

NEW CONTRIBUTIONS TO THE PORTUGUESE BEE FAUNA (HYMENOPTERA: ANTHOPHILA), WITH CAPTURES FROM RECENT POLLINATION ECOLOGY STUDIES

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Abstract: In recent years, the knowledge of the Portuguese bee fauna has gained significant updates, proving there is considerable potential to clarify and discover new bee species at the regional and national scales. Pollination ecology studies can produce new relevant records with expanded study areas and periods of the year compared to historical national records. Here we report a list of records, mainly from the past 5 years, from several pollination ecology studies using mostly netting and pan-traps across the central and northern coastal regions of continental Portugal, and the central interior region of the country. The list includes 292 bee species, providing 180 new regional records for 7 (out of 11) Portuguese provinces and 6 species new to Portugal. This highlights the gaps still existing in our knowledge of the bee fauna in Portugal, and reinforces the potential contribution of pollination ecology-driven studies in improving our knowledge about bee occurrence and distribution.

Key words: Anthophila, Wild bees, Checklist, Regional data, Portugal.

Nuevas aportaciones a la fauna portuguesa de abejas (Hymenoptera: Anthophila), con capturas de estudios recientes de ecología de la polinización

Resumen: En los últimos años, el conocimiento de la fauna de abejas de Portugal se ha actualizado significativamente, lo que demuestra que existe un potencial considerable para aclarar y descubrir nuevas especies de abejas a escala regional y nacional. Los estudios de ecología de la polinización pueden producir nuevos registros relevantes con áreas de estudio y períodos del año ampliadas en comparación con los registros nacionales históricos. Aquí presentamos una lista de registros, principalmente de los últimos 5 años, de varios estudios de ecología de la polinización utilizando principalmente redes y trampas de colores en las regiones costeras central y norte de Portugal continental y la región interior central del país. La lista incluye 292 especies de abejas, incluyendo 180 primeros registros regionales para 7 (de las 11) provincias portuguesas y 6 especies nuevas para Portugal. Esto destaca las lagunas que aún existen en nuestro conocimiento de la fauna de abejas de Portugal y refuerza la contribución potencial de los estudios basados en la ecología de la polinización para mejorar nuestro conocimiento sobre la presencia y distribución de las abejas.

Palabras Clave: Anthophila, abejas silvestres, listado de especies, datos regionales, Portugal.

Introduction

Bees (Anthophila: Hymenoptera) represent a major group of insect pollinators in Portugal, a region considered a Mediterranean biodiversity hotspot (Michener, 2007; Orr *et al.*, 2021). In the last decade, the national bee checklist for continental Portugal was produced (Baldock *et al.*, 2018) and updated (Gaspar *et al.*, 2022; Litman *et al.*, 2022; Praz *et al.*, 2022; Soares *et al.*, 2022; Wood *et al.*, 2020, 2021; Wood & Ortiz-Sánchez, 2022; Wood & Le Divelec, 2022), raising the total number of species to 733 (Reverté, Miličić *et al.* in revision). Until very recently, the origin of new Portuguese bee records predominantly came from specialists making sporadic field collections. Nevertheless, new data from pollination ecology research (Gaspar *et al.*, 2022) has become a new important source of data from the country, especially when the involved experimental designs include large temporal and spatial scales and contribute to the build up of reference collections.

Pollination ecology research, both in wild plants and crops, can provide data from plant-pollinator interactions that occur in a multitude of habitats all year round. However, the methods used to evaluate the interaction are variable depending on the goal of the pollination ecology studies.

On some occasions, it might result in only a few collected insect specimens, as is the case of targeted captures for confirmation of the insect taxonomy in direct plant-pollinator observation surveys. In contrast, in other cases, a larger quantity of material is collected, mainly when the sweep netting methodology is applied for significant periods. Also, depending on the study's goal, this material might end up being identified to the level of functional groups only, and remains stored as bulk samples rather than prepared and added to entomological collections. Thus, in many cases, this material is poorly accessible and not deeply studied taxonomically by experts.

By exploring the potential of pollination ecology studies, we present here a list of new records of bees collected between 2018 and 2022 (with a few records from 2012) from several research projects, predominantly in the central region and northern coastal half of continental Portugal, but also with several collections in the central interior region of the country. This information is placed in context relative to our current knowledge of national and regional records to identify the first occurrences for different parts of Portugal.

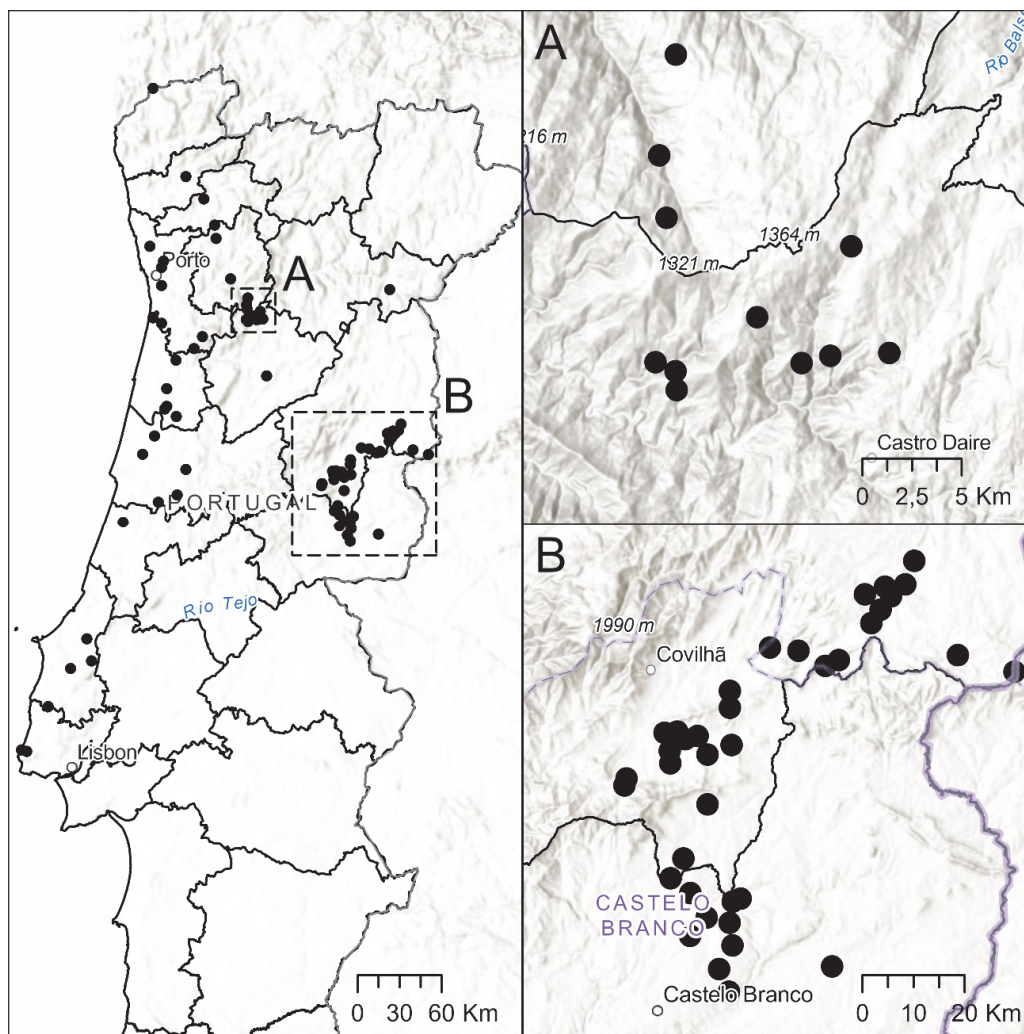


Fig. 1. Map representation of all record locations in continental Portugal, with an inset detail of the regions of Castro Daire (A) and Castelo Branco – Guarda region (B). Administrative units are given as in NUTS III 2013.

Materials and methodology

Each sampled locality is identified with a code (in most cases composed by a letter and number) provided in Table I with province, locality and geographical coordinates, and is mapped in Figure 1. Associated with each code there is a capture methodology as follows:

- F, L or S followed by two numbers (e.g. F01) correspond to collections using sweep netting in multiple existing habitats, on random transects using a net with a 35 cm Ø opening and 1 mm mesh in the surroundings of flower resources, done by H. Gaspar and S. Castro in 2022.

- Single letter codes from A to V (including A1, B2, C1 and C2) correspond to collections inside kiwi fruit orchards with pan-traps (one central transect, with three colour sets 24h per month at 5, 35 and 65 m from the margin) or sweep netting (on random transects using a net with a 35 cm Ø opening and 1 mm mesh in the surroundings of kiwi and wild flower resources), done by H. Gaspar, S. Castro, M. Castro, C. Siopa, H. Castro and V. Casais, between 2018 and 2020.

- Codes DT and PM correspond to individual direct captures using nets and jars with ethyl acetate at *Jasione montana*, CAMPANULACEAE, done by D. Tavares, H. Gaspar, S. Castro, M. Castro and J. Costa; additionally, in PM, C. Siopa, S. Lopes, H. Castro and A. Afonso also collected between 2018 and 2021.

- Code OP corresponds to collections with sweep netting in pear and apple orchards and their orchard margins in random transects using a net with a 35 cm Ø opening and 1 mm mesh in the surroundings of flower resources done by H. Gaspar in 2022.

- Codes CA and VS correspond to direct captures in almond orchards and their margins, using a net with a 35 cm Ø opening and 1 mm mesh and a killing jar, done by H. Gaspar and S. Castro in 2022.

Some specimens besides these studies were collected individually and included with the necessary information.

A total of 198 bee specimens were selected for biological material extraction for DNA barcode analysis – coded in the text as (INV"number"), within the scope of another project that will provide barcode data on the Portuguese bee fauna soon. New regional records are marked with "*" and new country records are marked with "**".

Species determination was done by H. Gaspar and T. Wood. When the name of the identifier is not given, it refers to H. Gaspar. This part of the process was achieved by analysing pinned insects under magnification (maximum 50×) with a binocular microscope. At the moment of this publication, all the specimens are deposited in the entomological collection of the FLOWer lab, Centre for Functional Ecology, Department of Life Sciences, University of Coimbra, Portugal.

Table I. Detailed information by study site. The CODE and PROVINCE (from 1936) are the ones mentioned in the results. In LOCATION, information about the district, municipality and specific location is provided; COORDINATES were obtained from Google Earth online in WGS84; COLLECTORS details are also provided concerning the team (detailed in Materials and Methodology).

