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Abundance of Ichneumoninae in a Pyrenean Mediterranean system and first catalogue of the subfamily for Andorra
(Hymenoptera, Ichneumonidae)

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Abstract

In the current article, the abundance of the subfamily Ichneumoninae (Hymenoptera: Ichneumonidae) is studied in a Pyrenean Mediterranean area located to 1050 m of altitude at the Principality of Andorra. The sampling was developed from July of 1992 until December of 1993, using a commercial Malaise trap of black colour. A total of 440 specimens belonging to 6 tribes, 43 genera, 93 verified species and 20 undetermined species were collected. The global ratio between the number of species and the number of exemplars was of 1:3.89. The sex ratio ♂:♀ was equal (1993) or favourable to the males (1992, 2.96:1). All the tribes, mainly the Ichneumonini highlighted (227 specimens, 21 genera and 54 species), followed by the Phaeogenini (165 specimens, 13 genera and 45 species. The genera *Barichneumon*, *Dicaelotus* (*Dicaelotus*), *Ichneumon* and *Aethecerus* accumulated the 41.59% of the totality of species, and together with the genera *Baranisobas*, *Ctenichnuemon* and *Virgichneumon* the 60.28% of the captured exemplars. The species *Baranisobas ridibundus* and *Dicaelotus* (*Dicaelotus*) *montanus* were the most abundant, with 31 and 30 specimens, respectively. On the other hand, the catalogue of this subfamily for Andorra is configured starting from now for 6 tribes, 43 genera and 108 verified species, of those that 92 are new for Andorra and of these 8 are also first appoint-ment for the Iberian Peninsula.

Zusammenfassung

In der vorliegenden Arbeit wird die Artenfülle der Subfamilie Ichneumoninae (Hymenoptera: Ichneumonidae) in dem 1050 m hoch liegenden Pyrinäenstaat Andorra dokumentiert. Die Untersuchungen fanden vom Juli 1992 bis Dezember 1993 statt. Insgesamt wurden 440 Exemplare aus 6 Tribus, 43 Gattungen mit 93 determinierten sowie 20 unbestimmte Arten mit einer schwarzen Malaise-Falle gefangen. Das Verhältnis zwischen der Artenzahl und der Anzahl der Exemplare war 1:3.89. Das Verhältnis zwischen ♀♀ und ♂♂ war gleich (1993) oder zugunsten der Männchen 2.96:1 (1992). Bei den Tribus überwiegen die Ichneumonini (227 Exemplare, 21 Gattungen und 54 Arten) gefolgt von den Phaeogenini (165 Exemplare, 13 Gattungen und 45 Arten). Die häufigsten Arten (41,59%) gehören in die Gattungen *Barichneumon*, *Dicaelotus* (*Dicaelotus*), *Ichneumon* und *Aethecerus* zusammen mit den Gattungen *Baranisobas*, *Ctenichneumon* und *Virgichneumon* (60,28%). *Baranisobas ridibundus* mit 31 und *Dicaelotus* (*Dicaelotus*) *montanus* mit 30 Exemplare waren am häufigsten. Von den aufgeführten Arten sind 92 neu für Andorra und 8 werden erstmals für die Iberische Halbinsel nachgewiesen.

Resumen

En el presente artículo se estudia la abundancia de la subfamilia Ichneumoninae (Hymenoptera: Ichneumonidae) en un área mediterránea pirenaica situada a 1050 m de altitud en el Principado de Andorra. El muestreo se desarrolló desde julio de 1992 hasta diciembre de 1993, utilizando una trampa de Malaise comercial de color negro. Se capturaron un total de 440 ejemplares, que correspondieron a 6 tribus, 43 géneros, 93 especies verificadas y 20 especies indeterminadas. La ratio global entre el número de especies y el número de ejemplares fue de 1:3.89. La sex ratio ♂:♀ fue paritaria (1993) o favorable a los machos (1992, 2.96:1). Del total de tribus encontradas, destacaron principalmente la Ichneumonini (227 ejemplares, 21 géneros y 54 especies), seguida de la Phaeogenini (165, 13 y 45, respectivamente). Los géneros *Barichneumon*, *Dicaelotus* (*Dicaelotus*), *Ichneumon* y *Aethecerus* acumularon el 41.59% del total de especies, y junto con los géneros *Baranisobas*, *Ctenichnuemon* y *Virgichneumon* el 60.28% de los ejemplares capturados. Las especies *Baranisobas ridibundus* y *Dicaelotus* (*Dicaelotus*) *montanus* fueron las más abundantes, con 31 y 30 ejemplares, respectivamente. Por su parte, el catálogo de esta subfamilia para Andorra queda configurado a partir de ahora por 6 tribus, 43 géneros y 108 especies verificadas, de las que 92 son nuevas para Andorra y de éstas 8 son además primera cita para la Península Ibérica.

