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B. J. LEMPKE, Oude IJselstraat 12^{III}, Amsterdam-Zuid 2 — Nederland

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Notes on Aculeate Hymenoptera described
in the period 1758-1810

by

J. VAN DER VECHT

(Rijksmuseum van Natuurlijke Historie, Leiden)

Part I



During the first half of the century following the publication of the tenth edition of LINNAEUS's "Systema Naturae" the taxonomy of the aculeate Hymenoptera was extremely confused.

LINNAEUS (1758) grouped the species known to him in five genera (*Sphex*, *Vespa*, *Apis*, *Formica* and *Mutilla*), and added a sixth genus (*Chrysis*) a few years later. These genera have often been regarded as representing rather accurately the same groups of insects which are included in the respective families (or superfamilies) of the present day, but this is only very approximately correct. When KOHL (1890, p. 235) praised the founder of zoological taxonomy because his genus *Sphex* contained only Sphecidae, with the exception of one species of *Chrysis* and one of *Pompilus*, he pictured the situation in much too bright colours. Actually the genus *Sphex* L., 1758, includes besides about a dozen Sphecidae (s.l.) at least four species of Pompilidae (*viatica*, *variegata*, *indica* and *rufipes*), one species of Vespidae (*tropica*), one species of Apidae (*gibba*), three Chrysididae (*ignita*, *aurata*, and *cyanea*), and one Chalcid (*colon*). The genus *Vespa* L., 1758, is more homogeneous, undoubtedly due to the character "Alae superiores plicatae", but yet it contains four Sphecidae belonging to widely different genera (*cribraria*, *arvensis*, *uniglumis*, and *signata*). Some other Sphecidae, viz. a species of *Bembix* (*rostrata*) and one of *Sphex* (*ichneumonea*), a Eumenid (*surinamensis* no. 6, nec no. 36), and a Sapygid (*clavicornis*) were placed among the bees in the genus *Apis*. The only improvement in the twelfth edition of the same work

(1767) is the transfer of the Chrysididae to a separate genus; on the other hand the genus *Sphex* contains here another Chalcid (*sispes*), a *Scolia* (*bidens*) and an Evaniid (*appendigaster*), while *Vespa* is enriched with another Sphecid (*campestris*).

In view of the obscure limits of the Linnean genera, it is not surprising that subsequent authors met with considerable difficulties when they attempted to determine the generic names of the species before them. Hairy wasps were described as bees, hairless bees as wasps, and it took a long time before the characters distinguishing the Pompilidae from the Sphecidae were discovered. Many problems were solved when in the early years of the nineteenth century LATREILLE and other authors laid a solid foundation for the classification of these insects by making detailed studies of their morphology. As a result of this work the generic position of the species described after 1810 rarely presents great difficulties. But the confusion existing in the preceding half century, together with the shortness of the early descriptions which rarely mention more than the coloration of the insects concerned, and the obscurity of some of the publications containing descriptions of new species, have put later authors before an immense number of problems. Many of these have been satisfactorily solved since then, but there still remains much to be done.

It is my intention to discuss in a series of papers various old species which have remained unrecognized or which have been overlooked or incorrectly identified by later authors. The stability of the nomenclature of the Hymenoptera is constantly threatened by the existence of such doubtful or forgotten names. Instead of waiting until these names are incidentally identified or rediscovered, it seems preferable to make a deliberate attempt to produce a wholesale revision of the species published before 1810.

In the course of my preliminary work on this subject the number of problems to be solved has already proved to be much greater than I had initially expected. I was well aware of the fact that DALLA TORRE's catalogue contains in the genera *Sphex*, *Vespa* and *Apis* a considerable number of "species dubiae" which belong to various families of Hymenoptera, and which are currently neglected by nearly all authors. I had not expected, however, that a study of the names registered by SHERBORN in his valuable "Index Animalium" would result in the discovery of several works which have not been consulted by DALLA TORRE.

All hymenopterists hope that it will soon become possible to resume the publication of a new "Catalogus Hymenopterorum", a work that began so hopefully shortly before the last war. However, the correction of errors and omissions in the old catalogue will then be as necessary as the addition of the thousands of new species described in the last sixty to seventy years. I hope that the following notes will facilitate this aspect of the work of the future cataloguers.

