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J. CHESTER BRADLEY, M.S., Ph.D.

The Synonymy and Types of certain genera of Hymenoptera.

Communicated by C. GORDON HEWITT, D.Sc.

[From the Transactions of the Entomological Society of London
August 15, 1919.]
II. The synonymy and types of certain genera of Hymenoptera, especially of those discussed by the Rev. F. D. Morice and Mr. Jno. Hartley Durrant in connection with the long-forgotten "Erlangen List" of Panzer and Jurine. By J. Chester Bradley, M.S., Ph.D., Assistant Professor of Systematic Entomology in Cornell University, Ithaca, N.Y. Communicated by C. Gordon Hewitt, D.Sc.

[Read February 5th, 1919.]

The two authors mentioned in the title in two comparatively recent joint papers (1914, 1916) which were read before the Society respectively on December 3rd, 1913, and November 1st, 1916, have brought to light and discussed with great detail a long-forgotten review, published anonymously, of Jurine's "Nouvelle Méthode de Classer les Hyménoptères et les Diptères."

This interesting review appeared some years in advance of the actual publication of Jurine's great work. Morice and Durrant have clearly shown that its real author was Panzer, but that the list of genera which he included in connection with it was transcribed to all intents and purpose directly from advance proofs furnished by Jurine, with whom Panzer was in frequent correspondence. Although, as a book review, the work was anonymous, the fact that it plainly stated that it was reviewing Jurine's work, that the author makes no claims for himself but gives entire credit for everything published to Jurine, makes it seem imperative to recognise the publication as valid, and to ascribe the list of genera, as Morice and Durrant suggest, to Jurine. In other words, the case is not essentially different from what it would have been if Jurine had published over his own signature an advance synopsis of the genera which he proposed to adopt in his forthcoming work.

This review seems to have been known to certain contemporaries of Panzer and Jurine, and to have influenced their own subsequently published work, but unfortunately was soon forgotten by the Entomological public, doubtless...
because of its inaccessibility and limited circulation. It involves, however, the status of many long-used genera of Hymenoptera, and consequently its treatment is of much importance to all students of that order.

The work of Morice and Durrant is both scholarly and laborious. They have placed all Hymenopterists in their debt. It is far from my intentions to belittle or criticize capriciously any part of it. They have, however, followed consistently certain methods of determining the types and status of the genera which do not appear to me to be in accordance with the mandates of the International Code of Zoological Nomenclature and its official interpretation, as expressed in the published Opinions of the International Commission on Zoological Nomenclature (1910-1916).*

I wish to express my sincere thanks to the Rev. Mr. Morice, who has taken the pains to write to me at length his views on many of the points considered in this paper, and has expressed opinions in which I have in nearly every instance been able to concur, materially modifying my original conclusions, in several instances, especially in regard to Ceropales and to Bremus.

Inasmuch as the results arrived at by Morice and Durrant concern many fundamental genera of Hymenoptera, it has seemed to me worth while, in fact absolutely necessary, to revise their work in accordance with the Code and its official interpretation. There may be a few instances where the interpretation is in doubt, but most of the cases are clear-cut, and follow directly from the acceptance of certain premises.

* While zoologists are under no legal restraint in regard to the names that they adopt, there are many who feel, with the author, that the only possible hope for ultimate stability and uniformity of practice is to follow absolutely the International Code and its official interpretation, totally regardless of all personal predilections. Personally, the author is disposed to take exception to the reasonableness of certain of these interpretations, especially Opinion 46, which is one that is the cause of many of the dissensions herein-after made from the conclusions of Morice and Durrant. But after all, uniformity of practice is the chief desideratum. We shall never all agree as to what is reasonable. However much we may feel that the International Commission is not representative, or may be inclined to dispute the source of its authority, there is nothing more representative with which to replace it, nothing that is constituted with even an approach to as great an authority. The decisions having once been made, it is to the interests of us all that they be followed implicitly.
The chief points upon which the decisions of this article differ from those of Morice and Durrant result from the following facts:—

(a) The "Histoire naturelle générale et particulière des Crustacés et des Insectes," par P. A. Latreille, Tome III, 1802, cannot be accepted as defining the types of genera not originating within its pages. After describing each genus it cites an "Exemple," more rarely "Exemples." But there is no evidence that Latreille intended these "exemples" to be in any sense types. The International Code, Art. 30, paragraph (g), says: "The meaning of the expression 'select a type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute selection of a type."

(b) Concerning Lamarck, 1801, there is room for doubt. At first sight the case would seem to be identical with the one just discussed, Latreille 1802. But Lamarck (1801: viii) explains his intentions as follows: "Pour faire connaître d'une manière certaine les genres dont je donne ici les caractères, j'ai cité sous chacun d'eux une espèce connue, ou très-rarement plusieurs, et j'y ai joint quelques synonymes que je puis certifier; cela suffit pour me faire entendre."

It is difficult to decide whether Lamarck's intentions are thereby sufficiently clearly shown to have been equivalent to our idea of type fixation, as to permit us to "rigidly construe" his actions as selecting types in the sense of the Code. My own opinion is that we cannot accept his species mentioned as types. It is my intention to refer the question to the International Commission on Zoological Nomenclature for decision.