Introduction

The subfamily Ichneumoninae (Hymenoptera: Ichneumonidae) constitutes a group of wasps that are endoparasitoids of larvae and pupae of Lepidoptera. According to the last estimate carried out by YU et al. (1999) starting from YU & HORSTMANN (1997), they are known 15 tribes, 438 genera and 4.288 species worldwide, being specifically more abundant in the Palaearctic region.

Together with the one of SANCHIS et al. (1999) for the group of Ichneumonoidea, this work enlarges the information previously offered by PUJADE-VILLAR (1996) and SEGADE et al. (1997), where the exemplar abundances of insects and Hymenoptera captured in a

Pyrenean Mediterranean area of Andorra were estimate respectively, using for it a commercial Malaise trap of black colour from July of 1992 until December of 1993 (18 months). Together to those already mentioned in the bibliography (HILPERT 1992, SELFA 1994, SELFA & ANENTO 1998), the collected species have also been good us to offer now a first catalogue of the subfamily for the Principality of Andorra. On the other hand, our results are united to the work of HORSTMANN (1992), only until the present that had approached exclusively the study of the family Ichneumonidae in an area of the Iberian Peninsula using the same capture technique, although without listing the specific taxa.

The characteristics of the study area, the climatic data and the field methodology used already appear thoroughly detailed in PUJADE-VILLAR (1996). Therefore, we will only limit ourselves to point out that we begin the separation of the material to leave of a total of 7,536 Ichneumonidae that, according to SEGADE et al. 1997), they represented the 19.41% of the total of captured Hymenoptera (38,829). On the other hand, to avoid reiterations when indicating the data of the captures, we will leave of the following information.

The sampling belongs globally to the detailed information as: "Andorra, Santa Coloma, Vall del Roc de Sant Vicenç, near the river Enclar, particular land of Can Miqueldolça, 1.050 m of altitude, black Malaise trap (model Townes of commercial origin Marris House Nets, London), leg. Juli Pujade-Villar."

The dates will appear in this manuscript starting from now with the following nomenclature: I = 1-31.7.1992, II = 1-31.8.1992, III = 1-30.9.1992, IV = 1-31.10.1992, V = 1-30.11.1992, VI = 1-31.12.1992, VII = 1-15.1.1993, VIII = 16-31.1.1993, IX = 1-15.2.1993, X = 16-28.2.1993, XI = 1-15.3.1993, XII = 16-31.3.1993, XIII = 1-15.4.1993, XIV = 16-30.4.1993, XV = 1-15.5.1993, XVI = 16-31.5.1993, XVII = 1-15.6.1993, XVIII = 16-30.6.1993, XIX = 1-15.7.1993, XX = 16-31.7.1993, XXI = 1-15.8.1993, XXII= 16-31.8.1993, XXIII = 1.15.9.1993, XXIV = 16-30.9.1993, XXV = 1-15.10.1993, XXVI = 16-31.10.1993, XXVII = 1-15.11.1993, XXVIII = 16-30.11.1993, XXIX = 1-15.12.1993, XXX = 16-31.12.1993.

The whole studied material will be deposited starting from now in the Entomological Collection of the Departament de Zoologia (Universitat de València), to exception of 21 specimens belonging to the tribe Phaeogenini that are indicated below (HCZSM) where will remain in the Hymenoptera Collection of the Zoologische Staatssammlung (München, Deutschland).

Results

A total of 440 exemplars belonging to 6 tribes, 43 genera, 93 verified species and 20 uncertain species were surveyed. Next it is listed by alphabetical order the captured material, and later it will be carried out a faunal analysis of the same one.