CODE	PROVINCE	LOCATION	COORDINATES	COLLECTORS
DT54	Beira Alta	Viseu, Castro Daire, Vilar	40.93832, -7.92698	D. Tavares et al.
DT62	Beira Alta	Viseu, Castro Daire, Póvoa de Montemuro	40.95056, -7.98678	
DT66	Beira Alta	Viseu, Castro Daire, Rossão	40.97483, -7.94410	
DT69	Douro Litoral	Viseu, Cinfães, Pimeiró	41.04036, -8.02356	
DT71	Douro Litoral	Viseu, Cinfães, Granja	41.00584, -8.03113	
DT73	Douro Litoral	Viseu, Cinfães, Alhões	40.98454, -8.02784	
DT77	Beira Alta	Viseu, Castro Daire, Picão	40.93735, -7.95366	
DT78	Beira Alta	Viseu, Castro Daire, Sobradinho	40.93217, -7.95382	
DT80	Beira Alta	Viseu, Castro Daire, Sobradinho	40.93487, -7.96666	
DT82	Beira Alta	Viseu, Castro Daire, Ester de Cima	40.92568, -8.02318	
DT89	Beira Alta	Viseu, Castro Daire, Eiriz	40.93516, -8.03277	
PM	Beira Litoral	Aveiro, Vale de Cambra, Paço do Mato	40.85201, -8.31417	
A1	Minho	Viana do Castelo, Valença, Ganfei	42.04598, -8.63242	H. Gaspar et al.
B2	Minho	Braga, Guimarães, Santo Estêvão (Briteiros)	41.51688, -8.30479	
C1	Beira Litoral	Aveiro, Aveiro, Eixo e Eirol	40.59954, -8.54368	
C2	Beira Litoral	Aveiro, Albergaria-a-Velha, Branca	40.73779, -8.48385	
D	Beira Litoral	Coimbra, Montemor-o-Velho, Arazede	40.27894, -8.69956	
E	Beira Litoral	Aveiro, Oliveira do Bairro, Troviscal	40.50126, -8.55719	
F	Minho	Viana do Castelo, Viana do Castelo, Vila Fria	41.39192, -8.23735	
G	Beira Litoral	Leiria, Pombal, Guia	39.94451, -8.82414	
H	Douro Litoral	Porto, Vila do Conde, Guilhabreu	41.28979, -8.65263	
I	Douro Litoral	Porto, Felgueiras, Unhão e Lordelo	41.32766, -8.22700	
J	Beira Litoral	Aveiro, Sever do Vouga, Silva Escura	40.79457, -8.36890	
K	Minho	Braga, Amares, Rendufe	41.62502, -8.42091	
L	Beira Litoral	Aveiro, Santa Maria da Feira, Espargo	40.91713, -8.57848	
N	Beira Litoral	Aveiro, Oliveira do Bairro, Oiã	40.51302, -8.54477	
O	Douro Litoral	Porto, Vila Nova de Gaia, Vilar de Andorinho	41.09943, -8.57715	
P	Beira Litoral	Coimbra, Cantanhede, Varziela	40.36938, -8.62150	
Q	Douro Litoral	Porto, Maia, Águas Santas	41.21816, -8.56401	
R	Douro Litoral	Porto, Gondomar, Rio Tinto	41.18678, -8.57790	
S	Beira Litoral	Coimbra, Soure, Paleão	40.04491, -8.59891	
T	Douro Litoral	Porto, Marco de Canavezes, Paredes de Viadores	41.13219, -8.13337	
U	Douro Litoral	Porto, Felgueiras, Pedreira, Rande e Sernande	41.32766, -8.22700	
V	Beira Litoral	Aveiro, Anadia, Mogofores	40.46314, -8.48276	
CA	Beira Baixa	Castelo Branco, Fundão, Capinha	40.17996, -7.36250	H. Gaspar or S. Castro
VS	Beira Baixa	Castelo Branco, Idanha-a-Nova	39.88251, -7.18569	
OP01	Beira Alta	Viseu, Viseu	40.66239, -7.90299	H. Gaspar
OP06	Estremadura	Leiria, Caldas da Rainha, Vidais	39.36611, -9.05701	
OP07	Estremadura	Lisboa, Cadaval, Santo António	39.25694, -9.02761	
OP08	Estremadura	Lisboa, Cadaval, Pero Moniz	39.21922, -9.16162	
OP09	Estremadura	Lisboa, Torres Vedras, Freiria	39.03008, -9.30354	
F01	Beira Baixa	Castelo Branco, Fundão, Pêro Viseu	40.19211, -7.42214	H. Gaspar & S. Castro
F02	Beira Baixa	Castelo Branco, Fundão, Pêro Viseu	40.18790, -7.44403	
F03	Beira Baixa	Castelo Branco, Belmonte, Caria	40.25281, -7.36529	
F04	Beira Baixa	Castelo Branco, Fundão, Várzea	40.17245, -7.47123	
F05	Beira Baixa	Castelo Branco, Fundão, Alcaria	40.19664, -7.48048	
F06	Beira Baixa	Castelo Branco, Fundão, Pêro Viseu	40.19821, -7.45804	
F07	Beira Baixa	Castelo Branco, Fundão, Aldeia Nova do Cabo	40.13518, -7.54723	
F08	Beira Baixa	Castelo Branco, Fundão, Capinha	40.23002, -7.36556	
F09	Beira Baixa	Castelo Branco, Fundão, Quartos	40.16706, -7.40503	
F10	Beira Baixa	Castelo Branco, Fundão, Souto da Casa	40.12599, -7.55075	
F11	Beira Baixa	Castelo Branco, Fundão, Valverde	40.15540, -7.46998	
L01	Beira Baixa	Castelo Branco, Castelo Branco, Abrunhal	39.91071, -7.36078	
L02	Beira Baixa	Castelo Branco, Idanha-a-Nova, Olêdo	39.97398, -7.34664	
L03	Beira Baixa	Castelo Branco, Fundão, Soalheira	40.02765, -7.44702	
L04	Beira Baixa	Castelo Branco, Castelo Branco, Escalos de Cima	39.94822, -7.40630	
L05	Beira Baixa	Castelo Branco, Castelo Branco, Alcains	39.92364, -7.43539	
L06	Beira Baixa	Castelo Branco, Castelo Branco, Escalos de Cima	39.87902, -7.38430	
L07	Beira Baixa	Castelo Branco, Idanha-a-Nova, Olêdo	39.96969, -7.36054	
L08	Beira Baixa	Castelo Branco, Castelo Branco, Escalos de Cima	39.84847, -7.36724	
L09	Beira Baixa	Castelo Branco, Castelo Branco, Lousa	39.94112, -7.36585	
L10	Beira Baixa	Castelo Branco, Castelo Branco, Lardosa	40.00113, -7.46948	
L11	Beira Baixa	Castelo Branco, Castelo Branco, Lardosa	39.98132, -7.43502	
S01	Beira Alta	Guarda, Sabugal, Espinhal	40.38172, -7.12824	
S02	Beira Alta	Guarda, Sabugal, Baraçal	40.39512, -7.05703	
S03	Beira Alta	Guarda, Sabugal, Rebelhos	40.31053, -7.29485	
S04	Beira Alta	Guarda, Sabugal, Sabugal	40.36141, -7.10059	
S05	Beira Alta	Guarda, Sabugal, Rapoula do Côa	40.42678, -7.04125	
S06	Beira Alta	Guarda, Sabugal, Santo Estêvão	40.29408, -7.17409	
S07	Beira Alta	Guarda, Sabugal, Baraçal	40.37911, -7.08186	
S08	Beira Alta	Guarda, Sabugal, Terreiro das Bruxas	40.28595, -7.19755	
S09	Beira Alta	Guarda, Sabugal, Amiais	40.34324, -7.11701	
S10	Beira Alta	Guarda, Sabugal, Casteleiro	40.30645, -7.24504	
S11	Beira Alta	Guarda, Sabugal, Baraçal	40.39216, -7.09291	

Table II. Detailed information regarding the number of genera, species and specimens by insect family included in this study and an indication of reported genera.

Family	Genera	Species	Specimens
Andrenidae	2 <i>Andrena</i> , <i>Panurgus</i>	77	753
Apidae	11 <i>Amegilla</i> , <i>Ammobates</i> , <i>Anthophora</i> , <i>Apis</i> , <i>Bombus</i> , <i>Ceratina</i> , <i>Epeolus</i> , <i>Eucera</i> , <i>Melecta</i> , <i>Nomada</i> , <i>Xylocopa</i>	78	472
Colletidae	2 <i>Colletes</i> , <i>Hylaeus</i>	18	41
Halictidae	5 <i>Dufourea</i> , <i>Halictus</i> , <i>Lasioglossum</i> , <i>Nomiapis</i> , <i>Sphecodes</i>	68	465
Megachilidae	10 <i>Anthidiellum</i> , <i>Anthidium</i> , <i>Chelostoma</i> , <i>Dioxys</i> , <i>Heriades</i> , <i>Hoplitis</i> , <i>Megachile</i> , <i>Osmia</i> , <i>Rhodanthidium</i> , <i>Stelis</i>	44	159
Melittidae	1 <i>Dasygaster</i>	4	16

Results

We report 1 906 records from 7 (out of 11) provinces of continental Portugal with 180 new regional records (4 in "Minho", 1 in "Trás-os-Montes", 24 in "Douro Litoral", 30 in "Beira Litoral", 73 in "Beira Alta", 46 in "Beira Baixa", 2 in "Estremadura"). These include 292 species from all the Portuguese families, including specimens from 31 genera (Table II). Also, 6 species new to Portugal – *Andrena* (*Chlorandrena*) *elata* WARNCKE, 1975; *A. (Micrandrena)* *lecana* WARNCKE, 1975, *A. (Micrandrena)* *pauxilla* STÖCKHERT, 1935; *A. (?Euandrena)* *ramosa* WOOD 2022; *Nomada* *mocsaryi* SCHMIEDEKNECHT 1882 and *Stelis* (*Pseudostelis*) *minuta* LEPELETIER AND AUDINET-SERVILLE 1825 were recorded, all previously reported in Spain.

ANDRENIDAE

Genus *Andrena* Fabricius, 1775

Andrena (Aenandrena) *aeneiventris* MORAWITZ, 1872

*Beira Alta, S04, 17.v.2022, 1♀

Andrena (Plastandrena) *agilissima* (SCOPOLI, 1770)

Beira Alta, S05, 17.v.2022, 1♀;

Beira Baixa, F04, 19.v.2022, 2♀.