(c) Blumenbach, 1788, can by no means be accepted as designating genotypes. The case is exactly similar with Latreille, 1802.

(d) The genera of Latreille (1796), published without mention of included species, but accompanied by a sufficient diagnosis, are valid, and date from 1796.* The species first subsequently mentioned as belonging to the genus, and coming under the generic definition, are available for selection of the type, and only those.

(e) The elimination method of type selection, used to a

* This fact is established by Opinion 46 of the International Commission on Zoological Nomenclature. See also the discussion under the family Thyreopidae, seq.
limited extent by Morice and Durrant in certain instances, is not permitted by the Code.*

(f) Genera of similar but not identical spelling, as Cepha Billberg and Cephus Latr., are both valid under the code,† unfortunate as the fact may be in some instances.

In the following paper, in connection with the genera discussed by Morice and Durrant, the author has thought it worth while to introduce some additional genera which are affected directly or indirectly by these decisions, and also some names of higher groups, in order not to leave our nomenclature, in a measure, upset and not rebuilt.

It is to be understood that the present author accepts the conclusions, if not in every instance the methods, published by Morice and Durrant in the instances of genera which are not discussed in this paper.

In the pages which follow the genera included in the Erlangen list are given the numbers they bear in that list. Those not included are given a letter. The statement of the type in each case applies to the generic name immediately following the figure or letter, whether accepted as a valid name or rejected as a synonym or homonym. In order to make the matter as readily comprehensible as possible, all names used in a rejected sense are included in square brackets, while names used in their accepted sense are left free. In a few instances names have been inclosed in parentheses to indicate subgenera.

References following an author's name are by year and page to the List at the close of this article.

I. 1. TENTHREDO L. nec. auctt. = [Allantus auctt.].

TYPE: Tenthredo scrophulariae L. By designation of Latreille (1810: 435).

Lamarck (1801: 263) probably cannot be considered as having fixed a type for Tenthredo.† If not, the first valid designation was scrophulariae by Latreille as stated by

* See discussion under the case of the genus Philanthus, seq.
† In the International Code of Zoological Nomenclature, Art. 36, Recommendations, is found the following: “It is well to avoid the introduction of new generic names which differ from generic names already in use only in termination or in a slight variation in spelling which might lead to confusion. But when once introduced such names are not to be rejected on this account. Examples: Picus, Pica, etc.”
‡ See preceding discussion of this paper on p. 52.
Rohwer (1911 : 90). Consequently Cryptus and Hylotoma are not synonyms of Tenthredo. If Lamarck is correctly interpreted as establishing a type for Tenthredo, then the conclusions of Morice and Durrant are correct.

I. 2. CRYPTUS * Jur., 1801, nec Fabr., 1804 = [Arge Schrank, 1802] = [Hylotoma Latr., 1802].

Type: Cryptus segmentaria Panz. This was the only species included in the genus at the time species were first mentioned in connection with the generic name.

The genus Cryptus must date from the Erlangen list, 1801, where it was described but no species included. According to the official interpretation of the Code the genus dated from 1801, but its type species must be selected from those coming under the original definition, which were first subsequently included under the generic name. Panzer (1804 : 88, pl. 17) was the first to give a species to the genus, and as he included only one, it became the type.

Fabricius (1804 : 70) used the name Cryptus for an entirely different group of Hymenoptera. If this publication actually antedated Panzer (1804 : 88, pl. 17) it would supply species for Cryptus were it not for the fact that none of them come under the generic definition of Jurine. Cryptus Fabr., 1804, is therefore a homonym of Cryptus Jurine, 1801.

a. [CRYPTUS Fabr., 1804, nec Jurine, 1801] = Hedycryptus Cam.?

Type: [Cryptus] viduatorius Fabr. = Hedycryptus viduatorius (Fabr.).

The only existing available synonyms for Cryptus Fabr. sen. str. seem to be Hedycryptus Cameron and Steriphycryptus Cameron, both published in September 1903 and based on Oriental species. Schmiedeknecht considers them both Cryptus in the sense of Fabr., that is congeneric with viduatorius, and is in all probability correct, certainly so as far as Cameron’s description indicates. Unless examination of the types proves that Cameron actually had something different, we shall have to use one of these names in

* If Lamarck, 1801, is accepted as establishing genotypes, Cryptus becomes a synonym of Tenthredo, as Morice and Durrant state.

† Opinion 46, International Commission on Zoological Nomenclature.
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place of Cryptus auctorum. Of the two, Hedycryptus appears to have priority. It was published in the Sept. 1903 issue of the Zeitschrift für systematische Hymenopterologie und Dipterologie, a copy of which is dated as having been received at the library of Cornell University, September 8, 1903. The September number of the Entomologist, containing the description of Steriphocryptus was received September 14, so presumably was issued later.