It is unavoidable that by a careful study of the work of the old authors we shall come across a number of cases where strict application of the Rules of Nomenclature would cause the disappearance of certain well established names. I want to state expressly, that my attempts to ascertain which names are valid under the Rules should not be regarded as definite proposals to use these names in cases where this would mean the rejection of names that have been in general use for a long time. The desirability to conserve certain invalid names, however, is

hardly a matter to be decided by the individual entomologist. I shall therefore be very grateful if my colleagues hymenopterists will consider such cases and send me their comments. Whenever a reasonable number of specialists is found to be in favour of the conservation of an invalid name, a proposal to that effect will be submitted to the International Commission on Zoological Nomenclature.

Besides in matters of nomenclatural importance, the assistance and cooperation of my colleagues in other parts of my investigations will be extremely welcome. Although I am now in a position to consult the wealth of old books and periodicals present in the scientific libraries in the Netherlands, it will occasionally be necessary to obtain information on works that are not available in this country. It will also be necessary to collect data on the present location of certain types and to study the various types of old species that are still in existence. Comments of specialists on the descriptions of unidentified species, many of which will be quoted in the following pages, will be much appreciated.

I have already received much help in these matters, but undoubtedly much more will be required as the work progresses.

A. THE SPECIES DESCRIBED BY FORSTER, 1771.

In a paper entitled "Novae Species Insectorum, Centuria I" J. R. FORSTER (1771) published the descriptions of nine aculeate Hymenoptera, partly from Europe, partly from North America. Only two of FORSTER's names are at present in general use:

Sphex spinosa Forster, 1771, p. 87 — "in Anglia" = *Nysson spinosus* (Forster), and

Chrysis cyanura Forster, 1771, p. 89, — "in Hispania ad Calpen freti Gaditani" [Gibraltar] = *Stilbum cyanurum* (Forster).

A third species, *Apis albifrons* Forster, 1771, p. 94, was described from "Anglia, ad fretum Gaditanum in Hispania, & in Germania". This name is generally regarded as a synonym of the one year older *Melecta luctuosa* (Scopoli), 1770, and this is undoubtedly correct.

The remaining six species are discussed below.

1. *Sphex xanthocephala* Forster, 1771, p. 86. — The original description is as follows:

"86. SPHEX XANTHOCEPHALA. Nigra, fronte flavâ, abdomine subsessili, pedibusque flavo maculatis. — Habitat in Angliâ. — MAGNITUDO Sphegis *cribrariae*. CAPUT nigrum, fronte macula magna flava, postice trifida. ANTENNAE longitudine thoracis nigrae, articulo infimo flavo. THORAX niger, puncto flavo ante alas. ALAE hyalinae, apice fusciscentes. ABDOMEN nigrum; margines segmentorum 2, 3, 4, 5, 6, fasciis flavis cincti, subtus puncta flava utrinque duo. PEDES flavi, genubus nigris, tarsis fuscis."

DALLA TORRE (vol. 8, p. 491) lists this species as a doubtful synonym of *Philanthus triangulum* (Fabricius), 1775. It seems to me that the identity of FORSTER's species is certain enough, for as far as I know, the male of *Philanthus triangulum* is the only British wasp which has a trifid mark on the frons. If this is correct, FORSTER's name must be officially suppressed if it is considered desirable to retain the name under which the insect has been very generally known for a long time.

2. *Chrysis cyanochrysa* Forster, 1771, p. 88. — This wasp was described by FORSTER as follows:

"88. CHRYSIS CYANOCHRYSIA. Glabra nitens, capite thoraceque cyaneis, reliquis viridi-aureis, ano quadridentato. — Habitat in Hispaniâ ad Calpen freti Gaditani. — MAGNITUDO parum inferior Chrysid. *ignita*. CAPUT cyaneum. LABIUM superius & regio inter oculos vestita pilis raris griseis. ANTENNAE fuscae, articulis duobus ultimis, ad basin cyaneis. THORAX scabriusculus punctatus cyaneus, sub alis versus abdomen utrumque dentes singuli. ALAE fuscae, costa venisque nigris. ABDOMEN viridi-aureum, ano quadridentato. VENTER concavus nitens, coloris beryllini. PEDES femoribus cyaneis, tibiis beryllinis, tarsis fuscis."