Andrena (Micrandrena) *alfkenella* PERKINS, 1914

*Douro Litoral, I, 2.ii.2020, 1♂ (INV13052), det. T. Wood;

Beira Litoral, E, 23.iv.2019, 1♀ (INV13198), det. T. Wood; S, 1.v.2019, 1♀, det. T. Wood;

Beira Alta, DT62, 20.vi.2018, 1♀, det. T. Wood; DT78, 6.vii.2018, 2♀, det. T. Wood; DT82, 7.vii.2018, 1♀, det. T. Wood; DT71, 9.vii.2018, 1♀, det. T. Wood; S04, 6.iv.2022, 1♂; S02, 6.iv.2022, 1♂; S11, 17.v.2022, 1♂;

Beira Baixa, L01, 27.iii.2022, 1♀, det. T. Wood; F02, 1.iv.2022, 1♀, det. T. Wood; F06, 1.iv.2022, 1♂; F11, 2.iv.2022, 1♀, det. T. Wood; L09, 14.v.2022, 1♀, det. T. Wood; S02, 17.v.2022, 2♀, det. T. Wood; S04, 17.v.2022, 1♀, det. T. Wood; F04, 19.v.2022, 1♂.

Andrena (Micrandrena) *ampla* WARNCKE, 1967

*Beira Litoral, C2, 26.v.2019, 1♀ (INV13168);

*Beira Alta, S02, 17.v.2022, 1♀, 4♂; S05, 17.v.2022, 1♂;

Beira Baixa, F11, 19.v.2022, 2♀.

Andrena (Euandrena) *angustior* (KIRBY, 1802)

Minho, F, 11.iii.2019, 1♂ (INV13196), det. T. Wood;

*Douro Litoral, I, 2.ii.2019, 3♀ (INV13174, INV13175, INV13176), 2♂ (INV13188, INV13192);

Beira Litoral, C2, 11.iii.2019, 3♀ (INV13180, INV13181, INV13182), det. T. Wood; C2, 2.iv.2019, 1♀ (INV13183), 1♂ (INV13184), det. T. Wood; PM, 3.v.2021, 1♀ (INV13227), det. T. Wood; PM, 19.v.2021, 1♀ (INV13226), det. T. Wood; PM, 27.v.2021, 1♀, det. T. Wood;

*Beira Alta, DT54, 13.vi.2018, 1♀; S11, 17.v.2022, 1♀;

*Beira Baixa, VS, 24.ii.2022, 2♀, leg. H. Gaspar.

Andrena (Avandrena) *avara* WARNCKE, 1967 *sensu lato*

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa, 28.ii.2020, 2♀, leg. H. Gaspar & S. Castro, det. T. Wood;

*Beira Baixa, Vale de Prazeres, 12.ii.2021, 1♂, det. T. Wood (previously misidentified as *A. mariana* by H. Gaspar in Gaspar *et al.* 2022).

Andrena (Micrandrena) *bayona* WARNCKE, 1975

*Beira Alta, S11, 17.v.2022, 1♀.

Andrena (Notandrena) *bellidis* PÉREZ, 1895

*Beira Litoral, Aveiro, Ovar, Contegaça, 10.iii.2012, 1♂;

*Beira Baixa, VS, 22.ii.2022, 2♂, leg. H. Gaspar; VS, 4.iii.2022,

3♂, leg. H. Gaspar & S. Castro; VS, 5.iii.2022, 2♂, leg. S. Castro;

CA, 6.iii.2022, 1♂, leg. H. Gaspar; L05, 26.iii.2022, 2♂; L07,

27.iii.2022, 1♂; L04, 27.iii.2022, 2♂; F06, 1.iv.2022, 1♂.

Andrena (Taeniandrena) *benoisti* WOOD & PRAZ, 2021

*Beira Alta, S05, 17.v.2022, 1♀, 1♂, det. H. Gaspar & T. Wood.

Andrena (Euandrena) *bicolor* FABRICIUS, 1775

Beira Litoral, C2, 3.ii.2020, 1♂ (INV13051);

Beira Alta, S04, 6.iv.2022, 1♀; S11, 6.iv.2022, 4♀; S05,

6.iv.2022, 2♀; S01, 17.v.2022, 1♂;

Beira Baixa, VS, 24.ii.2022, 1♀, leg. H. Gaspar; F09, 19.v.2022, 1♂.

Andrena (Plastandrena) *bimaculata* (KIRBY, 1802)

Beira Alta, S04, 6.iv.2022, 1♀; S07, 6.iv.2022, 1♂;

Beira Baixa, L02, 3.iv.2022, 1♀.

Andrena (Chlorandrena) *cinerea* BRULLÉ, 1832

*Beira Alta, S02, 17.v.2022, 1♂;

Beira Baixa, L03, 11.v.2022, 2♀; L02, 14.v.2022, 2♀, 2♂; L07,

14.v.2022, 1♂; F11, 19.v.2022, 2♀.

Andrena (Brachyandrena) *colletiformis* MORAWITZ, 1874

*Beira Baixa, F11, 19.v.2022, 8♀.

Andrena (Simandrena) *combinata* (CHRIST, 1791)

*Beira Alta, S11, 17.v.2022, 1♂, det. T. Wood.

Andrena (Leucandrena) *dinizi* WARNCKE, 1975

*Beira Baixa, F02, 1.iv.2022, 3♀, 3♂; L02, 3.iv.2022, 1♀.

Andrena (Micrandrena) *djelfensis* PÉREZ, 1895

*Beira Baixa, L09, 27.iii.2022, 1♂, det. T. Wood; F09, 2.iv.2022,

1♂, det. T. Wood.

Andrena (Truncandrena) *doursana* DUFOUR, 1853

*Beira Baixa, VS, 2.iii.2022, 1♂, leg. H. Gaspar.

***Andrena (Chlorandrena)* *elata* WARNCKE, 1975

Beira Alta, S01, 6.iv.2022, 1♂, det. T. Wood.

Andrena (Micrandrena) *fabrella* PÉREZ, 1903

*Beira Alta, S01, 17.v.2022, 4♀, det. H. Gaspar & T. Wood;

Beira Baixa, L08, 26.iii.2022, 1♂, det. T. Wood.

Andrena (Truncandrena) *ferrugineicrus* DOURS, 1872

*Beira Alta, S02, 6.iv.2022, 1♀; S05, 6.iv.2022, 6♀, 2♂; S11,

6.iv.2022, 1♂; S06, 7.iv.2022, 1♂;
Beira Baixa, L01, 27.iii.2022, 1♂; F06, 1.iv.2022, 1♂; F03,
1.iv.2022, 1♂.

Andrena (Melandrena) flavipes PANZER, 1799

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa,
28.ii.2020, 1♀, leg. H. Gaspar & S. Castro;
Douro Litoral, H, 23.v.2019, 1♀ (INV13163), det. T. Wood;
Beira Litoral, C1, 2.iv.2019, 2♀ (INV13161, INV13162), det. T.
Wood; V, 24.v.2019, 1♂ (INV13164), det. T. Wood; C1,
11.vi.2019, 1♂ (INV13165), det. T. Wood;
Beira Alta, DT66, 20.vi.2018, 2♀; S03, 3.iv.2022, 1♂; S01,
6.iv.2022, 1♀; S11, 6.iv.2022, 1♀; S07, 6.iv.2022, 1♂; S01,
6.iv.2022, 1♂; S04, 6.iv.2022, 1♂; S11, 6.iv.2022, 3♂; S05,
6.iv.2022, 1♂; S08, 7.iv.2022, 1♂; S09, 7.iv.2022, 1♂; OP01,
28.iv.2022, 2♀;
Beira Baixa, VS, 24.ii.2022, 1♂, leg. S. Castro; CA, 28.ii.2022,
1♂, leg. S. Castro; A, 1.iii.2022, 1♂, leg. H. Gaspar; VS,
4.iii.2022, 1♂, leg. S. Castro; L05, 26.iii.2022, 1♀; L08,
26.iii.2022, 1♂; L01, 27.iii.2022, 1♀; L07, 27.iii.2022, 1♀; L04,
27.iii.2022, 1♀; L09, 27.iii.2022, 1♂; L07, 27.iii.2022, 1♂; L04,
27.iii.2022, 1♂; F01, 1.iv.2022, 1♀, 1♂; F11, 2.iv.2022, 1♂; F07,
2.iv.2022, 1♂; F11, 19.v.2022, 1♀; F04, 19.v.2022, 1♀.

Andrena (Bryandrena) florea FABRICIUS, 1793

*Minho, B2, 29.iv.2019, 1♂ (INV13166), det. T. Wood; B2,
22.v.2019, 1♀ (INV13169);
Douro Litoral, O, 21.v.2019, 1♂, det. T. Wood;
Beira Litoral, L, 1.v.2019, 1♂ (INV13172);
Beira Alta, S03, 18.v.2022, 1♀;
Beira Baixa, L02, 14.v.2022, 1♀; F11, 19.v.2022, 1♂.

Andrena (Melandrena) florentina MAGRETTI, 1883

Beira Litoral, N, 4.ii.2020, 1♂ (INV13193);
Beira Baixa, CA, 23.ii.2022, 1♂, leg. S. Castro; VS, 24.ii.2022,
1♀, leg. H. Gaspar; CA, 28.ii.2022, 1♂, leg. S. Castro; CA,
6.iii.2022, 1♂, leg. H. Gaspar; F11, 2.iv.2022, 3♀.

Andrena (Aciandrena) fulica WARNCKE, 1974

*Beira Alta, S11, 6.iv.2022, 2♀; OP01, 28.iv.2022, 1♀;
Beira Baixa, F06, 1.iv.2022, 1♀.

Andrena (Andrena) fulva (MÜLLER, 1766)

*Beira Alta, S02, 17.v.2022, 2♀; S11, 17.v.2022, 1♀.

Andrena (Euandrena) granulosa PÉREZ, 1902

*Beira Alta, S10, 3.iv.2022, 2♂; S08, 7.iv.2022, 1♂;
Beira Baixa, L08, 26.iii.2022, 1♀, 3♂.

Andrena (Trachandrena) haemorrhoea (FABRICIUS, 1781)

*Beira Baixa, F06, 1.iv.2022, 1♀; F02, 1.iv.2022, 1♂.

Andrena (Chrysandrena) hesperia SMITH, 1853

Beira Alta, S02, 17.v.2022, 1♂; S07, 17.v.2022, 1♂;
Beira Baixa, L03, 11.v.2022, 1♂; L02, 14.v.2022, 2♀, 5♂; L07,
14.v.2022, 2♂.