Studied material

Aethecerus discolor: II 1♂, III 1♂.
Aethecerus fulvidens: XVIII 1♀.
Aethecerus nitidus nitidus: XXI 1 ♂.
Aethecerus placidus: XX 1♀.
Aethecerus porcellus: II 1♂, XVIII 1♀.
Aethecerus regius: I 1♂ placed in HCZSM, II 2♀♀ 1♂, III 2♂♂, XIX 2♀♀, XX 4♀♀ 2♀♀ placed in HCZSM, XXI 1♀, XXII 1♂.
Aethecerus sp. 1: II 1♀, XVIII 1♀, XIX 1♀.

Aethecerus sp. 2: II 1♀, XXI 1♀.
Aethecerus sp. 3: I 1♂.
Aethecerus sp. 4: I 1♂, II 1♂.
Anisobas cingulatellus: II 4♂♂.
Apaeleticus inimicus: I 1♀, II 2♀♀, III 1♂, XX 1♀, XXI 1♀.
Baranisobas ridibundus: I 5♂♂, II 6♂♂, III 1♂, XIX 4♀♀ 2♂♂, XX 6♂♂, XXI 2♂♂, XXII 5♀♀.
Barichneumon anator: XIX 2♀♀.
Barichneumon bilunulatus bilunulatus: I 4♂♂, II 2♂♂, XIX 1♂, XX 1♀ 3♂♂, XXI 5♂♂, XXII 6♂♂.
Barichneumon chionomus chionomus: XX 2♂♂, XXI 1♀, XXII 1♀.
Barichneumon derogator derogator: I 1♂, II 1♂, XIX 1♂, XX 2♀♀ 1♂, XXI 1♂, XXII 4♂♂.
Barichneumon gemellus: II 1♂.
Barichneumon nubilis: III 1♀, XXIII 1♀.
Barichneumon perversus: II 1♂.
Barichneumon praeceptor praeceptor: I 4♂♂, II 1♂, XX 3♂♂, XXI 1♂.
Barichneumon sedulus: I 1♂, II 1♂.
Barichneumon sexalbatus: XX 1♂.
Barichneumon sp. 1: XVII 1♂.
Barichneumon sp. 2: XXI 1♂.
Barichneumon sp. 3: XX 1♂.
Barichneumon sp. 4: XXVIII 1♂.
Centeterus rubiginosus: XVIII 1♀.
Chasmias motatorius: XX 1♀, XXII 2♂♂.
Coelichneumon (*Coelichneumon*) *comitator*: I 2♂♂, II 1♂, XVII 1♀, XX 1♀.
Coelichneumon (*Coelichneumon*) *consimilis*: XX 1♀.
Coelichneumon (*Coelichneumon*) *nigerrimus*: XXVIII 1♂.
Coelichneumon (*Coelichneumon*) *serenus*: XX 1♀.
Coelichneumon (*Coelichneumon*) sp.: XX 1♀.
Colpognathus celerator: II 2♂♂, XXII 1♂.
Cratichneumon albifrons: XX 1♂.
Cratichneumon coruscator coruscator: XIX 2♀♀, XX 1♂, XXII 1♀.
Crytea erythraea: XXII 1♀.
Ctenichneumon inspector: I 2♂♂, II 2♂♂, XIX 2♂♂, XX 1♂, XXI 1♂.
Ctenichneumon melanocastanus: XVI 1♀.
Ctenichneumon nitens nitens: I 1♀ 3♂♂, II 2♀♀ 1♂, XX 1♂, XXI 3♂♂, XXII 1♂, XXVII 1♂.
Ctenichneumon panzeri panzeri: I 1♂, XVII 1♂.
Cyclolabus pactor: I 1♀, II 4♀♀, III 2♀♀.
Diadromus collaris: II 1♀, XIX 1♀.
Diadromus rubicundus: II 1♂ placed in HCZSM, XVII 2♀♀, XX 1♂.
Diadromus troglodytes: I 1♂, II 2♂♂, XVII 1♀, XIX 2♂♂, XX 1♂.
Dicaelotus (*Dicaelotus*) *cameroni*: II 1♀.
Dicaelotus (*Dicaelotus*) *inflexus*: XIX 1♂.
Dicaelotus (*Dicaelotus*) *montanus*: I 1♀ 1♂, II 6♂♂ 1♂ placed in HCZSM, III 2♂♂; XVI 1♀, XVII 3♀♀ 1♀ placed in HCZSM, XVIII 1♀, XIX 1♀ 1♂, XX 6♀♀ 1♂, the male placed in HCZSM; XXI 1♀ 2♂♂, XXII 2♂♂, XXIII 1♀ placed in HCZSM.
Dicaelotus (*Dicaelotus*) *parvulus*: XXIV 1♀.
Dicaelotus (*Dicaelotus*) *pictus*: XIX 1♀, XX 1♀.
Dicaelotus (*Dicaelotus*) *pudibundus*: II 1♂, XX 1♂.
Dicaelotus (*Dicaelotus*) *pulex*: III 1♀.
Dicaelotus (*Dicaelotus*) *punctiventris*: XVII 1♀, XVIII 2♀♀, XIX 1♀.
Dicaelotus (*Dicaelotus*) *pusillus*: I 1♀, II 2♀♀ 1♀ placed in HCZSM, XVIII 1♀ placed in HCZSM, XX 1♀, XXI 1♀, XXII 1♀.
Dicaelotus (*Dicaelotus*) *suspectus*: XX 1♀.
Dicaelotus (*Dicaelotus*) sp. 1: XX 1♀.
Dicaelotus (*Dicaelotus*) sp. 2: I 1♂, II 4♂♂, XVII 1♂, XVIII 1♂, XIX 1♂, XX 3♂♂.
Diphyus castanopyga: I 2♂♂, II 2♂♂, XIX 1♂, XX 3♂♂, XXI 1♂.
Dipyus palliatorius: I 2♂♂, II 1♂.
Dirophanes fulvitarsis: III 1♂.
Dirophanes invisor: II 1♀, XVIII 1♂, XIX 1♂.
Dirophanes regenerator: III 2♂♂ 1♂ placed in HCZSM, XVII 2♀♀, XXI 2♂♂, XXII