This Chrysid appears to have remained unrecognized, and since this may perhaps be due to the scarcity of FORSTER's publication, I have given a copy of the original description. It is perhaps complete enough to allow the identification of the species at the hand of a good collection of Chrysididae from southern Spain. In DALLA TORRE's catalogue *Chrysis cyanochrysa* Forst. is listed as an unidentified species, with a footnote: " = ? *Chrysis Chevrieri* Mocs. and *Chrysis ignita* L. (Mocsáry)". whereas CEBALLOS (1956) follows R. DU BUYSSON (1891), who placed "? *C. cyanochrysa*, Foerster" (sic!) in the synonymy of *C. taczanowszkyi* Radoszkowski, 1876.

3. *Vespa ruficornis* Forster, 1771, p. 90. — The original description is remarkably extensive, if we consider that it was published only thirteen years after LINNÉ's tenth edition.

"90. VESPA RUFICORNIS. Nigra, thorace hirta, antennis alisque rufescentibus; abdomine fasciis quinque interruptis flavis. — Habitat in Hispaniâ ad fretum Gaditanum. — MAGNITUDO *V. vulgaris*. CAPUT nigrum maxillis flavis, palpis ferrugineis, rostro vel linguâ nigra: *frons* flava, macula nigra versus antennis hastata; pone oculos lunula rufa. ANTENNAE ferrugineae, basi flavae: ad stemma primum puncta duo flava, in quolibet latere unum. THORAX niger, pilis flavis adpersus; antice macula vel linea sinuata flava cingitur; ad alarum basin punctum lineare flavum; ad horum punctorum extremitates macula transversa flava in thorace loco scutelli, ac pone hanc maculam sulci transversi bini. ALAE basi rufae, apice fusciscentes, venis ferrugineis. ABDOMEN glabrum, sessile, atrum, in quolibet segmento maculae binae oblongae flavae, anusque flavus: subtus segmenta tria vel quatuor ultima similiter maculis magnis (in singulo duabus) ornata. FEMORA basi nigra apice flava. TIBIAE apice spinosae, flavae. TARSI flavo-rufescentes, primi parvis extrorsum ciliati."

So far as I have been able to find out, the only pre-Dalla-Torrean author who paid attention to this wasp was GMELIN (1790), who apparently recognized it as a Sphecoid. This can be concluded from the fact that he placed it in the group "Crabrones Fabricii" of his genus *Vespa*, a group which contains species of Nyssoninae, Crabroninae, Oxybelinae, etc. He refers to FORSTER's paper under *Vespa gaditana* (p. 2765, no. 128), and adds his description in condensed form. The reason for renaming FORSTER's species is found on p. 2769 of GMELIN's work, where he lists as *Vespa ruficornis* a species which had been described three years previously by FABRICIUS as *Bembex ruficornis* ("Fabr. mant. ins. I p. 286. n. 9"). Why GMELIN changed the senior instead of the junior homonym, is not clear.

DALLA TORRE listed FORSTER's species once under *Crabro* (vol. 8, p. 623) and once under *Vespa* (vol. 9, p. 154), both times as a dubious species. The only other reference given by this author, besides those of FORSTER and GMELIN (the latter only in vol. 8) is "*Vespa ruficornis* Villers, C. Linnaei Entom. III, 1789, p. 278 n. 31", but this is incorrect, for VILLERS copied the description of FABRICIUS, 1787, not that of FORSTER, 1771. I have not found FORSTER's species mentioned in various recent works, and CEBALLOS (1956) in his catalogue of

Spanish Hymenoptera merely repeats DALLA TORRE's references both under *Crabro* and under *Vespa* 1).

It appears then, that nobody has realised that *Stizus ruficornis* (Fabricius), 1787, a well known mediterranean Sphecoid wasp, bears an invalid name because it was first described by FABRICIUS in 1787 as *Vespa ruficornis*, which name is thus a junior homonym of *Vespa ruficornis* Forster, 1771. Fortunately, the consequences of this discovery appear to be less serious than one would expect at first sight.

FORSTER's description leaves little doubt that it is based on the same species which FABRICIUS described sixteen years later as new under the same name. It seems even probable that the identity of the two names is not a matter of mere coincidence. FABRICIUS described his species from one or more specimens from Spain in the collection of Prof. VAHL; this material may have been labelled as "*ruficornis*" and FABRICIUS may have adopted this name without being aware that it had already been published.

If my identification of *Vespa ruficornis* Forster can be confirmed by other hymenopterists, the only necessary changes are to replace FABRICIUS's name as author of *Stizus ruficornis* by that of FORSTER, and to date the species from 1771.