Andrena (Chlorandrena) humilis IMHOFF, 1832

*Beira Alta, S04, 17.v.2022, 1♂;
Beira Baixa, L08, 26.iii.2022, 1♂; L01, 27.iii.2022, 1♂; F06,
15.v.2022, 1♀; F07, 19.v.2022, 1♀, 1♂; F11, 19.v.2022, 2♀; F04,
19.v.2022, 1♀.

Andrena (Aenandrena) hystrix SCHMIEDEKNECHT, 1883

*Beira Alta, S11, 17.v.2022, 2♀.

Andrena (Holandrena) labialis (KIRBY, 1802)

Beira Litoral, P, 29.iv.2019, 1♂ (INV13189);
*Beira Alta, S05, 6.iv.2022, 1♀, 2♂; S11, 17.v.2022, 1♀;
*Beira Baixa, F04, 19.v.2022, 1♂; L04, 11.v.2022, 1♀.

Andrena (Biareolina) lagopus LATREILLE, 1809

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa,
28.ii.2020, 4♀, 1♂, leg. H. Gaspar & S. Castro;
Beira Alta, S04, 6.iv.2022, 2♀, 1♂; S11, 6.iv.2022, 2♀, 3♂; S05,
6.iv.2022, 5♀, 6♂;

Beira Baixa, VS, 2.iii.2022, 1♀, leg. H. Gaspar; L11, 27.iii.2022,
1♀; L04, 27.iii.2022, 1♂; F11, 2.iv.2022, 1♀.

Andrena (Chlorandrena) leucolippa PÉREZ, 1895

Beira Alta, S11, 17.v.2022, 6♂; S05, 17.v.2022, 2♂;
Beira Baixa, L06, 11.v.2022, 2♂; L07, 14.v.2022, 1♂; F06,
15.v.2022, 2♂; F04, 19.v.2022, 2♂.

Andrena (Melandrena) limata SMITH, 1853

Beira Alta, OP01, 28.iv.2022, 1♀;
Beira Baixa, F04, 2.iv.2022, 1♀.

Andrena (Limbandrena) limbata EVERS MANN, 1852

Beira Alta, S11, 17.v.2022, 1♀; S05, 17.v.2022, 5♀, 1♂; S08,
18.v.2022, 1♀;
Beira Baixa, L04, 11.v.2022, 1♀; L09, 14.v.2022, 1♀; L01,
14.v.2022, 1♀; F06, 15.v.2022, 1♀.

Andrena (Chlorandrena) livens PÉREZ, 1895

Minho, K, 11.iii.2019, 1♂ (INV13195), det. T. Wood;
Douro Litoral, I, 1.v.2019, 1♂ (INV13194).

Andrena (Micrandrena) longibarbis PÉREZ, 1895

*Beira Alta, S03, 3.iv.2022, 1♂; OP01, 28.iv.2022, 1♀; S03,
18.v.2022, 1♀;
Beira Baixa, L07, 27.iii.2022, 1♀, 2♂; F03, 1.iv.2022, 1♂.

Andrena (Taeniandrena) lusitania WOOD & ORTIZ-SÁNCHEZ, 2022

Beira Baixa, CA, 6.iii.2022, 1♀, leg. S. Castro.

Andrena (Micrandrena) mariana WARNCKE, 1968 ssp. *alma* Warncke, 1975

*Beira Alta, S04, 6.iv.2022, 1♂; S08, 7.iv.2022, 1♀;
Beira Baixa, L05, 26.iii.2022, 1♀; L01, 27.iii.2022, 5♂; L11,
27.iii.2022, 3♂; F06, 1.iv.2022, 2♂; L02, 14.v.2022, 1♀.

Andrena (Micrandrena) minutula KIRBY, 1802

Minho, F, 11.iii.2019, 1♂ (INV13191);
Beira Litoral, PM, 3.v.2021, 1♀, det. T. Wood;
Beira Alta, S07, 6.iv.2022, 1♀, det. T. Wood; S01, 6.iv.2022, 1♀,
det. T. Wood; S02, 6.iv.2022, 1♀, det. T. Wood; S11, 6.iv.2022,
2♀, det. T. Wood;
Beira Baixa, VS, 24.ii.2022, 1♀, leg. S. Castro; CA, 6.iii.2022,
2♀, leg. H. Gaspar & S. Castro; L01, 27.iii.2022, 1♀, det. T.
Wood; L11, 27.iii.2022, 1♀, det. T. Wood; L04, 27.iii.2022, 1♀,
det. T. Wood; F01, 1.iv.2022, 1♀, det. T. Wood; F06, 1.iv.2022,
1♀, det. T. Wood; L03, 11.v.2022, 1♀, det. T. Wood; L01,
14.v.2022, 1♂, det. T. Wood.

Andrena (Melandrena) morio BRULLÉ, 1832

Estremadura, OP07, 20.iv.2022, 1♂.

Andrena (Micrandrena) nana (KIRBY, 1802)

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa,
28.ii.2020, 1♀, leg. H. Gaspar & S. Castro;
Beira Alta, S01, 6.iv.2022, 1♀; S04, 6.iv.2022, 2♀, 3♂; S02,
6.iv.2022, 2♀, 1♂; S11, 6.iv.2022, 3♀; S05, 6.iv.2022, 3♀, 1♂;
S02, 17.v.2022, 1♀;
Beira Baixa, L01, 27.iii.2022, 2♀; L04, 27.iii.2022, 2♀; L11,
27.iii.2022, 1♀; F06, 1.iv.2022, 3♀, 1♂; F11, 2.iv.2022, 1♀; F04,
2.iv.2022, 1♀.

Andrena (Melandrena) nigroaenea (KIRBY, 1802)

Douro Litoral, I, 2.ii.2020, 1♀ (INV13186);
Beira Litoral, E, 4.v.2019, 1♂ (INV13173), det. T. Wood;
Beira Alta, S02, 6.iv.2022, 1♂; S08, 18.v.2022, 1♂;
Beira Baixa, CA, 28.ii.2022, 1♀, leg. S. Castro; L06, 26.iii.2022,
1♂; L09, 27.iii.2022, 1♀, 1♂; L11, 27.iii.2022, 1♀; F09,
2.iv.2022, 1♀.

***Andrena (Micrandrena) lecana* WARNCKE, 1975

*Beira Alta, OP01, 28.iv.2022, 1♀; S11, 17.v.2022, 1♀; S04,
17.v.2022, 1♀;
*Beira Baixa, F03, 18.v.2022, 1♀.

Andrena (Hoplandrena) nuptialis PÉREZ, 1902

*Beira Alta, OP01, 28.iv.2022, 1♀; S11, 17.v.2022, 1♀.

Andrena (Micrandrena) omnilaevis WOOD, 2020

Beira Alta, DT62, 20.vi.2018, 1♀; DT66, 20.vi.2018, 2♀.

Andrena (Rufandrena) orbitalis MORAWITZ, 1871

*Beira Alta, S03, 18.v.2022, 1♀, 1♂;

Beira Baixa, L07, 27.iii.2022, 3♂; L06, 7.iv.2022, 1♂; L04, 11.v.2022, 1♀; L03, 11.v.2022, 1♀; F03, 18.v.2022, 3♀; F11, 19.v.2022, 3♀; F04, 19.v.2022, 1♀.

Andrena (Taeniandrena) ovatula (KIRBY, 1802)

Beira Alta, S03, 3.iv.2022, 1♀; S01, 6.iv.2022, 3♀, 1♂; S04, 6.iv.2022, 1♀, 1♂; S11, 6.iv.2022, 4♀, 5♂; S02, 6.iv.2022, 1♂; S05, 6.iv.2022, 1♂; S05, 17.v.2022, 10♀; S04, 17.v.2022, 5♀, 1♂; S11, 17.v.2022, 1♂; S03, 18.v.2022, 7♀, 7♂;

Beira Baixa, L01, 27.iii.2022, 1♀; L09, 27.iii.2022, 1♀; L04, 27.iii.2022, 1♀; F07, 2.iv.2022, 1♂; L05, 11.v.2022, 1♀; L07, 14.v.2022, 3♂; F03, 18.v.2022, 1♂; F04, 19.v.2022, 1♀.

Andrena (Ovandrena) oviventris PÉREZ, 1895

Beira Alta, DT54, 13.vi.2018, 1♀; S11, 17.v.2022, 1♀; S05, 17.v.2022, 1♀;

Beira Baixa, L06, 11.v.2022, 1♀.

Andrena (Lepidandrena) pandellei PÉREZ, 1895

*Beira Alta, S02, 17.v.2022, 4♂;

*Beira Baixa, L07, 14.v.2022, 4♀; F02, 19.v.2022, 1♀.

***Andrena (Micrandrena) pauxilla* STÖCKHERT, 1935

Beira Alta, S01, 6.iv.2022, 1♀, det. T. Wood; S11, 17.v.2022, 1♀, det. T. Wood; S03, 18.v.2022, 1♀, det. T. Wood; Beira Baixa, L05, 26.iii.2022, 1♀, det. T. Wood; L07, 14.v.2022, 1♀, det. T. Wood.

Andrena (Plastandrena) pilipes FABRICIUS, 1781

Beira Alta, DT54, 13.vi.2018, 1♂; S03, 3.iv.2022, 1♂; S06, 7.iv.2022, 1♀; OP01, 28.iv.2022, 1♀;

Beira Baixa, F02, 1.iv.2022, 1♀.

Andrena (Andrena) praecox (SCOPOLI, 1763)

Beira Baixa, F02, 1.iv.2022, 2♀.

Andrena (Simandrena) propinqua SCHENCK, 1853

Douro Litoral, Q, 4.vi.2019, 1♀ (INV13185), det. T. Wood;

Beira Litoral, D, 29.v.2019, 1♀ (INV13167); PM, 4.v.2021, 1♀ (INV13228), det. T. Wood;

Beira Alta, S03, 3.iv.2022, 1♀; S04, 6.iv.2022, 2♀, 2♂; S01, 6.iv.2022, 1♀; S11, 6.iv.2022, 3♀, 1♂; S02, 6.iv.2022, 1♂; S05, 6.iv.2022, 1♂; S06, 7.iv.2022, 2♀; S08, 7.iv.2022, 1♂; OP01, 28.iv.2022, 2♀; S11, 17.v.2022, 1♀;

Beira Baixa, VS, 4.iii.2022, 1♀, leg. H. Gaspar; VS, 5.iii.2022, 1♂, leg. S. Castro; L01, 27.iii.2022, 1♀; L11, 27.iii.2022, 2♀; F02, 1.iv.2022, 3♀; F11, 2.iv.2022, 2♀; L02, 3.iv.2022, 2♀; Estremadura, OP08, 19.iv.2022, 1♀.

