConte (1873: 200) stated that "It appears to be rare in the North, but more frequent in Texas..." The majority of the Texan specimens that I have seen (including LeConte's three) were very old and impaled on soft thin pins with only the tiny label "Tex." The USNM collection has one taken at Dallas on 19 April 1908; subsequent to that the next material is six specimens from Kerr and Blaco counties, TX, April 1959 (CNC). Would LeConte have used the term "frequent" on the basis of three specimens only, or had he seen others?

Material examined: 115 specimens, from the following localities:

- Massachusetts:** Plymouth County (CU 1).
- Pennsylvania:** Dauphin County: Harrisburg (USNM 13, FMNH 1); Rockville (USNM 2, FMNH 10); Hummelstown (FMNH 5). Franklin County: Mount Alto (FMNH 13, CMP 3). County uncertain: Horse Valley (FMNH 16); Clark's Valley (FMNH 3).
- Maryland:** Prince Georges County: Bladensburg (USNM 1); Greenbelt (FSCA 2).
- Virginia:** Fairfax County: Falls Church (USNM 2). City of Hampton: Fort Monroe (USNM 5). Pittsylvania County: 2 miles east of Callands (RLH 1).
- North Carolina:** Durham County: Durham (CNC 2). Moore County: Southern Pines (USNM 2). Wake County: Raleigh (CU 1, FMNH 1, FSCA 7).
- Alabama:** Lee County: Auburn (AU 2).
- West Virginia:** Marshall County: Moundsville (CMP 2).
- Texas:** Dallas County: Dallas (USNM 1). Blanco County: "s.e." (CNC 1). Kerr County: Kerrville (CNC 4); 20

mi. S. of Kerrville (CNC 1). "Tex." (MCZ 3, USNM 2, KU 1).

Material not personally examined, but reported to me by colleagues from their own collections, includes the following:

Gibson Island, Ann Arundel County, Maryland (Turnbow, 1); Raleigh, Wake County, North Carolina (Nelson, 4); Cheahah Mountain, Alabama (Wappes, 4); and Linglestown, Dauphin County, Pennsylvania (Nelson, 1).

Records from the literature include Clemson and Florence, South Carolina (Kirk, 1969, 1970, as *fulguratus*), and Raleigh and Southern Pines, North Carolina (Brimley, 1938, as *kirbyi*).

***Neoclytus leucozonus* (Castelnau & Gory)**

Figure 3-4

Clytus leucozonus Castelnau & Gory, 1835, Monographie du genre *Clytus*, p. 90, pl. 17, fig. 105. Holotype (BMNH) from "Boston", Dr. Green leg., ex collection Chevrolat.

Clytus longipes Kirby, 1837, in: Richardson, Fauna Boreali-Americana, v. 4, p. 176. Holotype (BMNH) from "Canada, latitude 54". **New Synonymy.**

Clytus muricatus Kirby, 1837, op. cit., p. 177. Holotype (BMNH) from "Canada, latitude 54".

Neoclytus (by implication) *leucozonus*: LeConte, 1873, Smiths. Misc. Coll. v. 11, p. 200.

Neoclytus muricatus: LeConte, 1873, op. cit., p. 200 (first use of combination).

Neoclytus muricatus: Horn, 1876, Canadian Ent., v. 8, p. 169.

Neoclytus longipes: Horn, 1876, op. cit. p. 169 (first use of combination).

Neoclytus muricatus: Leng, 1887, Entom. Amer., v. 2, p. 5.

Plagithmysus muricatus + *longipes*: Wickham, 1897, Canadian Ent., v. 29, p. 152.

Neoclytus muricatus: Hopping, 1932, Ann. Ent. Soc. Amer., v. 25, p. 557, pl. 3, fig. 3.--Van Dyke, 1937, Bull. Brooklyn Ent., Soc., v. 32, p. 115.--Linsley, 1964, Univ. Calif. Publ. Ent., v. 22, p. 156.