Undoubtedly it will eventually prove wise to unite with Cryptus auctorum as subgenera some of the closely related groups now treated as distinct genera. In such event the generic name will be that of some one of these other groups, and Hedycryptus will stand for the subgenus Cryptus auctorum. This was undoubtedly the intention of Viereck (1916 : 330) in using Agrothereutes Förster for Cryptus Fabr. But Agrothereutes is usually considered quite distant, although in the same tribe. Such a course would imply reducing most of the genera of the tribe to the rank of subgenera. As Mr. Viereck has not made his plan clear, farther than in the extent to which it applies to the fauna of Connecticut, it seems better to await its elaboration before giving it further consideration.

HEDYCRIPTINAE new subfamily name=[Cryptinae auctt.].

The International Code provides that the name of a family or subfamily must be changed when the name of its type genus is changed. Since Cryptus Fabr. is a homonym * of Cryptus Jurine, Cryptinae based on Cryptus Fabr. must be renamed Hedycryptinae, temporarily at least, following the corresponding similar change in the name of its type genus.

If other genera are united with Hedycryptus as subgenera, the generic and also family name will be eventually erected from the oldest one of these.

CRYPTINAE = [Arginae auctt.] = [Hylotominae auctt.].

Since Cryptus Jurine is an older name for Arge or Hylotoma, there is no actual change in the type genus of [Arginae] = [Hylotominae], but the generic name is changed to Cryptus and the subfamily name must be changed correspondingly.†

* See discussion under Thyreopidae, seq.
† See discussion under Thyreopidae, seq.
I. 3. [ALLANTUS Jur., 1801, and auctt.] = Tenthredo L.

**Type**: *Tenthredo scrophulariae* L. By designation of Curtis (1839: 764).

Since *Allantus* dates from the Erlangen list, Rohwer (1911b: 218) is incorrect in making *togata* type of *Allantus* and therefore synonymising *Emphytus* with that genus. Morice and Durrant (1914: 375) have correctly stated the type as *scrophulariae*, but since this is also type of *Tenthredo*, *Allantus* is a synonym of the latter genus.

I. 8. ORUSSUS Latr., 1796 = [Oryssus Fabr., 1798].

**Type**: [Oryssus coronatus Fabr.] = *Orussus abietinus* (Scop.). The genus originally described without species, only a single species was first subsequently included.

The genus must be attributed to Latreille, 1796,* and consequently retain the spelling *Orussus*. The type remains identical.

b. ASTATA Latr., 1796 = [Astatus Latr., 1796, erratum] = [Dimorpha Jur., 1801].

**Type**: [Tiphia abdominalis Panz.] = [Sphex] boops Schrank = *Astata boops* (Schrank) Spinola. The genus was described without species, and *abdominalis* was the one first subsequently included.

The genus *Astatus* of Latreille is valid and dates from 1796.† Latreille printed the name *Astatus* (1796: 114), but in the same work (1796: xiii) states: “Page 114, au lieu d’*Astatus* lisez *Astatus*.” We can therefore hardly hold that he has preoccupied *Astatus* ‡ Jurine, 1801, a group of sawflies. Nor can the latter be considered as establishing species for *Astata* Latr., since the species therein

* See Opinion No. 46 of the International Commission on Zoological Nomenclature.
† See Opinion No. 46, International Commission on Zoological Nomenclature.
‡ International Code of Zoological Nomenclature, Art. 36, Recommendations: “It is well to avoid the introduction of new generic names which differ from other generic names only in termination or in a slight variation in spelling which might lead to confusion. But when once introduced, such names are not to be rejected on this account.”
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contained do not come under the generic definition of Astata.*

I. 9. ASTATUS Jur., May, 1801, nec Panzer, July, 1801, Konow, etc. = [Cephus Latr., 1802] = [Trachelus Jur., 1807].


The two species originally included in Astatus are identical.

c. EUMETABOLUS Schulz, 1906 = [Astatus Panzer, 1801, Konow, etc., nec Jurine, 1801].


Eumetabolus, without stated type, was proposed as a substitute for Astatus, sense of Konow, and therefore takes ipso facto the type of that genus.† Morice and Durrant strongly doubt the identity of troglodyta with what they term the mysterious niger, and possibly it would be better to call the species troglodyta.

d. CEPHA Billberg, 1820 = [Trachelus Konow, etc., nec Jurine] = [Trachelastatus Morice and Durrant, 1914].


It is impossible to replace Cepha Billberg with Trachelastatus Morice and Durrant on the suggested grounds of the similarity of Cepha Billberg with Cephus Latr.‡

The foregoing data may be tabulated for convenience as follows:

Family LARRIDAE.

Astatus Latr. Type: boops. = [Dimorpha Jurine].

* Opinion 46 of the International Commission on Zoological Nomenclature is summarised in part: "If (as in Aclastus Foerster, 1868) it is not evident from the original publication of the genus how many or what species are involved, the genus contains all of the species of the world which would come under the generic description as originally published. . . ."

† International Code of Zoological Nomenclature, Art. 30 f.
‡ International Code of Zoological Nomenclature, Art. 36, Recommendations.
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Family ASTATIDAE = [Cepheid auctt.].

**Astatus** Jur. Type: *pygmaeus* = [*Cephus* auctt.].

= [*Trachelus* Jur., not sense of Konow and recent authors]

(not *Astatus* Konow and recent authors).