1♂.
Epitomus infuscatus: XIII 1♀.
Epitomus sp.: II 1♀.
Eurylabus torvus: XXI 1♀.
Herpestomus minimus: II 1♂ placed in HCZSM, XVII 1♀ placed in HCZSM, XVIII 1♂, XXI 1♀, XXII 1♀, XXVI 1♀ placed in HCZSM.
Herpestomus sierramorenator: XVIII 1♀ placed in HCZSM, XXI 1♀, XXIII 1♂.
Heterischnus debilis: XXIV 1♀.
Heterischnus pictipes: I 2♀♀, II 1♀ 1♂, XVIII 1♀ placed in HCZSM, XIX 1♀, XXI 1♀ placed in HCZSM, XXII 1♀.
Heterischnus pulchellus: XVIII 1♀, XX 1♀ placed in HCZSM.
Heterischnus truncator: II 1♂.
Homotherus berthoumieui: XXVII 1♀.
Homotherus locutor bleusei: XVII 1♀, XX 1♂.
Homotherus sp.: III 1♀.
Hoplismenus bidentatus bidentatus: XVI 1♀, XIX 1♀.
Ichneumon affector affector: XIX 1♀, XX 1♀.
Ichneumon extensorius extensorius: I 7♂♂, II 4♂♂, XIX 1♂, XX 1♂.
Ichneumon minutorius: I 3♂♂, II 2♂♂, XIX 1♂, XXI 1♂, XXII 1♂.
Ichneumon quadrialbatus: I 1♀.
Ichneumon sarcitorius sarcitorius: XIX 1♂, XX 4♂♂, XXI 1♂.
Ichneumon terminatorius: XVII 1♂.
Ichneumon tuberculipes: I 1♀, II 1♀.
Ichneumon sp. 1: XX 1♂.
Ichneumon sp. 2: XX 1♂.
Ichneumon sp. 3: XIX 1♂.
Ichneumon sp. 4: XX 1♂.
Limerodes arctiventris: XX 1♂.
Linycus exhortator exhortator: II 1♀ 1♂, XX 1♀.
Lymantrichneumon disparis disparis: I 2♀♀ 1♂, II 4♂♂, XIX 1♀, XX 1♀, XXII 1♂.
Obtusodonta equitatoria equitatoria: I 1♂, II 1♂.
Oiorhinus pallipalpis: II 1♀.
Orotylus mitis: I 4♂♂, II 1♂, XVIII 1♀, XX 1♂ placed in HCZSM, XXI 1♂.
Platylabus pedatorius: I 2♀♀ 1♂, XX 1♀, XXII 1♀.
Platylabus sp.: XXVIII 1♂.
Pseudoamblyteles homocerus homocerus: I 2♂♂, II 1♂, XVII 1♀, XIX 1♀, XX 1♀ 1♂.
Spilichneumon occisorius: XXII 1♂.
Spilothyrateles punctus: I 3♂♂, XIX 1♂, XX 2♂♂, XXI 3♂♂.
Stenichneumon militarius militarius: I 1♂, II 1♂.
Stenobarichneumon basiglyptus basiglyptus: XXII 1♀.
Stenodontus marginellus: II 1♂, III 2♀♀, XVII 2♀♀ 1♀ placed in HCZSM, XXV 2♀♀, XXVI 1♀.
Stenodontus meridionator: XIX 1♀ placed in HCZSM, XX 1♀.
Syspasis scutellator: XVI 1♀, XX 1♀.
Tycherus bifarius: I 1♀.
Tycherus sp. 1: I 2♀♀.
Tycherus sp. 2: XIX 1♂.
Ulesta perspicua: I 1♂.
Virgichneumon albosignatus: I 1♂.
Virgichneumon digrammus digrammus: I 2♂♂, III 1♂, XVII 1♀, XX 2♀♀, XXIII 1♀.
Virgichneumon monostagon monostagon: XXI 1♂.
Virgichneumon tergenus: I 2♂♂, II 2♀♀ 4♂♂, XVII 2♀♀, XIX 1♂, XX 1♀ 2♂♂.
Vulgichneumon deceptor: II 1♂.
Zanthojoppa lutea lutea: XIX 1♀.