** *Andrena* (=?*Euandrena*) *ramosa* WOOD 2022

Beira Baixa, CA, 1.iii.2022, 1♂, det. T. Wood.

Andrena (Notandrena) ranunculi SCHMIEDEKNECHT, 1883

Beira Alta, S04, 17.v.2022, 1♂, det. T. Wood.

Andrena (Chlorandrena) rhenana STÖCKHERT, 1930

Beira Litoral, C1, 2.iv.2019, 1♀ (INV13177), 1♂ (INV13178, INV13179), det. T. Wood;

*Beira Alta, S06, 7.iv.2022, 1♀, 1♂;

Beira Baixa, L08, 26.iii.2022, 1♀; L11, 27.iii.2022, 1♀, 1♂; F06, 1.iv.2022, 1♂.

Andrena (Chlorandrena) rhyssonota PÉREZ, 1895

*Beira Alta, S06, 7.iv.2022, 1♂; S05, 17.v.2022, 3♀, 2♂;

Beira Baixa, L04, 27.iii.2022, 1♀, 1♂; L04, 11.v.2022, 1♀, 1♂; L07, 14.v.2022, 2♀.

Andrena (Taeniandrena) russula LEPELETIER, 1841

*Beira Alta, S05, 17.v.2022, 4♀;

Beira Baixa, L04, 26.iii.2022, 1♀; L11, 27.iii.2022, 1♀; L07, 27.iii.2022, 1♂.

Andrena (Opandrena) schencki MORAWITZ, 1866

*Beira Alta, 20.vi.2018, 1♀ (INV13225).

Andrena (Hoplandrena) scotica PERKINS, 1916

*Beira Baixa, F03, 1.iv.2022, 1♀.

Andrena (Chlorandrena) senecionis PÉREZ, 1895

Minho, F, 30.iv.2019, 1♀;

Beira Baixa, L05, 26.iii.2022, 1♂; L02, 14.v.2022, 3♀.

Andrena (Micrandrena) simontornyella NOSKIEWICZ, 1939

*Beira Alta, S06, 7.iv.2022, 1♀, det. T. Wood;

Beira Baixa, F04, 2.iv.2022, 1♀, det. T. Wood.

Andrena (Micrandrena) spreta PÉREZ, 1895

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa, 28.ii.2020, 5♀, 1♂, leg. H. Gaspar & S. Castro, det. H. Gaspar & T. Wood;

*Douro Litoral, I, 2.ii.2019, 1♂ (INV13190);

Beira Alta, S03, 3.iv.2022, 1♀, det. T. Wood; S10, 3.iv.2022, 1♂; S04, 6.iv.2022, 3♀, det. T. Wood; S05, 6.iv.2022, 4♀, 2♂, det. H. Gaspar & T. Wood; S06, 7.iv.2022, 1♀, det. T. Wood; S04, 17.v.2022, 1♂; S03, 18.v.2022, 3♀, 2♂, det. H. Gaspar & T. Wood; S06, 18.v.2022, 1♀, det. T. Wood;

Beira Baixa, CA, 23.ii.2022, 1♂, leg. S. Castro; VS, 24.ii.2022, 1♂, leg. H. Gaspar; L05, 26.iii.2022, 1♂; L04, 27.iii.2022, 1♀, det. T. Wood; L07, 27.iii.2022, 1♀, det. T. Wood; L09, 27.iii.2022, 1♂; L11, 27.iii.2022, 1♀, det. T. Wood; F03, 1.iv.2022, 1♀, det. T. Wood; F06, 1.iv.2022, 2♀, det. T. Wood; F11, 2.iv.2022, 2♂; L04, 11.iv.2022, 1♀, 6♂, det. H. Gaspar & T. Wood; L06, 11.iv.2022, 1♀, 2♂, det. H. Gaspar & T. Wood; L02, 14.v.2022, 2♀, det. T. Wood; L09, 14.v.2022, 1♀, det. T. Wood; F03, 18.v.2022, 2♀, det. T. Wood; F02, 19.v.2022, 1♀, det. T. Wood; F04, 19.v.2022, 3♀, det. T. Wood.

Andrena (Suandrena) suerinensis FRIESE, 1884

*Beira Alta, S10, 3.iv.2022, 1♂; S11, 6.iv.2022, 1♂; S05, 6.iv.2022, 1♂; S06, 7.iv.2022, 5♂; OP01, 28.iv.2022, 1♀; S11, 17.v.2022, 1♀, 1♂; S04, 17.v.2022, 1♂;

Beira Baixa, L05, 26.iii.2022, 1♀, 1♂; L07, 27.iii.2022, 1♂; F07, 2.iv.2022, 2♂; L02, 3.iv.2022, 1♂; F04, 19.v.2022, 1♀.

Andrena (Micrandrena) tenuistriata PÉREZ, 1895

Beira Litoral, C1, 2.iv.2019, 1♀ (INV13197), det. T. Wood; PM, 3.v.2021, 1♀, det. T. Wood;

*Beira Alta, S02, 6.iv.2022, 2♀, det. T. Wood; S11, 6.iv.2022, 1♀, det. T. Wood; S05, 6.iv.2022, 1♀, det. T. Wood; S08, 7.iv.2022, 1♂, det. T. Wood;

*Beira Baixa, L05, 26.iii.2022, 2♀, det. T. Wood; L01, 27.iii.2022, 1♀, det. T. Wood; L11, 27.iii.2022, 1♀, det. T. Wood; F06, 1.iv.2022, 1♀, det. T. Wood; L11, 11.v.2022, 1♀, det. T. Wood;

Andrena (Melandrena) thoracica FABRICIUS, 1775

Douro Litoral, H, 12.iii.2019, 1♀ (INV13159);

Beira Litoral, J, 16.iii.2019, 1♀ (INV13160).

Andrena (Hoplandrena) trimmerana (KIRBY, 1802)

Beira Litoral, P, 28.v.2019, 1♂ (INV13170).

Andrena (Graecandrena) verticalis PÉREZ, 1895

Beira Alta, S05, 6.iv.2022, 1♀;

Beira Baixa, CA, 2.iii.2022, 1♀, leg. S. Castro; L08, 26.iii.2022, 1♀.

Andrena (Simandrena) vetula LEPELETIER, 1841

*Beira Baixa, F04, 19.v.2022, 1♀.

Andrena (Truncandrena) villipes PÉREZ, 1895

*Beira Alta, S11, 17.v.2022, 3♂;

Beira Baixa, L01, 27.iii.2022, 2♂.

Genus *Panurgus* Panzer, 1806

- Panurgus (Panurgus) banksianus* (KIRBY, 1802)
Beira Alta, S01, 17.v.2022, 2♂;
Beira Baixa, L04, 11.v.2022, 1♀; L07, 14.v.2022, 1♀.
- Panurgus (Panurgus) calcaratus* (SCOPOLI, 1763)
Beira Baixa, L04, 11.v.2022, 3♀, 7♂; L11, 11.v.2022, 1♀, 2♂;
L06, 11.v.2022, 1♀; L03, 11.v.2022, 1♂; L07, 14.v.2022, 5♀,
5♂; L09, 14.v.2022, 3♂; F06, 15.v.2022, 3♀, 3♂; F05,
15.v.2022, 5♀, 6♂; F08, 18.v.2022, 1♀, 2♂; F03, 18.v.2022, 1♂;
F02, 19.v.2022, 1♀, 1♂; F11, 19.v.2022, 1♀, 1♂; F04, 19.v.2022,
1♀, 2♂; F01, 19.v.2022, 1♀, 3♂; F07, 19.v.2022, 2♂.
Beira Alta, S01, 17.v.2022, 1♂; S05, 17.v.2022, 1♂; S03, 18.v.2022,
3♀, 3♂; S10, 18.v.2022, 1♀, 1♂; S08, 18.v.2022, 1♀, 3♂;
- Panurgus (Panurgus) cephalotes* LATREILLE, 1811
Beira Litoral, C1, 5.vii.2019, 1♂ (INV13202); J, 18.viii.2019, 2♀
(INV13200, INV13201);
Beira Baixa, L06, 11.v.2022, 1♂; L08, 14.v.2022, 1♂; L01,
14.v.2022, 2♂; L07, 14.v.2022, 1♂; F06, 15.v.2022, 1♂.
- Panurgus (Panurgus) perezi* SAUNDERS, 1881
Beira Litoral, D, 1.viii.2019, 1♂ (INV13203); J, 18.viii.2019, 2♀
(INV13204, INV13205);
Beira Alta, DT89, 10.vii.2018, 2♂.
Beira Baixa, L01, 14.v.2022, 1♂.

APIDAE

Genus *Amegilla* Friese, 1897

- Amegilla (Amegilla) quadrifasciata* (VILLERS, 1789)
*Beira Baixa, F11, 19.v.2022, 1♂.

Genus *Ammobates* Latreille, 1809

- Ammobates (Euphileremus) muticus* SPINOLA, 1843
Beira Baixa, F04, 19.v.2022, 1♀; F01, 19.v.2022, 2♀.