**Cepha** Billb. Type: *tabida* = [*Trachelus* auctt.]

= [*Trachelastatus* Mor. & Dur.].

**Eumetabolus** Schulz. Type: *niger* = [*Astatus*, sense of Konow and recent authors].

I. 10. SIREX L., 1761 = [*Paururus* Konow].

Type: [*Ichneumon*] *juvencus* L., 1758 = *Sirex juvencus* L. By designation of Curtis (1829: 253).

If it be decided that Lamarck (1801) * is to be interpreted as establishing genotypes, the conclusions of Morice and Durrant must be accepted. Otherwise they will stand as given here and by Bradley (1913).

**e. GASTERUPTION** Latr., 1796 = [*Foenus* Fabr., 1798].

Type: [*Ichneumon*] *assectator* L. = *Gasteruption assectator* (L.) Schletterer. By designation of Viereck (1914: 61), possibly previously by act of Latreille (1802: 329).

Latreille (1802: 329) certainly did not make *assectator* type of *Foenus*, and the designation of *jaculator* for the latter genus is valid, as indicated by Viereck (1914: 60). However, the two are congeneric, and the name *Gasteruption* has precedence.†

III. 1. **ICHNEUMON** L. (1758).

The conclusions of Morice and Durrant are correct if Lamarck (1801) designated genotypes in the sense of the code. Otherwise those of Viereck (1914) as given by Morice and Durrant seem to be correct.


Type: *Anomalon cruentatus* Pz. Genus monobasic.

* See previous discussion concerning this paper on page 52.
† Opinión 46, International Commission on Zoological Nomenclature.
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This is as shown by Morice and Durrant. Following the restoration of Anomalon in the accepted sense, it will no longer be used to replace Bassus auctt., but Diplazon will replace that name.

Viereck (1916: 281) uses Erigorgus Förster to replace Anomalon auctt., probably with the intention of reducing his Paranomalon to the rank of a subgenus.

f. DIPLAZON (Nees) Grav., 1818 = [Bassus auctt., nec Fabr.].


The foregoing data, together with related facts brought out by Viereck (1914), may be conveniently tabulated as follows:

Family BRACONIDAE.

Subfamily BRACONINAE = [Agathinae auctt.].

Bracon Jur., nec auctt. Type: desertor L. = [Cremnops auctt.].

Bassus Fabr., nec auctt. Type: calculator Fabr. = [Microdus Nees et auctt.].

Agathis Latr. Type: malvacearum Latr.

etc.

Subfamily VIPIONINAE = [Bracoinae auctt.].

Microbracon Ashm. Type: sulcifrons = [Bracon auctt., nec Jur.].

Vipio Latr.* Type: desectus n. n.† = [Glyptomorpha Holmg.] = [Pseudovipio Szepl.].

Zavipio Vier. Type: marshalli Schm. = [Vipio auctt.]. etc.

* The removal of Bracon Jur. to the group containing the genus Agathis has left the subfamily containing Microbracon Ashm. and allied genera without a type genus. This deficiency has been appropriately supplied by Viereck, who has selected the oldest of the genera concerned, Vipio, and by the erection of the family Vipionidae (1916: 181) made it type genus.

† The type of Vipio Latreille is Ichneumon desertor Fabricius, not of Linnaeus. The latter insect is the type of Bracon. Ichneumon desertor Fabricius is a homonym and must be changed; I therefore propose:—

Vipio desectus n. n. for Vipio desertor (Fabr.), described as Ichneumon desertor Fabr., nec Linnaeus.
Family ICHNEUMONIDAE.

Subfamily Ophioninae.

**Anomalon** Pz. Type: *cruentatus* = [*Paranomalon Vier.]*.

Subfamily Tryphoninae.

Tribe Diplazonini = [*Bassini auctt.*].

**Diplazon** (Nees) Grav. Type: *laetatorius* = [*Bassus auctt., nec Fabr.*].

**g. PSAMMOCHARES** Latr., 1796 = [*Pompilus* Fabr., 1798].

According to Opinion 46 of the International Commission on Zoological Nomenclature *Psammocharas* must date from 1796 and not 1802.

**h. TRYPOXYLON** Latr., 1796 = [*Apis* Jur., 1801].

Type: [*Sphex* figulus L.] = *Trypoxylon figulus* (L.) Latr. Genus described without species, *figulus* was the first species placed in it subsequently, and agreeing with the generic definition becomes ipso facto type.*


Type: [*Tiphi a abdominalis* Panz] = [*Sphex* boops Schrank = *Astata boops* (Schrank) Spinola. Genus monobasic.

III. 12. SCOLIA F. = [*Discolia* Sauss. et Sichel].

Type: *Scolia 4-punctata* Fabr. By designation of Latreille (1810 : 437).

The so-called designation of *flavifrons* as type by Latreille (1802 : 347) is not valid under the code,† nor is the designation of *haemorrhoidalis* by Lamarck (1801 : 269).

III. 13. SAPYGA Latr., 1796...

and

III. 14. MYRMOSA Latr., 1796.

These two genera must date from 1796.‡ The types are as given by Morice and Durrant (1914 : 398).