Faunal analysis

In the Table 1 the annual and accumulated abundances of the exemplars for sexes and tribes are indicated, while Table 2 shows for capture dates the abundances of sexes and species and the relationship number of species/total number of exemplars.

The 440 exemplars of collected Ichneumoninae were divided in 190 (year 1992) and 250 (year 1993), which represented the 5.84% on the total Ichneumonidae and 1.13% on that of the Hymenoptera. The global ratio between number of species and number of exemplars was consequently of 1:3.89.

The most abundant tribe in specimens was the Ichneumonini (227, 51.59% on the total of the subfamily), followed by Phaeogenini (165, 37.5%), Platylabini (22, 5.00%), Heresiarchini (21, 4.77%), Listrodomini (4, 0.91%) and Eurylabini (1, 0.23%). During 1992 48 females (25.26% on the annual total of Ichneumoninae) and 142 males (74.74%) were captured, while in 1993 125 were obtained for each sex (50.00%). The biggest abundance of exemplars did happen, in 1992 during August (67♂♂ + 24♀♀, 47.89% on the annual total of Ichneumoninae), and in 1993 along July (67♂♂ + 57♀♀, 49.6%).

The most abundant tribe in taxa was also the Ichneumonini, with 21 genera and 54 species, followed by the Phaeogenini (13 and 45), Heresiarchini (3 and 7), Platylabini (4 and 5), Listrodomini (1 and 1) and Eurylabini (1 and 1). The most abundant genera were, in species *Barichneumon* (14), *Dicaelotus* (*Dicaelotus*) (12), *Ichneumon* (11) and *Aethecerus* (10) (for a total of 47 on 113, 41.59%), and in exemplars *Dicaelotus* (*Dicaelotus*) (62), *Barichneumon* (59), *Ichneumon* (37), *Baranisobas* (31), *Aethecerus* (29), *Ctenichneumon* (24) and *Virgichneumon* (23) (for a total of 265 on 440, 60.28%). On the other hand, the most abundant species in specimens were mainly Baranisobas ridibundus (31) and *Dicaelotus* (*Dicaelotus*) *montanus* (30).

Discussion

In the current study, the subfamily Ichneumoninae turned out to have a low representation in number of exemplars inside the family Ichneumonidae, mainly if we compare it with the percentages of the two subfamilies more abundant prospected previously only for 1993, Cryptinae (52%) and Campopleginae (28%) (CUENCA et al. 1996). The supremacy of these subfamilies and the low percentage of Ichneumoninae also appeared previously in OWEN et al. (1981) and HORSTMANN (1992), where the same capture technique was used in habitats of great similarity to ours.

