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Poster N° 13

Two hundred years of hoverfly records : the changing fauna of the Bouches-du-Rhône department (France) (Diptera : Syrphidae)

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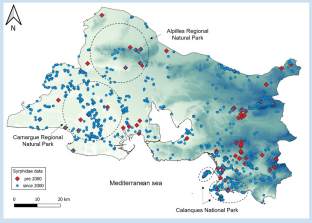
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(4) Centre National d'Agroécologie, Nice, France
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Material and Methods

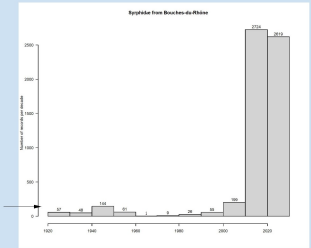
We gathered 5982 hoverfly records from 23823 specimens identified to the species level, spanning 1821 to 2026. The records are
(1) our own
(2) checked data from www.inaturalist.org
(3) Museum specimens
(4) published records.



Location of Bouches-du-Rhône department within France

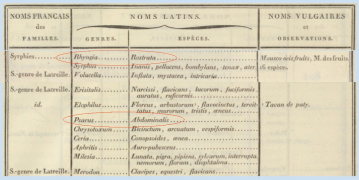


93 % of the records have been gathered since 2000

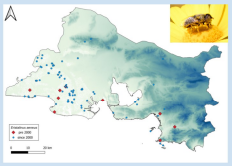


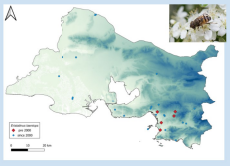
3 Museum specimens from the 1860s are omitted from this graph

A few results

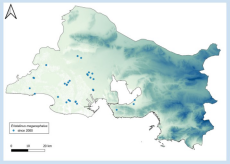


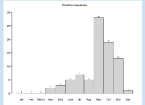
Two species of probable occurrence were cited only by de Villeneuve in his "Statistique du département des Bouches-du-Rhône" (1821), and have not been observed in the department since : ***Psarus abdominalis*** and ***Rhingia rostrata***.





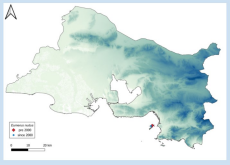
Eristalinus aeneus is found in the marshes of the Camargue and at coastal sites, while ***Eristalinus taeniops*** is mainly found in the Mediterranean scrublands of the SE of the department.

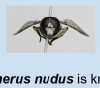






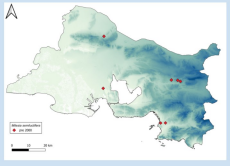
Eristalinus megacephalus was first recorded in 2015 and occurs at a few marshland sites where imagines are found mainly in autumn.

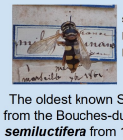






Eumerus nudus is known only from 7 specimens from the island of Ratonneau where Jean Timon-David collected it in 1936 and 1937, and where we found it again in 2024.





specimen 47071070 Musée des Confluences, Lyon

The oldest known Syrphidae specimen from the Bouches-du-Rhône is a ***Milesia semiluctifera*** from 1861. The species is known from 23 specimens, the last of which was collected in 1988.