Genus *Anthophora* Latreille, 1803

- Anthophora (Pyganthophora) atroalba* LEPELETIER, 1841
Beira Alta, S02, 6.iv.2022, 1♂; S11, 6.iv.2022, 2♂; S06,
7.iv.2022, 4♀, 1♂; S10, 18.v.2022, 1♀; S06, 18.v.2022, 1♀;
Beira Baixa, CA, 6.iii.2022, 1♂; L05, 26.iii.2022, 1♂; F03,
1.iv.2022, 1♂; F11, 2.iv.2022, 2♂; L07, 14.v.2022, 2♀; F11,
19.v.2022, 1♀; F04, 19.v.2022, 2♀.
- Anthophora (Paramegilla) balnearum* LEPELETIER, 1841
*Beira Baixa, L04, 11.v.2022, 1♂.
- Anthophora (Heliophila) bimaculata* (PANZER, 1798)
Beira Baixa, F02, 19.v.2022, 1♀.
- Anthophora (Anthophora) crinipes* SMITH, 1854
Beira Baixa, L09, 14.v.2022, 1♂.
- Anthophora (Lophanthophora) dispar* LEPELETIER, 1841
Beira Baixa, CA, 1.iii.2022, 1♂; L01, 27.iii.2022, 2♀, 1♂; L09,
27.iii.2022, 1♀; L04, 27.iii.2022, 1♀; F08, 1.iv.2022, 1♀; F09,
2.iv.2022, 1♂; F08, 18.v.2022, 1♀.
- Anthophora (Pyganthophora) leucophaea* PÉREZ, 1879
*Beira Baixa, L09, 27.iii.2022, 1♀.
- Anthophora (Anthophora) plumipes* (PALLAS, 1772)
*Minho, K, 11.iii.2019, 1♀ (INV13013);
Beira Litoral, Coimbra, Botanical Garden, 24.ii.2012, 2♂, leg. J.
Costa; C1, 5.v.2019, 1♀; S, 20.v.2019, 1♂ (INV13015);
Beira Alta, S11, 6.iv.2022, 3♂; S05, 6.iv.2022, 1♂; S11,
17.v.2022, 1♀, 1♂; S02, 17.v.2022, 1♂;
Beira Baixa, L01, 27.iii.2022, 1♀; L09, 27.iii.2022, 1♀, 1♂; F07,
2.iv.2022, 1♂; F11, 19.v.2022, 1♀.
- Anthophora (Pyganthophora) retusa* (LINNAEUS, 1758)
*Douro Litoral, I, 30.iv.2019, 1♂ (INV13016).
- Anthophora (Pyganthophora) romandii* DOURS, 1869
Beira Baixa, L04, 27.iii.2022, 1♂; F01, 1.iv.2022, 1♂.

Genus *Apis* Linnaeus, 1758

- Apis mellifera* LINNAEUS, 1758
Minho, K, 28.v.2018, 6♀; Minho, B2, 30.v.2018, 1♀;
Douro Litoral, H, 1.vi.2018, 1♀; H, 22.v.2019, 3♀ (INV13042,
INV13041);
Beira Litoral, C1, 2.iv.2019, 1♀;
Beira Baixa, L01, 27.iii.2022, 1♀.

Genus *Bombus* Latreille, 1802

- Bombus (Megabombus) hortorum* (LINNAEUS, 1761)
Minho, K, 11.iii.2019, 1♀ (INV13006);
Beira Litoral, C1, 23.v.2019, 1♀ (INV13005); Coimbra, Con-
deixa-a-Velha, Poço, 20.vi.2022, 3♂, leg. H. Gaspar & S. Castro;
Beira Alta, S08, 7.iv.2022, 1♀;
Beira Baixa, F11, 19.v.2022, 1♀.
- Bombus (Thoracobombus) humilis* ILLIGER, 1806
*Estremadura, Lisboa, Sintra, Colares, 1.iii.2012, 1♀.
- Bombus (Thoracobombus) pascuorum* (SCOPOLI, 1763)
Douro Litoral, H, 22.v.2019, 1♂ (INV13039);
Beira Litoral, S, 1.iii.2019, 1♀ (INV13007); C1, 2.iv.2019, 1♀
(INV13009); C1, 23.v.2019, 1♂ (INV13038); C2, 26.v.2019, 1♀
(INV13010); C1, 4.ix.2019, 1♀ (INV13008); PM, 5.v.2021, 3♀;
Beira Alta, S02, 17.v.2022, 1♀;
Beira Baixa, F07, 2.iv.2022, 1♀.
- Bombus (Pyrobombus) pratorum* (LINNAEUS, 1761)
Beira Litoral, C1, 15.xii.2019, 1♀ (INV13001);
Beira Alta, S04, 6.iv.2022, 1♀.
- Bombus (Bombus) terrestris* (LINNAEUS, 1758)
Minho, B2, 22.v.2019, 1♀ (INV13004);
Beira Litoral, S, 1.iii.2019, 1♀; C1, 11.iii.2019, 1♀ (INV13003);
J, 16.iii.2019, 1♀ (INV13000); C1, 23.v.2019, 1♀ (INV13002);
G, 28.v.2019, 1♀ (INV13011);
Beira Alta, S03, 3.iv.2022, 1♀; S04, 17.v.2022, 1♀; BEIRA
ALTA, S03, 18.v.2022, 1♀;
Beira Baixa, L05, 26.iii.2022, 1♀; L01, 26.iii.2022, 1♀, 1♂; F11,
2.iv.2022, 1♀; F07, 2.iv.2022, 1♀; L11, 11.v.2022, 1♂; L07,
14.v.2022, 1♀; F03, 18.v.2022, 1♀; F08, 18.v.2022, 1♀, 1♂; F11,
19.v.2022, 1♀.
Estremadura, Lisboa, Sintra, Praia Grande, 2.iii.2012, 1♀, leg. J.
Costa; OP09, 14.iv.2022, 4♀;
- Bombus (Psithyrus) vestalis* (GEOFFROY, 1785)
Beira Litoral, Coimbra, Botanical Garden, 24.ii.2012, 3♂, leg. J.
Costa; Aveiro, Ovar, Contegaça, 9.iii.2012, 1♂.

Genus *Ceratina* Latreille, 1802

- Ceratina (Euceratina) chalybea* CHEVRIER, 1872
Beira Alta, S04, 17.v.2022, 1♀.
- Ceratina (Ceratina) cucurbitina* (ROSSI, 1792)
Douro Litoral, DT71, 9.vii.2018, 1♀; O, 24.v.2019, 1♂; I,
25.v.2019, 1♂ (INV13037);
Beira Alta, DT54, 13.vi.2018, 1♀; DT78, 6.vii.2018, 1♀
(INV13214); DT80, 7.vii.2018, 1♀; DT89, 10.vii.2018, 1♀; S08,
7.iv.2022, 1♂; S06, 7.iv.2022, 2♂; S11, 17.v.2022, 1♀, 1♂; S05,
17.v.2022, 1♀, 1♂; S02, 17.v.2022, 1♂; S04, 17.v.2022, 1♂; S09,
18.v.2022, 1♀, 1♂; S03, 18.v.2022, 1♀, 1♂; S10, 18.v.2022, 1♀,
1♂; S08, 18.v.2022, 1♀, 1♂; S06, 18.v.2022, 1♀, 1♂; Guarda,
Sabugal, Serra das Mesas, 12.vi.2022, 1♀, 1♂, leg. S. Castro & J.
Loureiro;
Beira Baixa, L11, 27.iii.2022, 3♂; L11, 11.v.2022, 2♀, 2♂; L06,
11.v.2022, 1♀, 1♂; L04, 11.v.2022, 1♀, 1♂; L10, 11.v.2022, 1♂;
L09, 14.v.2022, 1♀; L08, 14.v.2022, 1♀, 2♂; L01, 14.v.2022,
1♀; L07, 14.v.2022, 2♂; F09, 19.v.2022, 2♀; F02, 19.v.2022,
1♀, 1♂; F11, 19.v.2022, 1♀, 1♂; F01, 19.v.2022, 3♀, 2♂; F04,
19.v.2022, 3♂.
- Ceratina (Euceratina) cyanea* (KIRBY, 1802)
Douro Litoral, DT71, 9.vii.2018, 1♀;

Beira Litoral, C2, 26.v.2019, 1♀ (INV13034);
Beira Alta, DT77, 15.vi.2018, 1♂ (INV13216); DT78, 6.vii.2018,
4♀ (INV13215), 1♂; DT80, 7.vii.2018, 1♀; DT89, 10.vii.2018,
3♀; PM, 26.v.2021, 1♂;
Beira Baixa, L05, 11.v.2022, 1♀; L11, 11.v.2022, 1♂; L06,
11.v.2022, 2♂; F01, 19.v.2022, 1♀, 1♂.

Ceratina (Euceratina) dallatorreana FRIESE, 1896

*Douro Litoral, I, 28.x.2019, 1♀ (INV13035);

Beira Alta, S05, 17.v.2022, 3♀;

Beira Baixa, L07, 14.v.2022, 1♀.

Ceratina (Euceratina) dentiventris GERSTÄCKER, 1869

*Beira Alta, DT78, 6.vii.2018, 1♀; S05, 17.v.2022, 1♀.

Ceratina (Euceratina) nigrolabiata FRIESE, 1896

Beira Alta, S05, 17.v.2022, 1♀.

Ceratina (Euceratina) saundersi DALY, 1983

*Beira Baixa, L04, 11.v.2022, 1♂.

Genus *Epeolus* Latreille, 1802

Epeolus cruciger (PANZER, 1799)

*Beira Alta, S10, 18.v.2022, 1♀;

*Beira Baixa, F07, 19.v.2022, 1♀.

Genus *Eucera* Scopoli, 1770

Eucera (Eucera) barbiventris PÉREZ, 1902

*Beira Alta, S01, 6.iv.2022, 1♂;

Beira Baixa, L01, 27.iii.2022, 2♂; F01, 1.iv.2022, 1♂; F08,
1.iv.2022, 1♂.

Eucera (Eucera) cineraria EVERS-MANN, 1852

*Beira Alta, S05, 17.v.2022, 1♀, 5♂; S11, 17.v.2022, 1♂; S03,
18.v.2022, 2♂; S06, 18.v.2022, 1♂;

Beira Baixa, L06, 11.v.2022, 1♂; F03, 18.v.2022, 5♂; F04,
19.v.2022, 1♀, 1♂; F11, 19.v.2022, 4♂; F01, 19.v.2022, 1♂.

Eucera (Eucera) clypeata ERICHSON, 1835

*Beira Baixa, F06, 15.v.2022, 1♀;

Eucera (Eucera) collaris DOURS, 1873

*Beira Alta, S02, 6.iv.2022, 1♂; S11, 6.iv.2022, 1♂; S05,
6.iv.2022, 3♂; S06, 7.iv.2022, 2♂; S05, 17.iv.2022, 7♀, 1♂;

Beira Baixa, VS, 4.iii.2022, 1♂, leg. H. Gaspar; L07, 27.iii.2022,
2♀, 2♂; F01, 1.iv.2022, 4♀, 2♂; F06, 1.iv.2022, 1♀, 2♂; F11,
2.iv.2022, 1♂; F04, 2.iv.2022, 1♂; F07, 2.iv.2022, 2♂; L07,
14.v.2022, 1♂; F04, 19.v.2022, 1♀.

Eucera (Eucera) eucnemidea DOURS, 1873

*Beira Baixa, L11, 27.iii.2022, 1♂, det. T. Wood.

Eucera (Eucera) elongatula VACHAL, 1907

Beira Baixa, VS, 4.iii.2022, 1♂, leg. H. Gaspar; F06, 1.iv.2022,
5♀, 4♂; F01, 1.iv.2022, 1♂; F11, 2.iv.2022, 1♂; F06, 15.v.2022,
1♀.