In comparison with the subfamily Aphidiinae (Braconidae), the other group of Ichneumonoidea studied in detail by SANCHIS et al. (1999), the Ichneumonidae captures for both years (1992 + 1993) were some 2.7 times smaller (190 + 250 in front of 349 + 821), and in 1993 they supposed a quantity of 3.3 times minor (250 in front of 821) while the difference among percentages referred to the global of each family spent in that same year of 8.1 times minor (3.32% in front of 26.83%). The biggest capture in specimens of Ichneumoninae in 1993, apparently it would come influenced by the climatic conditions relative to an accused descent of the rainfall with regard to 1992 (according to data offered by PUJADE-VILLAR 1996), that which agrees with that observed for the Aphidiinae, although the differences were not so significant with regard to those.

If we keep in mind the data provided by SEGADE et al. (1997), the maximum of captures of Ichneumonidae during 1992 coincided with that of Ichneumoninae in the same month (August), while it was ahead to June in 1993. Identical result happened with the family Braconidae in the total of the study, and also with the subfamily Aphidiinae although only for 1993. The maxima of the captures observed in other families of Parasitic Hymenoptera show heterogeneity with regard to ours.

With regard to the comparison among ratios, the global ratio between number of

TRIBES	1992			1993			1992+1993		
	♂	♀	♂+♀	♂	♀	♂+♀	♂	♀	♂+♀
Phaeogenini	44	22	66	30	69	99	74	91	165
Eurylabini	0	0	0	0	1	1	0	1	1
Heresiarchini	8	2	10	2	9	11	10	11	21
Ichneumonini	83	11	94	92	41	133	175	52	227
Listrodomini	4	0	4	0	0	0	4	0	4
Platylabini	3	13	16	1	5	6	4	18	22
TOTAL	**142**	**48**	**190**	**125**	**125**	**250**	**267**	**173**	**440**

Table 1.- Annual and accumulated abundances of the exemplars for sexes and tribes.

Data	No ♂	No ♀	No Spp	Ratio Spp: ♂+♀
I	65	16	41	1:1.98
II	67	24	46	1:1.98
III	9	7	12	1:1.33
IV	0	0	0	0
V	0	0	0	0
VI	0	0	0	0
VII	0	0	0	0
VIII	0	0	0	0
IX	0	0	0	0
X	0	0	0	0
XI	0	0	0	0
XII	0	0	0	0
XIII	0	1	1	1:1.00
XIV	0	0	0	0
XV	0	0	0	0
XVI	0	4	4	1:1.00
XVII	4	18	16	1:1.37
XVIII	2	13	14	1:1.07
XIX	20	22	31	1:1.35
XX	47	35	48	1:1.71
XXI	27	10	25	1:1.48
XXII	21	13	20	1:1.7
XXIII	1	3	4	1:1.00
XXIV	0	2	2	1:1.00
XXV	0	2	1	1:2.00
XXVI	0	2	2	1:1.00
XXVII	1	1	2	1:1.00
XXVIII	3	0	3	1:1.00
XXIX	0	0	0	0
XXX	0	0	0	0

Table 2.- Abundances of sexes and species and the relationship number of species/total number of exemplars, both for capture dates.

species and number of specimens was of 1:3.89 for the Ichneumoninae (113 species and 440 specimens) in front of 1:27.86 of the Aphidiinae (42 and 1,170, respectively). On the other hand, the ratio between males and females in 1993 was of 1:1 for the first ones, and of 1:2.95 for the seconds; however, in 1992 we only have data for the Ichneumoninae, in short 2.96:1, practically the same proportion although to the inverse one with regard to the Aphidiinae in 1993.

Likewise, the subfamily Ichneumoninae turned out to be globally much more abundant in genera and species that the subfamily Aphidiinae (43 and 113 for 13 and 42). Also, in the Ichneumoninae they appeared a bigger number of genera that overcame the 10 species, 4 in front of 1 (*Aphidius* NESS, 1819 according to SANCHIS et al. 1999). The presence of 2 species of Ichneumoninae like more outstanding as for the number of captured exemplars here, it also coincided with other 2 of the Aphidiinae, *Aphidius ervi* HALIDAY, 1834 and *Praon volucre* (HALIDAY, 1833) (SANCHIS et al. 1999).

Finally, prior to this study so single 16 icneumonine species had been mentioned in Andorra (HILPERT 1992, SELFA 1994, SELFA & ANENTO 1998), so that now they have not been captured with the only exception of *Ichneumon affector affector* again.