† International Code of Zoological Nomenclature, Art. 30, g.
‡ Opinion 46, International Commission on Zoological Nomenclature.
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III. 23. PHILANTHUS Fabricius, 1790 = [Simblephilus Jurine, 1801].


Morice and Durrant, p. 410, state that "Jurine’s revision of Philanthus (30. v. 1801), being a year prior to that of Latreille (after iv. 1802), his restriction of its possible types to laetus, arenarius, and labiatus, must be accepted. This means that arenaria L. is the type, for laetus is a synonym of arenarius, and labiatus was not originally included in the Fabrician Philanthus."

The citation of only 3 supposed species in connection with Philanthus by Jurine in 1801 does not restrict selection of the type of that genus to any one of them. That was in a measure the now discarded principle of type-fixation by elimination.* There being no basis for the fixation of a type of Philanthus in the original publication of Fabricius (1790) † the first subsequent actual designation of the type by any author, if in accordance with paragraph e of Art. 30 of the code, must be accepted.‡ Latreille (1810 : 438) cannot be considered to have designated a type, since he mentions two different species both as type.§ The first actual designation of a type seems to

* See Opinion 6 of the International Commission on Zoological Nomenclature. This Opinion provides that when a later author divides the genus A, species A b and A c, leaving genus A, only species A b, and genus C, monotypic with species C c, the second author is to be construed as having fixed the type of the genus A. From the discussion of the case it is perfectly clear that this principle cannot be carried further, to the extent of including cases in which more than two species were included in the original description of the earlier genus.

See further, Opinion 58, in the discussion of which is stated, concerning a somewhat similar case: "'Esox Cuvier' is a restricted group of 'Esox Linn.' Only one species is mentioned, and this becomes the type (by monotypy) of 'Esox Cuvier.' This rigidly construed is not, however, a designation of the genotype for 'Esox Linn.'"

† See International Code, Art 30, i.

‡ Art. 30, g: "If an author, in publishing a genus with more than one valid species fails to designate or to indicate its type, any subsequent author may select the type, and such designation is not subject to change."

§ If it should be interpreted that the first of these was the actual designation of a type, and the other intended as a synonym (which it is not), or as a supplementary illustration, the result would be
have been by Curtis (1829: 273) as Crabro androgynus Rossi, which is a synonym of Vespa triangulum, a true Philanthus in the sense of modern authors.

i. CERCERIS Latreille.


Following from the conclusions relative to Philanthus, as above stated, Cerceris is not a synonym of that genus, but each will fortunately stand in the sense in which they were applied by Latreille, and which has been followed by modern authors.


Following the above, Simblephilus is restored to its prior position as an absolute synonym (isogenotypic) with Philanthus.

III. 19. MELLINUS Fabr., 1790.

TYPE: [Vespa] arvensis L. = Mellinus arvensis (L.) Fabr. By designation of Curtis (1836: 580)

From considerations given above Latreille (1802: 339) cannot be considered as having fixed the type for Mellinus. Latreille (1810: 438) cites two species. Apparently the first valid designation was by Curtis (1836: 580).

j. [GORYTES Latr., 1804] = [Hoplisus Lep. et auctt.] = Ceropales Latr., 1796.


Gorytes, Hoplisus and Ceropales are isogenotypic.

the same, as pictus, first mentioned by Latreille, is a synonym of triangulum.

* I have not seen the description of this genus, and give this designation on the authority of Morice and Durrant.
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k. [HOPLISUS Lep., 1832] = [Gorytes Latr.] = Ceropales Latr., 1796.


III. 20. ARPAOTUS Jurine, 1801 = [Gorytes s.s. auctt., nec Latr.].

Type: [Sphex] mystacea L. = Arpactus mystaceus (L.) Jur.

Arpactus was founded by Jurine (1801: 164) with mention of two species, "Mellinus mystaceus, quinquecinctus," without selection of either as type. The subsequent designation of quinquecinctus as type of Gorytes by Latreille (1804) ipso facto established mystaceus as the type of Arpactus.* This leaves it necessary to use Arpactus to replace the common usage of Gorytes s.s.

l. AGRAPTUS Wesmael, 1852 = [Arpactus auctt. nec Jurine].


The facts above outlined may be compared, as a matter of convenience, as follows, assuming that the groups are best entitled to subgeneric rank.

m. CEROPALES Latreille, 1796, nec auctt. = [Gorytes Latr., 1804] = [Hoplisus Lep. et auctt.].

Type: [Mellinus] quinquecinctus Fabr. = Ceropales quinquecinctus (Fabr.) Latr.

Ceropales, proposed in 1796 and described without included species, is valid from that date, and the type species must be selected from those first included in it by a subsequent author.† The first inclusion of species in Ceropales was by Latreille (1802: 340), "Mellinus 5-cinctus; campestris? F."

* Opinion 6 of the International Commission on Zoological Nomenclature: "When a later author divides the genus A, species A b and A c, leaving genus A, only species A b, and genus C monotypic with species C c, the second author is to be construed as having fixed the type of the genus A."

† Opinion 46 of the International Commission on Zoological Nomenclature.
Genus **Ceropales** Jurine, 1801.