Eucera (Eucera) interrupta BÄR, 1850

*Beira Alta, S11, 17.v.2022, 1♂.

Eucera (Eucera) longicornis (LINNAEUS, 1758)

Beira Litoral, C1, 5.vii.2019, 1♀ (INV13018).

Eucera (Eucera) nigrescens (PÉREZ, 1879)

*Beira Alta, S03, 3.iv.2022, 1♂; S06, 7.iv.2022, 2♂; OP01,
28.iv.2022, 1♂; S05, 17.v.2022, 2♀, 1♂; S04, 17.v.2022, 1♀, 1♂;
S11, 17.v.2022, 1♂;

Beira Baixa, L02, 14.v.2022, 1♀, 1♂; F03, 18.v.2022, 1♂; F11,
19.v.2022, 2♂;

Estremadura, OP09, 14.iv.2022, 1♂.

Eucera (Eucera) nigrifacies LEPELETIER, 1841

*Beira Baixa, F05, 15.v.2022, 1♀; F11, 19.v.2022, 2♀.

Eucera (Eucera) nigrilabris LEPELETIER, 1841

*Minho, K, 11.iii.2019, 1♀, 2♂ (INV13020, INV13019);

*Beira Alta, S04, 6.iv.2022, 1♀, 2♂; S11, 6.iv.2022, 6♀; OP01,
28.iv.2022, 1♀;

Beira Baixa, L09, 27.iii.2022, 1♂; F08, 1.iv.2022, 1♂; F06,
1.iv.2022, 1♂; F11, 2.iv.2022, 1♀, 1♂.

Eucera (Eucera) notata LEPELETIER, 1841

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa,
28.ii.2020, 6♂, leg. H. Gaspar & S. Castro;

*Beira Alta, S06, 7.iv.2022, 2♀, 2♂; S08, 7.iv.2022, 1♂;

Beira Baixa, VS, 2.iii.2022, 1♂, leg. H. Gaspar; L06, 26.iii.2022,
1♀; L04, 27.iii.2022, 1♀; L01, 27.iii.2022, 2♂; L11, 27.iii.2022,
1♂; F01, 1.iv.2022, 1♀, 3♂; F06, 1.iv.2022, 1♀; F03, 1.iv.2022,
1♂; F11, 2.iv.2022, 1♀, 1♂; L11, 11.v.2022, 2♀; L09, 14.v.2022,
1♀; F01, 19.v.2022, 1♀.

Eucera (Eucera) pollinosa SMITH, 1854

Beira Litoral, C1, 25.v.2019, 1♀ (INV13017), 1♂ (INV13021);

*Beira Alta, S03, 18.v.2022, 1♀, 1♂;

Beira Baixa, L05, 26.iii.2022, 1♂; L02, 14.v.2022, 2♀.

Genus *Melecta* Latreille, 1802

Melecta (Melecta) albifrons (FÖRSTER, 1771)

*Beira Alta, S08, 7.iv.2022, 1♂.

Melecta (Melecta) luctuosa (SCOPOLI, 1770)

Beira Alta, S08, 7.iv.2022, 1♀.

Genus *Nomada* Scopoli, 1770

Nomada agrestis FABRICIUS, 1787

*Beira Alta, S06, 7.iv.2022, 1♀;

Beira Baixa, L11, 27.iii.2022, 1♀.

Nomada basalis HERRICH-SCHÄFFER, 1839

Beira Baixa, F06, 15.v.2022, 2♀;

Estremadura, OP08, 19.iv.2022, 1♂.

Nomada bifasciata OLIVIER, 1811

Beira Litoral, S, 1.iv.2019, 1♀ (INV13025);

*Beira Alta, S04, 6.iv.2022, 1♀; S11, 6.iv.2022, 1♂.

Nomada carnifex MOCSÁRY, 1883

*Beira Alta, S09, 18.v.2022, 1♂.

Nomada conjungens HERRICH-SCHÄFFER, 1839

*Beira Litoral, C2, 25.v.2019, 1♀ (INV13024);

*Beira Alta, S11, 17.v.2022, 3♂; S07, 17.v.2022, 2♂;

*Beira Baixa, L08, 26.iii.2022, 1♂;

Nomada dira MOCSÁRY, 1882

*Beira Baixa, VS, 2.iii.2022, 1♀, leg. H. Gaspar; L07,
27.iii.2022, 1♀.

Nomada discedens PÉREZ, 1884

Douro Litoral, Q, 3.iv.2019, 1♀.

Nomada discrepans SCHMIEDEKNECHT, 1882

*Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa,
20.ii.2020, 1♀, leg. H. Gaspar & S. Castro;

*Beira Alta, S01, 6.iv.2022, 1♀; S04, 6.iv.2022, 1♀; S11,
6.iv.2022, 1♀;

Beira Baixa, L08, 26.iii.2022, 1♂; L07, 27.iii.2022, 1♀; L09,
27.iii.2022, 1♂; BL11, 27.iii.2022, 1♂; F11, 2.iv.2022, 1♀; F04,
2.iv.2022, 2♀; L06, 11.v.2022, 1♂; F07, 19.v.2022, 1♂; F11,
19.v.2022, 1♂.

Nomada distinguenda MORAWITZ, 1874

Beira Litoral, L, 22.v.2019, 1♂; C2, 26.v.2019, 1♀ (INV13027);
D, 30.v.2019, 1♂ (INV13032); C1, 1.viii.2019, 1♀ (INV13023);
Beira Alta, S02, 17.v.2022, 1♂.

Nomada dolosa MOCSÁRY, 1883

*Beira Alta, S05, 17.v.2022, 1♀, det. T. Wood.

Nomada fallax PÉREZ, 1913

Beira Baixa, L07, 14.v.2022, 1♀.

Nomada femoralis MORAWITZ, 1869

*Beira Litoral, J, 30.iv.2019, 1♀ (INV13028);

*Beira Alta, S11, 17.v.2022, 1♀; S05, 17.v.2022, 2♂;

Beira Baixa, L07, 14.v.2022, 3♀.

Nomada flavoguttata (KIRBY, 1802)
 Minho, F, 11.iii.2019, 1♂ (INV13033);
 Douro Litoral, DT71, 9.vii.2018, 1♂ (INV13209);
 Beira Baixa, CA, 2.iii.2022, 1♂, leg. S. Castro.

Nomada fucata PANZER, 1798
 *Beira Baixa, CA, 23.ii.2022, 1♂, leg. H. Gaspar.

Nomada fulvicornis FABRICIUS, 1793
 Beira Alta, DT89, 10.vii.2018, 1♀ (INV13207); S11, 6.iv.2022, 2♀;
 *Beira Baixa, F01, 1.iv.2022, 1♀; F09, 2.iv.2022, 1♀; F07, 2.iv.2022, 1♀.

Nomada furva PANZER, 1798
 *Beira Baixa, L05, 26.iii.2022, 1♀; L07, 27.iii.2022, 1♀.

Nomada glaucopsis PÉREZ, 1890
 Beira Baixa, L07, 27.iii.2022, 1♂.

Nomada goodeniana (KIRBY, 1802)
 *Beira Litoral, J, 16.iii.2019, 1♀ (INV13026).

Nomada hispanica DUSMET, 1913
 *Douro Litoral, T, 1.iii.2019, 1♀; I, 16.v.2019, 1♀ (INV13030);
 Beira Alta, S11, 6.iv.2022, 1♂; S08, 18.v.2022, 1♂.

Nomada linsenmaieri SCHWARZ, 1974
 Douro Litoral, DT73, 27.vi.2018, 1♂ (INV13211).
 *Beira Alta, S01, 17.v.2022, 1♀; S04, 17.v.2022, 1♂, det. T. Wood; S05, 17.v.2022, 2♂, det. T. Wood; S08, 18.v.2022, 1♂, det. T. Wood; S10, 18.v.2022, 1♀;
 Beira Baixa, L08, 26.iii.2022, 1♂; L04, 11.v.2022, 1♀, 3♂, det. H. Gaspar & T. Wood; L06, 11.v.2022, 2♀, 3♂, det. H. Gaspar & T. Wood; L09, 14.v.2022, 1♂; F05, 15.v.2022, 2♀, 1♂, det. H. Gaspar & T. Wood; F06, 15.v.2022, 2♂; F01, 19.v.2022, 1♀; F02, 19.v.2022, 2♀, det. H. Gaspar & T. Wood; F11, 19.v.2022, 1♂.

Nomada merceti ALFKEN, 1909
 Beira Alta, DT89, 10.vii.2018, 3♂ (INV13210, INV13212, INV13213); S06, 18.v.2022, 1♂.

***Nomada mocsaryi* SCHMIEDEKNECHT 1882
 Beira Baixa, L03, 11.v.2022, 1♀.

Nomada piccioliana MAGRETTI, 1883
 *Beira Baixa, VS, 4.iii.2022, 1♂.

Nomada rubricoxa SCHWARZ, 1977
 Beira Alta, S08, 18.v.2022, 1♂;
 *Beira Baixa, L08, 14.v.2022, 1♂.

Nomada sanguinea SMITH, 1854
 Beira Baixa, L06, 11.v.2022, 1♂; L04, 11.v.2022, 1♂; F03, 18.v.2022, 2♂.

Nomada striata FABRICIUS, 1793
 Beira Alta, DT77, 15.vi.2018, 1♀ (INV13208); DT78, 6.vii.2018, 1♀ (INV13206); S07, 17.v.2022, 1♀.

Nomada succincta PANZER, 1798
 Beira Baixa, CA, 23.ii.2022, 1♀, leg. H. Gaspar; L08, 26.iii.2022, 1♀.

Nomada zonata PANZER, 1798
 *Beira Alta, S04, 6.iv.2022, 1♂.

Genus *Xylocopa* Latreille, 1802

Xylocopa (Rhysoxylocopa) cantabrita LEPELETIER, 1841
 Douro Litoral, T, 30.v.2019, 1♀;
 Beira Alta, S11, 17.v.2022, 1♂;
 Beira Baixa, L09, 14.v.2022, 1♂; L01, 14.v.2022, 2♂; F09, 19.v.2022, 1♀; F01, 19.v.2022, 2♀, 2♂.

Xylocopa (Xylocopa) violacea (LINNAEUS, 1758)
 Beira Litoral, Coimbra, Botanical Garden, 24.ii.2012, 1♀, J. Costa;
 Beira Alta, S03, 18.v.2022, 1♀;
 Estremadura, Lisboa, Sintra, Colares, 29.ii.2012, 1♀.