First catalogue of the subfamily Ichneumoninae (Ichneumonidae) for Andorra

According to all that exposed previously, the catalogue of the subfamily Ichneumoninae for the Principality of Andorra is configured starting from now for 6 tribes, 43 genera and 108 verified species, of those that 92 are new for Andorra and of these 8 are also first appointment for the Iberian Peninsula.

* = new for Andorra, ** new for the Iberian Peninsula.

Tribe Phaeogenini

Aethecerus WESMAEL, [1845].
discolor WESMAEL, [1845].*
fulvidens (BERTHOUMIEU, 1903).*
nitidus nitidus WESMAEL, [1845].*
placidus WESMAEL, [1845].*
porcellus HOLMGREN, [1890].**
regius WESMAEL, 1857.*
Centeterus WESMAEL, [1845].
rubiginosus (GMELIN, 1790).*
Colpognathus WESMAEL, [1845].
celerator (GRAVENHORST, 1807).*
Diadromus WESMAEL, [1845].
collaris (GRAVENHORST, 1829).*
rubicundus (BERTHOUMIEU, 1895).*
troglodytes (GRAVENHORST, 1829).*
Dicaelotus (*Dicaelotus*) WESMAEL, [1845].
cameroni BRIDGMAN, 1881.*
inflexus THOMSON, 1891.*
montanus (DE STEFANI, 1885).*
parvulus (GRAVENHORST, 1829).*
pictus (SCHMIEDEKNECHT, 1903).*
pudibundus (WESMAEL, [1845]).*
pulex BERTHOUMIEU, 1906.*
punctiventris (THOMSON, 1891).*
pusillus HOLMGREN, [1890].*
suspectus PERKINS, 1953.**
Dirophanes FÖRSTER, [1869].
fulvitarsis (WESMAEL, [1845]).**
invisor (THUNBERG, 1822).*
regenerator (FABRICIUS, 1804).*
Epitomus FÖRSTER, [1869].
infuscatus (GRAVENHORST, 1829).*
Herpestomus WESMAEL, [1845].
minimus (BERTHOUMIEU, 1901).**
sierramorenator SELFA, 1995.*
Heterischnus WESMAEL, 1859.
debilis (GRAVENHORST, 1829).*
pictipes (KRIECHBAUMER, 1894).*
pulchellus (THOMSON, 1891).*
truncator (FABRICIUS, 1798).*
Oiorhinus WESMAEL, [1845].

pallipalpis WESMAEL, [1845].*
Orotylus HOLMGREN, [1890].
mitis (WESMAEL, 1848).**
Stenodontus BERTHOUMIEU, 1897.
marginellus (GRAVENHORST, 1829).*
meridionator AUBERT, [1959].*
Tycherus FÖRSTER, [1869].
bifarius (BERTHOUMIEU, 1892).**
fuscicornis fuscicornis (WESMAEL, [1845]) (SELFA & ANENTO 1998).

Tribe Eurylabini

Eurylabus WESMAEL, [1845].
torvus WESMAEL, [1845].*

Tribe Heresiarchini

Coelichneumon (*Coelichneumon*) THOMSON, 1893.
comitator (LINNAEUS, 1758).*
consimilis (WESMAEL, [1845]).*
nigerrimus (STEPHENS, 1835).*
serenus (GRAVENHORST, 1820).*
Lymantrichneumon HEINRICH, 1968.
disparis disparis (PODA, 1761).*
Syspasis TOWNES, 1965.
scutellator (GRAVENHORST, 1829).*