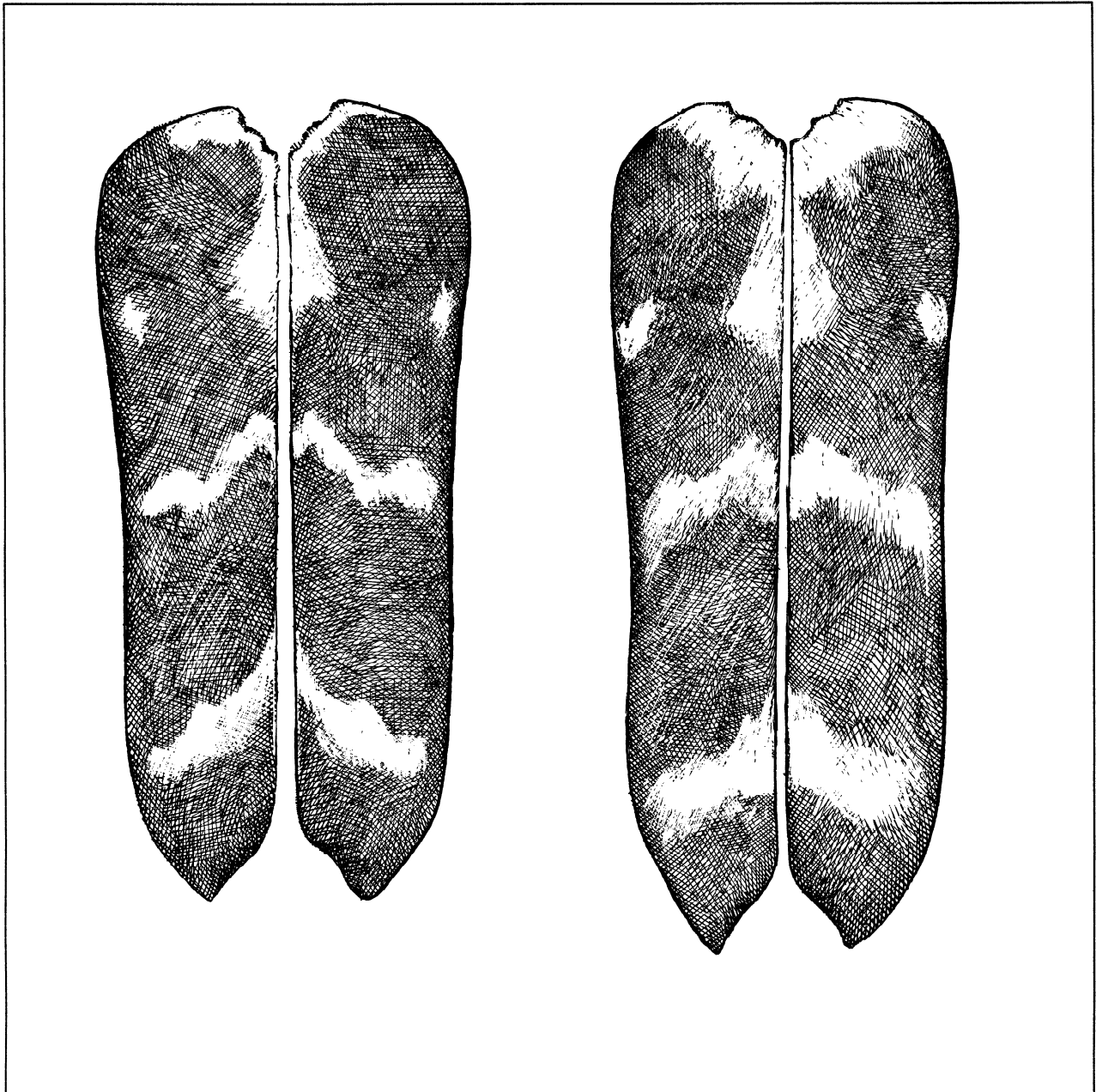
Neoclytus kirbyi Aurivillius, 1912, Coleopt. Cat., v. 39, p. 392 (new name for *Clytus longipes* Kirby, 1837, preoccupied in *Neoclytus* by *Cerambyx longipes* Drury, 1770). **New Synonymy.**

Types: Thanks to the generous cooperation of Dr. Jane E. Marshall, I have been able to examine the holotypes of all three species-names which are here regarded as synonyms. Some information on the status and condition of these specimens is provided incidentally to the discussion in the following paragraph.

Synonymy: It has been observed by several authors, commencing with LeConte himself and extending on through Hopping and Linsley, that *leucozonus* and *muricatus* are synonyms, but nowhere in my reading have I discovered the reason stated why the latter name has been used in preference to *leucozonus* which obviously enjoys two years priority. Mr. John Chemsak (in litt.) suggested the possibility that *leucozonus* was considered to be a junior primary homonym of *Clytus leucozonias* Gmelin, 1793, a name long since considered a synonym of *Clytus figuratus* (Scopoli) (cf. Gemminger & Harold, 1872: 2928). However, the spelling of these two names is sufficiently different to preclude their being homonyms (Dr. C.W. Sabrosky, in litt.), and *leucozonus* is thus an available name in *Neoclytus* and should be reinstated.

Direct comparison of the type specimens of *leucozonus* and *muricatus* confirms the previous opinion that they are based on the same species, as shown by the illustrations of elytral pattern (Figs. 3, 4). They share the common features of the sutural spot being triangular with the apex pointed forward, and the median transverse band extending anteriorly to contact the suture instead of forming a double "V" mark, the angles centered on the elytra, as in *horridus* (Fig. 1). Moreover, both specimens lack the carina in the posterolateral quadrant of the prothorax that is characteristic of *horridus*.