Numbers of records per confirmed species

N°		data <2000	data >=2000	N°		data <2000	data >=2000	N°		data <2000	data >=2000
1	*Anasimyia contracta*	0	15	54	*Eumerus barbarus*	1	0	108	*Paragus bicolor*	2	67
2	*Baccha elongata*	1	3	55	*Eumerus cf. minotaurus*	0	1	109	*Paragus haemorrhous*	1	60
3	*Brachyopa insensilis*	0	2	56	*Eumerus hungaricus*	1	0	110	*Paragus pecchiolii*	1	27
4	*Brachyopa scutellaris*	0	4	57	*Eumerus nudus*	3	1	111	*Paragus quadrifasciatus*	2	60
5	*Brachypalpoides lentus*	1	6	58	*Eumerus obliquus*	0	3	112	*Paragus strigatus*	0	11
6	*Brachypalpus valgus*	0	8	59	*Eumerus ornatus*	1	13	113	*Paragus testaceus*	0	3
7	*Caliprobola speciosa*	1	1	60	*Eumerus sogdianus*	0	28	114	*Paragus tibialis*	2	111
8	*Callicera marcquarti*	1	4	61	*Eumerus tricolor*	1	2	115	*Parasyrphus punctulatus*	0	3
9	*Callicera spinolae*	1	0	62	*Eupeodes corollae*	10	392	116	*Parhelophilus croccocoronatus*	0	20
10	*Ceriana conopsoides*	2	16	63	*Eupeodes latifasciatus*	1	22	117	*Parhelophilus versicolor*	0	57
11	*Ceriana vespiformis*	2	65	64	*Eupeodes lucasi*	0	10	118	*Pelecocera garrigae*	0	12
12	*Chalcosyrphus nemorum*	1	39	65	*Eupeodes luniger*	2	33	119	*Pelecocera pruinosomaculata*	0	10
13	*Cheilosia albipila*	1	0	66	*Eupeodes nuba*	0	46	120	*Philhelius citrofasciatum*	1	15
14	*Cheilosia albitarsis*	4	0	67	*Ferdinandea aurea*	1	3	121	*Philhelius dives*	8	91
15	*Cheilosia griseiventris*	0	5	68	*Ferdinandea cuprea*	4	5	122	*Philhelius pedissequum*	4	22
16	*Cheilosia grossa*	0	2	69	*Ferdinandea fumipennis*	0	9	123	*Pipiza festiva*	9	4
17	*Cheilosia impressa*	1	0	70	*Helophilus pendulus*	3	107	124	*Pipiza noctiluca*	0	3
18	*Cheilosia latifrons*	1	31	71	*Helophilus trivittatus*	10	255	125	*Pipizella viduata*	5	2
19	*Cheilosia limbicornis*	1	3	72	*Heringia heringi*	5	15	126	*Pipizella virens*	1	1
20	*Cheilosia mutabilis*	0	3	73	*Ischiodon aegyptius*	0	1	127	*Platycheirus albimanus*	0	2
21	*Cheilosia proxima*	0	4	74	*Lapposyrphus lapponicus*	0	3	128	*Platycheirus ambiguus*	1	0
22	*Cheilosia ranunculi*	3	3	75	*Lejogaster tarsata*	0	6	129	*Platycheirus fulviventris*	0	41
23	*Cheilosia ruffipes*	7	28	76	*Lejops vittata*	0	10	130	*Platycheirus occultus*	0	1
24	*Cheilosia scutellata*	2	22	77	*Mallota cimbiciformis*	0	1	131	*Platycheirus scutatus*	1	3
25	*Cheilosia urbana*	2	7	78	*Mallota dusmeti*	0	4	132	*Psilota anthracina*	0	2
26	*Cheilosia vulpina*	0	2	79	*Matsumyia berberina*	0	1	133	*Psilota atra*	1	3
27	*Chrysotoxum bicinctum*	3	0	80	*Melangyna umbellatarum*	0	3	134	*Riponnensia splendens*	0	9
28	*Chrysotoxum cautum*	7	58	81	*Melanogaster nuda*	0	3	135	*Scaeva albomaculata*	0	14
29	*Chrysotoxum cisalpinum*	0	2	82	*Melanostoma mellinum*	6	247	136	*Scaeva dignota*	2	19
30	*Chrysotoxum festivum*	0	2	83	*Melanostoma scalare*	5	47	137	*Scaeva mecogramma*	0	3
	Chrysotoxum intermedium	21	51	84	*Meliscaeva auricollis*	7	113	138	*Scaeva pyrastri*	4	114
31	*Chrysotoxum intermedium A*	0	35	85	*Meliscaeva cinctella*	0	4	139	*Scaeva selenitica*	0	10
32	*Chrysotoxum intermedium B*	0	31	86	*Merodon albifrons*	12	30	140	*Sphaerophoria loewi*	0	17
33	*Chrysotoxum vernale*	1	5	87	*Merodon auriolus*	0	1	141	*Sphaerophoria rueppelli*	1	107
34	*Claussenia hispanica*	0	5	88	*Merodon avidus*	11	35	142	*Sphaerophoria scripta*	9	425
35	*Criorhina floccosa*	2	1	89	*Merodon clavipes*	19	26	143	*Sphiximorpha garibaldii*	0	5
36	*Criorhina pachymera*	0	2	90	*Merodon confusus*	1	3	144	*Sphiximorpha subsessilis*	0	5
37	*Dasysyrphus albostriatus*	2	17	91	*Merodon equestris*	3	12	145	*Spilomyia digitata*	7	0
38	*Didea fasciata*	3	10	92	*Merodon femoratus*	4	3	146	*Spilomyia saltuum*	1	0
39	*Epistrophe eligans*	8	95	93	*Merodon geniculatus*	0	5	147	*Syritta flaviventris*	0	21
40	*Epistrophe nitidicollis*	3	28	94	*Merodon legionensis*	1	1	148	*Syritta pipiens*	7	161
41	*Episyrphus balteatus*	11	466	95	*Merodon moenium*	1	1	149	*Syrphus nitidifrons*	0	1
42	*Eristalinus aeneus*	13	135	96	*Merodon rufus*	0	2	150	*Syrphus ribesii*	6	23
43	*Eristalinus megacephalus*	0	83	97	*Merodon trochantericus*	1	2	151	*Syrphus torvus*	0	4
44	*Eristalinus sepulchralis*	7	150	98	*Mesembrius peregrinus*	0	213	152	*Syrphus vitripennis*	4	26
45	*Eristalinus taeniops*	6	33	99	*Microdon devius*	0	2	153	*Tropidia fasciata*	0	2
46	*Eristalis arbustorum*	10	84	100	*Microdon myrmicae*	0	4	154	*Tropidia scita*	1	41
47	*Eristalis intricaria*	2	16	101	*Milesia crabroniformis*	10	7	155	*Volucella inanis*	4	2
48	*Eristalis pertinax*	0	12	102	*Milesia semiluctifera*	23	0	156	*Volucella inflata*	1	8
49	*Eristalis similis*	0	51	103	*Myathropa florea*	13	154	157	*Volucella pellucens*	0	2
50	*Eristalis tenax*	9	194	104	*Neoascia interrupta*	1	6	158	*Volucella zonaria*	17	61
51	*Eumerus amoenus*	2	6	105	*Neoascia podagrica*	4	20	159	*Xanthandrus comtus*	0	24
52	*Eumerus ancylostylus*	0	2	106	*Neocnemodon brevidens*	0	1	160	*Xylota segnis*	2	8
53	*Eumerus argyropus*	0	5	107	*Paragus albifrons*	1	7				