Tribe Ichneumonini

Baranisobas HEINRICH, 1972.
ridibundus (GRAVENHORST, 1829).*
Barichneumon THOMSON, 1893.
anator (FABRICIUS, 1793).*
bilunulatus bilunulatus (GRAVENHORST, 1829).*
chionomus chionomus (WESMAEL, [1845]).*
derogator derogator (WESMAEL, [1845]).*
gemellus (GRAVENHORST, 1829).*
nubilis (BRISCHKE, 1891).**
perversus (KRIECHBAUMER, 1893).*
praeceptor praeceptor (THUNBERG, 1822).*
sedulus (GRAVENHORST, 1820).*
sexalbatus (GRAVENHORST, 1820).*
Chasmias ASHMEAD, 1900.
motatorius (FABRICIUS, 1775).*
Cratichneumon THOMSON, 1893.
albifrons (STEPHENS, 1835).*
coruscator coruscator (LINNAEUS, 1758).*
rufifrons (GRAVENHORST, 1829) (SELFA 1994).
viator viator (SCOPOLI,1763) (SELFA 1994).
Crytea CAMERON, 1906.
erythraea (GRAVENHORST, 1820).*
Ctenichneumon THOMSON, 1894.
inspector (WESMAEL, [1845]).*
melanocastanus (GRAVENHORST, 1820).*
nitens nitens (CHRIST, 1791).*
panzeri panzeri (WESMAEL, [1845]).*
Diphyus KRIECHBAUMER, 1890.
castanopyga (STEPHENS, 1835).*
palliatorius (GRAVENHORST, 1829).*
Homotherus FÖRSTER, [1869].
berthoumieui (PIC, 1899).*
locutor bleusei (PIC, 1898).*
Hoplismenus GRAVENHORST, 1829.
bidentatus bidentatus (GMELIN, 1790).*
Ichneumon LINNAEUS, 1758.
affector affector TISCHBEIN, 1879 (HILPERT 1992).
alius TISCHBEIN, 1875 (HILPERT 1992).
alpinator AUBERT, 1964 (HILPERT 1992).
balteatus WESMAEL, [1845] (HILPERT 1992).
dilleri HEINRICH, 1980 (HILPERT 1992).
exilicornis WESMAEL,1857 (HILPERT 1992).
extensorius extensorius LINNAEUS, 1758.*
haemorrhoicus crassigena KRIECHBAUMER, 1890 (HILPERT 1992, recte *albicollis albicollis* WESMAEL, 1857).
haemorrhoicus haemorrhoicus KRIECHBAUMER, 1887 (HILPERT 1992, recte *albicollis haemorrhoicus* KRIECHBAUMER).
insidiosus insidiosus WESMAEL, [1845] (HILPERT 1992).
minutorius DESVIGNES, 1856.*
phaeostignus WESMAEL, 1857 (HILPERT 1992).
porcellus HILPERT, 1992 (HILPERT 1992).
quadrialbatus GRAVENHORST, 1820.*
sarcitorius sarcitorius LINNAEUS, 1758.*

stramentarius stramentarius GRAVENHORST, 1820 (SELFA 1994).
terminatorius GRAVENHORST, 1820.*
tuberculipes WESMAEL, 1848.*
vafer vafer TISCHBEIN, 1876. (HILPERT 1992).
Limerodes WESMAEL, [1845].
arctiventris (SCHIDTE, 1839).*
Obtusodonta HEINRICH, 1962.
equitatoria equitatoria (PANZER, 1786).*
Pseudoamblyteles HEINRICH, 1926.
homocerus homocerus (WESMAEL, 1854).*
Spilichneumon THOMSON, 1894.
occisorius (FABRICIUS, 1793).*
Spilothyrateles HEINRICH, 1967.
punctus (GRAVENHORST, 1829).*
Stenichneumon THOMSON, 1893.
militarius militarius (THUNBERG, 1822).*
Stenobarichneumon HEINRICH, 1961.
basiglyptus basiglyptus (KRIECHBAUMER, 1890).**
Ulesta CAMERON, 1903.
perspicua (WESMAEL, 1857).*
Virgichneumon HEINRICH, 1977.
albosignatus (GRAVENHORST, 1829).*
digrammus digrammus (GRAVENHORST, 1820).*
monostagon monostagon (GRAVENHORST, 1820).*
tergenus (GRAVENHORST, 1820).*
Vulgichneumon HEINRICH, 1961.
deceptor (SCOPOLI, 1763).*
Zanthojoppa CAMERON, 1901.
lutea lutea (GRAVENHORST, 1829).*

Tribu Listrodomini

Anisobas WESMAEL, [1845].
cingulatellus HORSTMANN, 1997.*

Tribu Platylabini

Apaeleticus WESMAEL, [1845].
inimicus (GRAVENHORST, 1820).*
Cyclolabus HEINRICH, 1936.
pactor (WESMAEL, [1845].*
Linycus CAMERON, 1903.
exhortator exhortator (FABRICIUS, 1787).*
Platylabus WESMAEL, [1845].
pedatorius (FABRICIUS, 1793).*

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