The type of *leucozonus* is in good condition, only lacking the right antenna and right protarsus. There are four pin labels attached: (1) an orange-edged disk with the printed central word "Type", (2) a small rectangular label with "Neoclytus" printed on and "leucozonus L. & G." added in ink, (3) a large green label with the information "603 / *Clytus Leucozonus* Chevrolat Gory & Lap. / Am. bor. Boston D. Green", and (4) a small printed label "Bowr. Chevrolat/63-47". Dr. Marshall advised me (in litt.) that the Bowring-Chevrolat Bequest was received at the British Museum in 1863, but may not have been incorporated into the main collection until much later. It is therefore entirely possible that LeConte did not see the type of *leucozonus*, and his statement in 1873 (p. 200) "*N. muricatus*; *Clytus mur.* Kirby, Fauna Bor. Am. iv, 177 = *C. leucozonus* Gory & Laporte Mon. pl. xvii, fig. 105." may have been a deduction based on the illustration of the latter. It is notable that neither LeConte nor Van Dyke specifically mentioned having examined this type specimen during their visits to the British Museum.



Figures 3 and 4. *Neoclytus leucozonus* (Castelnau & Gory). 1) Elytral pattern, drawn from the holotype (BMNH). 2) Elytral pattern, drawn from the holotype of *Clytus muricatulus* Kirby (BMNH). Elytral patterns drawn by Ruth Steinberger.

The original illustration of *leucozonus*, it may be noted, is substantially stylized, with the basal elytral markings shown as complete circles far more prominently than is evident on the specimen itself.

As already asserted by Van Dyke (1937) the type specimens of *muricatulus* and *longipes* are absolutely conspecific, and similar to the extent that one is per-

plexed that Kirby saw nameworthy difference between them. Although the published descriptions in the *Fauna Boreali Americana* stated "Canada, latitude 54" for both species, the pin labels are less precise. The type of *longipes* carries several labels: (1) an orange circle on a paper disk with the central printed word "Type", (2) a paper disk with "N. Amer." on one side and "5889" on the

other, and (3) a folded paper label reading "Clytus longipes Kirby / N. Amer. 5889 Rev. W. Kirby." Below these I have added a fourth label, typewritten on a red-edged card "Type / Neoclytus Kirbyi / Aurivillius 1912" to reflect this additional status of the specimen.

Linsley's treatment of this species in 1964 recognized two subspecies, the nominate *N. m. muricatus* in much of boreal North America, and *N. m. infans* Casey (1912) which is confined to northern California and southern Oregon. A consequence of the present proposal to resurrect *leucozonus* will be the corresponding change for *infans*, viz.: *Neoclytus leucozonus infans* Casey, **comb. nov.**

Distribution: Linsley published a spot map for this species (1964: Fig. 47), showing essential correspondence with the taiga biome from Labrador and Nova Scotia west to central Alaska, extending southward along the Pacific Coast as far as San Francisco and through the Rocky Mountain system to the Sangre de Cristo Mountains of New Mexico. In eastern North America, localities are spotted only so far south as Maine, New Hampshire, and Windsor, Ontario.

The original description of *leucozonus* fixes the type locality at "Boston" and records for New York state are published in "The Insects of New York" (Leonard, 1928). I have made no attempt to systematically accumulate new distributional records, but among the material of *leucozonus* loaned from the MCZ collection by Dr. Newton, I find specimens from Androscoggin, Cumberland, Kennebec, Lincoln, and York counties, Maine; Hampden, Middlesex, and Worcester counties, Massachusetts; Carroll and Grafton counties, New Hampshire; and two labeled "Barrington, R.I., 10-11 June, N. S. Easton". Aside from being a new state record for this species, I believe that Barrington is the southernmost locality for *leucozonus* in eastern North America.

N. muricatus has recently been recorded from Crozet, Albemarle County, Virginia (Perry, 1977). I have not been able to examine the material on which this record is based, but if the identification is correct, either mislabeling or accidental introduction of specimens in lumber must be suspected. Although this species is known to occur on various species of pine, it appears to be confined to the spruce-fir community, which is not represented at the locality mentioned. I do not believe that *leucozonus* can be regarded as native to Virginia on the basis of present knowledge.

Taking previous records into account, it must be presumed likely that *leucozonus* and *horridus* overlapped in southern New England at least prior to massive urbanization of that region (assuming that the locality "Boston" was correct for the type of *leucozonus*).

Relationships: It has been generally conceded by all specialists who have worked on *Neoclytus* that *leucozonus* and *horridus* are closely related and might be regarded as being "sister-species" in the cladistic sense of that term. I have not detected any indication, in the numerous specimens examined to date, that actual intergradation occurs between them, however.

Possibly their separation is as recent as the period of Pleistocene glaciation and is perhaps attributable to an event no more dramatic than the accidental colonizing of a different host plant species. During the repeated north-south ebb and flow of biomes during glacial periods, it seems entirely likely that many phytophagous insects would be brought into contact with erstwhile alien food sources.

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