4. *Apis sericea* Forster, 1771, p. 91. — The original description of this species is as follows:

"91. APIS SERICEA. Capite, thoraceque viridi-nitente; abdomine nigro, fasciis quinque, pedibusque flavis. — Habitat in America Septentrionali. — MAGNITUDO & facies Chrysid. *ignitae*. LABIUM superius & maxillae flavae. LINGUA nigra, longitudine capituli. ANTENNAE nodosae, supra fuscae, infra flavae. CAPUT viride nitens. OCULI fuscii. THORAX viridi-aureus. ABDOMEN ovatum, nigrum, fasciis quinque flavis. PEDES omnes flavii. FEMORA postica dente parvo. ALAE fuscae hyalinae."

Apis sericea Forster, 1771, which invalidates *Apis sericea* Christ, 1791, a European species of *Andrena*, appears to have been overlooked by American workers and is lacking in the catalogue of North American Hymenoptera. It is evidently a species of the genus *Agapostemon* Guérin, perhaps the same as *A. virescens* (Fabricius), 1775?

5. *Apis vespiformis* Forster, 1771, p. 92. — The name is a junior primary homonym of *Apis vespiformis* Scopoli, 1763, and therefore invalid. A replacement name was given by GMELIN (1790) on p. 2788, no. 145: *Apis vesparia*.

FORSTER's original description is as follows:

"92. APIS VESPIFORMIS. Nigra, antennis, ore, maxillis, pedibus, & alis ferrugineis; thorace punctis abdomine fasciis quinque flavis, primis interruptis. — Schaeffer. ic. ins. ratisb. t. 53. f. 11. & t. 81. f. 7. — Habitat in Americâ Septentrionali & Germaniâ. — CORPUS nigrum, magnitudine *Apis mellificae*, facie vespae. MAXILLAE ferrugineae apice fuscae. LINGUA ferruginea. ANTENNAE nodosae ferrugineae. THORAX puncto ferrugineo ad collum, ad callum alae, sub ala, in scutello, & unico sub scutello. ABDOMEN fasciis quinque flavis; quarum duae, proximae thoraci, interruptae. ALAE ferrugineae. PEDES ferrugineo-flavi."

If FORSTER's material was correctly labelled, this is a composite species. It was placed by DALLA TORRE in the genus *Nomada*, and this is undoubtedly correct. Both SCHAEFFER's figures, mentioned in the description, represent a species of this genus. The identity of *Nomada vesparia* (Gmelin), 1790, is uncertain. If

1) In the index of CEBALLOS's work the author's name is misspelt: "Förtser" and "Först."

specimens agreeing with FORSTER's description are found to occur in North America as well as in Germany, it may perhaps be better to suppress this name.

6. *Apis noveboracensis* Forster, 1771, p. 93. — The original description is as follows:

"93. APIS NOVEBORACENSIS. Atra, subvillosa, alis atro-caerulescentibus, abdominis segmento secundo & tertio fascia flava. — Habitat in Americae Septentrionalis provinciâ Noveboracensi. — MAGNITUDO vespae vulgaris, tota atra, subvillosa. LINGUA brevis ferruginea. ANTENNAE atrae nodosae. ABDOMINIS segmentum secundum & tertium superiori parte fascia flava. ALAE atro-caeruleae. TARSII postici spinis ferrugineis. TIBIAE anticae spina incurva ferruginea. — *Drury illustr.* t. 44. f. 5. videtur esse varietas fasciis quatuor flavis, & capite flavescente."

In DALLA TORRE's catalogue (vol. 10, p. 611) this is one of the numerous dubious species in the genus *Apis*; the name is misspelt here: "*novoboracensis*".

The figure, mentioned in FORSTER's description, gives an important clue to the identity of this "*Apis*", for it represents a female of the well-known North American Scoliid wasp *Campsomeris plumipes* (Drury). The description seems to apply well to the female of the Central- and South-American *Campsomeris dorsata* (Fabricius), 1787, which differs from *C. plumipes* mainly in having the second and third gastral tergites almost completely orange-yellow (CHESTER BRADLEY, 1928, pp. 317, 318, 333). I suspect therefore that FORSTER's name is based on an incorrectly labelled specimen (*Eboracum* = York) of *Campsomeris dorsata* (Fabr.). If this is confirmed by other workers, FORSTER's name would have to replace that of FABRICIUS.

I have not found the name of this species in the catalogue of North American Hymenoptera.

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