Subgenus **Arpactus** Jurine, 1801, type *mystacea* = *Gorytes* in the sense of recent authors.

Subgenus **Ceropales** Latreille, 1804, type *quinquecinctus* = *Hoplisus* in the sense of recent authors.

Subgenus **Agraptus** Wesmael, 1852, type *concinnus* = *Arpactus* in the sense of recent authors.

Whether these be reckoned as genera, subgenera or identical groups is a question of taxonomy, not of nomenclature, and is open to debate.

**n. HYPSICERAEUS** Morice and Durrant, 1914 = *Ceropales* Latr., 1804, *nec* Latr., 1796.

**Type**: *Evania* maculata Fabr. = *Ceropales* maculata (Fabr.) Latr. = *Hypsiceraeus* maculata (Fabr.) M. and D. By original designation.

**III. 21. ALYSSON** Jurine, 1801 [= *Alyson auctorium*].

**Type**: *Pompilus* spinosus Panzer = *Alysson* spinosus (Panzer). By designation of Morice and Durrant (1914: 406).

**o. [ALYSON** Jurine, 1807] = *Alysson* Jurine, 1801.

**Type**: *Alysson* spinosus (Panzer) Jurine. Genus monobasic.

*Alysson* Jurine, 1801, and *Alyson* Jurine, 1807, must be considered as potentially different genera.* With this in mind the determination of the types becomes a simple matter, and allows us to retain the names in their long-acustomed sense, substituting *Alysson* for *Alyson*.

Were we to look upon *Alysson* and *Alyson* as being only one name and therefore attempt to determine the type on the basis of the three species originally included in *Alysson* and of subsequent attempts at type designation for *Alyson*, the matter would become much more complex, and I must confess that I would feel at a loss to solve certain questions which would arise, but which need not be detailed. It is enough to point out that the method employed, under this premise, by Morice and Durrant does not suffice.

since it is again an elimination method, and not within the provisions of Article 30 of the International Code.

III. 22. NYSSON Latr., 1796.


This is as given by Morice and Durrant. The genus must date, however, from 1796.*

It is to be hoped that authors will agree to the suggestion of Morice and Durrant that the form "NyssO" was a misprint, and continue to use the spelling "Nysson" as Latreille himself subsequently spelled it.

p. PALARUS Latreille, 1802.


Morice and Durrant seem to have overlooked the fact that Latreille (1802: 336), instead of describing Palarus without exponent, erected it to receive "La tiphie flavipède de Fabricius," the characters of which he discusses at some length, promising to give the generic characters at greater length at a later date. This promise he redeems in the 13th volume (1805: 296), where he also adds three other species to the genus, and states that Gonius of Jurine (a nomen nudum) is identical.

I cannot see the reason for suppressing flavipes = [Crabro flavipes Fabr., 1781] in favour of auriginosus Eversmann, 1849. The species flavipes was based on Crabro flavipes of Fabricius, 1781, and is different from Tiphia flavipes of Fabricius, 1793. When the latter was brought into the genus (by Latreille in 1811) its name was properly changed to rufipes. What Panzer meant by flavipes has nothing to do with the question. Latreille, however, specifically cites Philanthus flavipes of Panzer as a synonym of the former, and the species figured by Coquebert of the latter.

Tiphia variegata Fabr. has priority, however, over

T. flavipes. Schulz, who has examined the types, is authority for their identity.*

III. 27. CRABRO Geoffrey, 1762 (nec Fabricius, 1775) = Cimbex Oliv.[]

TYPE: Crabro humeralis Fourcroy. By present designation.

Geoffroy described Crabro for three species, not given uninominal names, but fully described and one of them figured. These three species are: (1) [Tenthredo] lutea L., (2) Crabro humeralis Fourcroy, and (3) [Tenthredo] connata Schrank, the three known to modern authors under those specific names as species of Cimbex Oliv.

Geoffroy's usage was binary but not binominal. It was uninominal for generic names, and these must be accepted under the code.† The type must be chosen from the three included species, which, although uninominal names were not cited, are recognisable, and one of which (lutea L.)

* The Reverend Mr. Morice has written me as follows, and I am quite willing to accept the synonymy as he suggests it, as I have no personal knowledge of the species or their types:

"I think, however, that the synonymy as you give it is still not quite right. If Schulz has really seen the types of Tiphia flavipes and Tiphia variegata, I am puzzled, and think he must have made a mistake.

The following, so far as I can make out, are the facts—

"Tiphia variegata Fabricius (Type in British Museum, seen by me) = Crabro flavipes Fabricius = Philanthus flavipes Fabricius (teste Latreille) figured by Coquembert.


= Philanthus flavipes Panzer = Palarus rufipes Latreille, commonly known as 'flavipes' by me) = Tiphia flavipes Fabricius. = Palarus auriginosus Eversm. = Palarus humeralis Dufour.

The only European Palarus, A species of Algeria and Morocco commonly known as 'humeralis.'"

(F. D. Morice).

According to this synonymy the type of the genus, Tiphia flavipes, is the Algerian species humeralis auctorum, and apparently the name 'flavipes' is valid.