Species recorded from 1 or 2 specimens, pending confirmation

Callicera aurata	*Chrysotoxum verralli*	*Merodon nigritarsis*
Callicera fagesii	*Criorhina ranunculi*	*Myolepta nigritarsis*
Cheilosia barbata	*Epistrophella euchroma*	*Myolepta obscura*
Cheilosia fraterna	*Eristalis abusiva*	*Neoascia tenur*
Cheilosia nigripes	*Eumerus funeralis*	*Paragus majoranae*
Cheilosia pagana	~~*Eupeodes bucculatus*~~	~~*Philhelius stackelbergi*~~
~~*Cheilosia psilophthalma*~~	*Mallota fuciformis*	*Pipiza austriaca*
Chrysotoxum elegans	*Merodon funestus*	*Pipizella maculipennis*

Unconfirmed dubious records

Callicera aenea	*Leucozona lucorum*	*Volucella bombylans*
Chalcosyrphus piger	*Merodon gallicus*	*Xylota florum*
Cheilosia gigantea	*Microdon mutabilis*	*Xylota sylvarum*
Cheilosia variabilis	*Paragus cinctus*	*Xylota sylvarum*
Chrysotoxum arcuatum	~~*Platycheirus immaculatus*~~	
~~*Eristalis horticola*~~	*Sericomyia silentis*	
Ferdinandea ruficornis	*Spilomyia diophtalma*	

P.S. (Aug. 2026) : Names crossed out : records based on initial wrong identifications.

Over the last 25 years, our knowledge of the hoverfly fauna of the Bouches-du-Rhône has increased with the discovery of at least 68 species not previously known from this department.

The Bouches-du-Rhône was found to host several species rarely recorded in France :

- *Pelecocera garrigae* was described in 2022 partly with specimens from Bouches-du-Rhône department.
- *Eristalinus megacephalus, Parhelophilus croccocoronatus* and *Merodon auriolus* were (re-)discovered in mainland France on the basis of specimens found partly in Bouches-du-Rhône.
- Several Mediterranean species have their French stronghold in the department, e.g. *Parhelophilus croccocoronatus, Mesembrius peregrinus, Eristalinus megacephalus, Syritta flaviventris.*
- The island of Ratonneau hosts a population of the rare *Eumerus nudus*.

Despite our numerous surveys since 2000, ten species remained elusive, and are suspected locally extinct : *Callicera spinolae, Cheilosia albitarsis, Chrysotoxum bicinctum, Eumerus barbarus, Milesia semiluctifera, Platycheirus ambiguus, Psarus abdominalis, Rhingia rostrata, Spilomyia digitata, Spilomyia saltuum* .

The *Chrysotoxum intermedium/lessonae*, *Cheilosia latifrons/griseiventris* and *Paragus bicolor/testaceus* complexes should be clarified prior to a reexamination of our specimens and their distributions mapped.

The status of *Eumerus* cf. *minotaurus*, known only from one male captured in 2010, remains a mystery until new specimens are found.

A detailed catalogue, with local phenology and distribution maps is currently in preparation.