† The case is exactly parallel with that of Gronow's Zoophylacii, etc., 1763. Opinion 20 of the International Commission on Zoological Nomenclature is summarised: "Gronow, 1763, is binary, though not consistently binominal. Article 25 demands that an author be binary, and Article 2 demands that generic names be uninominal. Under these articles Gronow's genera are to be accepted as complying with the conditions prescribed by the Code to render a name available under the Code."
was already a described and properly named species.* The type must be selected from among these three. The selections of a type for Crabro by Lamarck (1801), Latreille (1810), Curtis (1837), and Westwood (1840) refer to Crabro F., 1775, not to Crabro Geoffroy, and designate a species not included by Geoffroy. No type seems to have been specified for Crabro Geoffroy; and one is therefore here chosen. All three of the original species are congeneric.

The circumstance is a most unfortunate one in that it requires the substitution of the name Crabro for the well-known Cimbex, both names involving the families with which they are associated. But there seems to be no recourse, as Crabro F., which has been accepted by all modern writers, is an absolute homonym of Crabro Geoffroy.

I had intended to make lutea L. type, but the Rev. Mr. Morice suggests to me that it would be better to select humeralis, since that species is known for certain, whereas it is doubtful, according to him, that it can ever be settled whether lutea L. was the species now commonly called lutea or merely the yellow bodied form (♀) of what we know as femorata. The suggestion is a happy one and I am glad to accept it.

q. THYREOPUS Lep. = [Crabro F., 1775, nec Geoffr., 1762].
   This may be considered a subgenus of Solenius and is isogenotypic with [Crabro Fabr. nec Geoffr].

r. SOLENIUS St. F. and Br., 1834 = Solenius auctt. + Crabro s.s. of recent authors, nec Geoffr.].
   Crabro in its modern usage being invalid, it is necessary to decide with what name it shall be replaced. Saint
   * Should any one, disagreeing with this, maintain that the genus has the status of genera described without included species, since the three species were not properly named, the end result will be identical, for the first author to include named species which came under the original generic definition (see Opinion 46) was Pourcroy, who in reprinting or re-editing Geoffroy included his three species of Crabro, with others, under the names Crabro maculatus, C. humeralis and C. lunulatus.
Fargeau and Brullé (1834) were the first to divide the genus *Crabro* (sense of Fabricius) into several subgenera. The first of these was the restricted genus *Crabro,* containing *fossorius* (L.) with others. The second was *Solenius* containing *vagus* (L.) and others. Kohl, whose works stand out as the most scholarly that have been produced upon the Sphecoidea, recognises four subgenera and ten species groups of *Crabro.* Of the latter, the last (which he terms *Crabro* Kohl s. str.) contains both of the genera *Crabro* and *Solenius* of St. Fargeau and Brullé. In other words, Kohl does not even consider them sufficiently distinct to merit the rank of species group.

While accepting some subgenera of [*Crabro*], my personal judgment is against distinguishing between the group of which *fossorius* may be taken as typical and that having *vagus* as type. I therefore propose to unite them under the subgeneric name *Solenius.* I will leave it to some one whose judgment may differ from mine to do what I am wholly unwilling to do, that is to propose another name for *Crabro* auctorum as distinguished from *Solenius,* if that step must ever be taken.

Rohwer (1916: 664) has used *Solenius* to replace *Crabro* of recent authors, not *Crabro* in the sense of Fabricius.

s. [*CRABRO* Fabricius, 1775, nec Geoffroy, 1762] =
(Thyreopus St. Farg. and Brullé, 1834) with status of a subgenus of *Solenius.*

**TYPE:** *[Vespa* cribraria* L. = [Crabro* cribrarius* (L.) Fabr. = Thyreopus cribrarius* (L.) St. Farg. and Br. = Solenius (Thyreopus) cribrarius* (L.).

**THE FAMILY AND SUBFAMILY NAMES.**

The International Code provides (Art. 5) that the name of a family or subfamily is to be changed when the name of its type genus is changed. It, however, is silent upon the nature of the change which is to be effected. Three courses are open: (1) To base the new name upon the changed name of the original type genus. (2) To use as the type genus for the new family name the contained genus

* St. Fargeau and Brullé were incorrect in restricting *Crabro* to the group containing *fossorius,* as the type of *Crabro* Fabricius had already been fixed as *cribraria,* but it is in their sense that the genus *Crabro* has been known to all modern authors.
which has been earliest used as the basis of a plural name, that is for a name of a group higher than genus. (3) To use as genotype the oldest contained genus within the family as limited by the author.* The author cannot too vigorously express his dissension from the school that adheres to the third practice, the acceptance of which will result in a perpetual overturning of family names, with each varying concept of family limits. The second course is advisable if the group in question is left without a type genus. But if the name of the type genus changes without the genus itself going outside of the family group with which it had been previously associated, it would seem the fairest interpretation of the code to make the change in family name correspond, in other words to change not the type genus, but its name only. The genus name *Crabro* Fabr. nec Geoffroy changing to *Thyreopus*, *Thyreopus* remains as much type of the family as when it was called *Crabro*.

**Family Thyreopidae** = [*Crabronidae auctores*].

Subfamily Thyreopinae = \(\{\text{Crabroninae} \atop \text{Lindeniinae} \atop \text{Thyreopinae} \atop \text{Rhopalinae}\}\) sense of Ashmead.

Genus Thyreopus. Type: *cribraria* = *Thyreopus auctorum* = [*Crabro Fabr.*].

,, Solenius. Type: *vagus* = [*Crabro auctorum*] united with *Solenius auctorum*.

and others.

**Family Crabronidae** = [*Cimbicidae auctorum*].

Genus Crabro Geoffr. Type *humeralis* = [*Cimbex auctorum*].

* Applied to the present case this third method would fix upon Rhopalum as type genus, with *Rhopalinae* and *Rhopalidae* in consequence.

† The case would be quite different if *Crabro* had not been a homonym, but had been wrongly applied to the group that we have known as *Crabronidae*. In other words, if the type species of *Crabro* Fabr. were a sawfly instead of a Sphegid. In that case the family and its name would not theoretically change, but simply be applied in its true sense, as a group of sawflies and its formerly incorrectly associated Sphegid members would be removed from it. The latter would be left without a type genus.
t. PEMPHREDON Latr., 1796 = [Cemonus Jurine, 1801].

Type: [Crabro] lugubris Fabr. = [Sphex (Crabro) unicolor Panzer, 1798] = Pemphredon lugubris (Fabr.) = [Cemonus unicolor Panzer, 1806].

The synonymy I accept on the authority of Morice and Durrant, but Opinion 46 of the International Commission makes it necessary to reverse them in regard to which name, Pemphredon or Cemonus, has priority.

III. 29. OXYBELUS Latr., 1796.

The conclusions concerning Oxybelus need no change, except that it must be ascribed to Latreille and date from 1796.*

III. 32. ANDRENA Fabr., 1775.


Unless Lamarck (1801) is accepted as designating genotypes † cineraria and not succincta must be the type of Andrena. This is satisfactory, since it involves no change and succincta is a dubious species.

Colletes Latreille may be a synonym. Its type, the only originally included species, is succincta L., which, as Morice and Durrant point out, is probably congeneric with cineraria, but may not be. According to Opinion 65 of the International Commission on Zoological Nomenclature these authors are not warranted in making Colletes glutinans Cuv. type of Colletes on the basis that Latreille misdetermined succincta L., unless the special case is brought before the Commission and action to that effect taken.

III. 33. LASIUS Jur. = [Anthophora auctt.].

The discussion of Lasius and the genera involved with it has been taken up since Morice and Durrant (1914: 421-423) by Forel (1916: 460), Mayr (1916: 53-56), Wheeler (1916: 168-173), and again by Morice and Durrant (1916: 440-442). I have nothing further to add to this discussion. Morice and Durrant (1914: 421-423) seem to be correct in considering Lasius Fabr., 1804, a homonym of Lasius Jurine, 1801, and that the latter is Anthophora auctt.

* Opinion 46 of the International Commission on Zoological Nomenclature.
† See the previous discussion of this paper on page 52.
and types of certain genera of Hymenoptera.

III. 38. MUTILLA L., 1758.

TYPE: *Mutilla europaea* L. By designation of Latreille (1810: 314) and possibly of Lamarck (1801: 268).

Blumenbach’s * (1779: 386) citation of *occidentalis* is not to be regarded as type fixation under the code.*

III. 40. CYNIPS L., 1758 = *Diplolepis* Geoffrey, 1802 = *Rhodites* Hartig, 1840.


If it is decided that Lamarck (1801) is to be accepted as establishing genotypes,† then the conclusions of Morice and Durrant, rather than those given here, are correct. In that case *Cynips* will replace *Dryophanta* Foerster, or *Diplolepis* Geoffroy as incorrectly used by Kieffer in *Das Tierreich*.

Multinominal specific names are used by Geoffroy (1802: 310, 311) in connection with the six species that he originally placed in *Diplolepis*. The first of these he definitely fixes by citing as a synonym *Ichneumon bedeguaris*. Since the other five have no definite status given them, the case is the same as though the genus had been established upon a single species, *bedeguaris*, which is therefore type.

u. [CYNIPS auctt.]

Whether Morice and Durrant or my own conclusions are correct concerning *Cynips*, that genus as employed by Kieffer in “Das Tierreich” and by other modern authors is left without a name.

III. 48. PSILUS Jurine, 1801 = *Bethylus auctorum*.


v. BETHYLUS Latr., 1802 = *Dryinus* Latr. and auctt.?.


*Tiphia hemiptera* Fabr. is not a recognizable species at present. Dalle Torre lists it as a *Dryinus*, but Kieffer in the “Genera Insectorum” refers it with a doubt to *Bethylus*

* See discussion of this paper on page 52.
† See previous discussion on page 52.
auctorum. If it ever proves to be congeneric with formicarius, *Bethylus* will have to replace *Dryinus*. At present the name, and with it the family name *Bethylidae*, had better be suppressed.

w. **DRYINUS** Latr., 1805. = *Bethylus* Latr., 1802?

**TYPE**: *Dryinus formicarius* Latr. Genus Monobasic.

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