COLLETIDAE

Genus *Colletes* Latreille, 1802

Colletes abeillei PÉREZ, 1903
 *Beira Litoral, V, 24.v.2019, 1♂.

Colletes albomaculatus (LUCAS, 1849)
 *Beira Baixa, L04, 11.v.2022, 1♀.

Colletes cunicularius (LINNAEUS, 1761)
 Beira Baixa, F02, 1.iv.2022, 1♀; L02, 3.iv.2022, 5♀.

Colletes foveolaris PÉREZ, 1903
 Beira Alta, S08, 18.v.2022, 1♂.

Colletes mlokoszewiczi RADOSZKOWSKI, 1891
 *Beira Baixa, L07, 14.v.2022, 1♀.

Genus *Hylaeus* Fabricius, 1793

Hylaeus (Hylaeus) angustatus (SCHENCK, 1861)
 Beira Alta, Castro Daire, 14.vi.2018, 1♂, leg. D. Tavares *et al.*;
 DT62, 20.vi.2018, 1♀.

Hylaeus (Lambdopsis) annularis (KIRBY, 1802)
 Beira Baixa, L11, 11.v.2022, 1♀.

Hylaeus (Paraprosopis) clypearis (SCHENCK, 1853)
 *Douro Litoral, I, 25.v.2019, 1♂;
 Beira Alta, S10, 18.v.2022, 1♀;
 Beira Baixa, L02, 14.v.2022, 1♂.

Hylaeus (Hylaeus) communis NYLANDER, 1852
 Beira Alta, DT80, 7.vii.2018, 1♀ (INV13222);

Hylaeus (Prosopis) convergens DATHE, 2000
 *Beira Alta, S08, 18.v.2022, 2♀.

Hylaeus (Patagiata) difformis (EVERSMANN, 1852) ssp. *hispanicus* (WARNCKE, 1972)
 Beira Baixa, L02, 14.v.2022, 1♂.

Hylaeus (Lambdopsis) dilatatus (KIRBY, 1802)
 *Beira Alta, S03, 18.v.2022, 1♂.

Hylaeus (Spatulariella) hyalinatus SMITH, 1843
 Douro Litoral, H, 22.v.2019, 1♂ (INV13156).

Hylaeus (Dentigera) imparilis FÖRSTER, 1871
 Beira Alta, Castro Daire, vi-vii.2018, 1♀.

Hylaeus (Prosopis) incongruus FÖRSTER, 1871
 *Minho, A1, 1.v.2019, 1♀ (INV13154);
 *Douro Litoral, DT71, 9.vii.2018, 1♀ (INV13223), 1♂;
 *Beira Litoral, C1, 25.v.2019, 1♀ (INV13155); C1, 5.vii.2019, 1♂ (INV13157);
 *Beira Alta, DT62, 20.vi.2018, 2♀; DT78, 6.vii.2018, 2♀, det. T. Wood and H. Gaspar; DT80, 7.vii.2018, 2♀, 1♂; DT82, 7.vii.2018, 1♂; S11, 17.v.2022, 1♂; S03, 18.v.2022, 1♂;
 *Beira Baixa, F09, 19.v.2022, 1♂.

Hylaeus (Koptogaster) punctulatissimus SMITH, 1842
 *Beira Baixa, L02, 14.v.2022, 1♂.

Hylaeus (Paraprosopis) taeniolatus FÖRSTER, 1871
 Beira Alta, Guarda, Sabugal, Vale do Espinho, 12.vi.2022, 1♀, leg. S. Castro & J. Loureiro.

HALICTIDAE

Genus *Dufourea* Lepeletier, 1841

Dufourea (Dentirophites) gaullei VACHAL, 1897
 Beira Baixa, L04, 11.v.2022, 1♀, 1♂.

Dufourea (Dufourea) halictula (NYLANDER, 1852)
 *Douro Litoral, DT69, 19.vi.2018, 1♀; DT73, 27.vi.2018, 1♀ (INV13217);
 *Beira Alta, DT54, 13.vi.2018, 1♀; DT78, 6.vii.2018, 1♂.

Genus *Halictus* Latreille, 1804

Halictus (Halictus) brunescens (EVERSMANN, 1852)

*Douro Litoral, I, 30.v.2019, 1♀ (INV13054).

Halictus (Halictus) crenicornis BLÜTHGEN, 1923

Douro Litoral, DT69, 19.vi.2018, 1♀, det. T. Wood; U, 23.v.2019, 1♀ (INV13055); I, 2.ii.2020, 1♀ (INV13057);

*Beira Litoral, C2, 26.v.2019, 1♀ (INV13056);

Beira Alta, DT54, 13.vi.2018, 1♀, det. T. Wood; DT89, 10.vii.2018, 1♀, det. T. Wood.

Halictus (Halictus) fulvipes (KLUG, 1817)

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa, 21.x.2020, 1♂, leg. H. Gaspar & S. Castro;

Beira Litoral, PM, 27.v.2021, 1♀;

Beira Alta, S11, 6.iv.2022, 2♀; S05, 6.iv.2022, 3♀; S06, 7.iv.2022, 2♀; OP01, 28.iv.2022, 1♀; S11, 17.v.2022, 1♀; S05, 17.v.2022, 1♀;

Beira Baixa, L08, 26.iii.2022, 1♀; L01, 27.iii.2022, 2♀; L04, 27.iii.2022, 1♀; F06, 1.iv.2022, 1♀; L03, 11.v.2022, 1♀; F11, 19.v.2022, 4♀; F01, 19.v.2022, 1♀.

Halictus (Seladonia) gemmeus DOURS, 1872

Beira Litoral, D, 30.v.2019, 1♀ (INV13058);

Beira Baixa, L06, 26.iii.2022, 1♀; L05, 11.v.2022, 1♀.

Halictus (Halictus) maculatus SMITH, 1848

Douro Litoral, I, 25.v.2019, 1♀ (INV13053).

Halictus (Vestitohalictus) pollinosus SICHEL, 1860

*Douro litoral, DT71, 9.vii.2018, 1♀; DT71, 10.vii.2018, 1♀ (INV13218);

Beira Alta, S05, 17.v.2022, 1♀.

Halictus (Halictus) quadricinctus (FABRICIUS, 1776)

Beira Litoral, Coimbra, Botanical Garden, 23.vi.2021, 1♀, leg. S. Castro;

Beira Alta, S05, 17.v.2022, 2♀; S03, 18.v.2022, 1♀;

Beira Baixa, L06, 11.v.2022, 1♀.

Halictus (Halictus) rubicundus (CHRIST, 1791)

*Beira Litoral, C1, 1.viii.2019, 1♂.

Halictus (Halictus) scabiosae (ROSSI, 1790)

Beira Litoral, J, 30.iv.2019, 1♀; J, 15.v.2019, 1♀; C2, 26.v.2019, 1♀; J, 15.ix.2019, 1♂ (INV13047); C1, 7.x.2019, 1♂ (INV13048);

Coimbra, Botanical Garden, 23.vi.2021, 1♀, 1♂, leg. S. Castro.

Halictus (Seladonia) seladonius (FABRICIUS, 1794)

Douro Litoral, I, 25.v.2019, 1♀ (INV13062).

Halictus (Seladonia) smaragdulus VACHAL, 1895

Beira Baixa, L01, 27.iii.2022, 1♀; L04, 11.v.2022, 1♀.

Halictus (Seladonia) subauratus (ROSSI, 1792)

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa, 21.x.2020, 2♂, leg. H. Gaspar & S. Castro;

Douro Litoral, O, 24.v.2019, 1♀ (INV13061); I, 5.ix.2019, 1♂ (INV13059);

Beira Litoral, P, 29.iv.2019, 1♀ (INV13060).

Halictus (Seladonia) submediterraneus PAULY, 2015

*Beira Litoral, P, 29.v.2019, 1♀ (INV13050).

Genus *Lasioglossum* Curtis, 1833

Lasioglossum (Dialictus) aeratum (KIRBY, 1802)

Beira Alta, S03, 18.v.2022, 1♀.

Lasioglossum (Lasioglossum) albocinctum (LUCAS, 1849)

Douro Litoral, T, 1.iii.2019, 1♀ (INV13073);

*Beira Litoral, G, 28.v.2019, 1♀ (INV13072); N, 4.ii.2020, 1♀ (INV13074);

Beira Alta, S05, 6.iv.2022, 3♀; S06, 7.iv.2022, 1♀; S01, 17.v.2022, 1♀; S11, 17.v.2022, 1♀; S05, 17.v.2022, 2♀; S10, 18.v.2022, 1♀; S08, 18.v.2022, 1♀;

Beira Baixa, L06, 26.iii.2022, 1♀; L08, 26.iii.2022, 1♀; L11,

27.iii.2022, 1♀; L11, 11.v.2022, 2♀; L04, 11.v.2022, 3♀; L09, 14.v.2022, 4♀; L07, 14.v.2022, 2♀; F06, 15.v.2022, 1♀; F07, 19.v.2022, 3♀.

Lasioglossum (Evyllaes) algericolellum STRAND, 1909

Minho, A1, 20.v.2019, 1♂ (INV13102).

Lasioglossum (Evyllaes) angusticeps (PERKINS, 1895)

*Douro Litoral, H, 22.v.2019, 1♂ (INV13106); H, 11.vi.2019, 1♂ (INV13114), det. T. Wood.

Lasioglossum (Dialictus) aureolum (PÉREZ, 1903)

Minho, F, 25.v.2019, 1♀ (INV131107);

Douro Litoral, O, 24.v.2019, 1♀ (INV131108);

*Beira Litoral, C2, 5.v.2019, 1♀ (INV131109).

Lasioglossum (Lasioglossum) bimaculatum (DOURS, 1872)

*Beira Alta, S11, 6.iv.2022, 1♀; S05, 6.iv.2022, 2♀; S06, 7.iv.2022, 1♀; S01, 17.v.2022, 1♀; S02, 17.v.2022, 2♀; S11, 17.v.2022, 1♀; S08, 18.v.2022, 1♀;

Beira Baixa, L01, 27.iii.2022, 1♀; L07, 27.iii.2022, 1♀; F06, 1.iv.2022, 2♀; F07, 2.iv.2022, 1♀; L07, 14.v.2022, 1♀; F07, 19.v.2022, 1♀; F01, 19.v.2022, 1♀.

Lasioglossum (Evyllaes) brevicorne (SCHENCK, 1868)

Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa, 28.ii.2020, 2♀, leg. H. Gaspar & S. Castro;

Douro Litoral, DT69, 19.vi.2018, 1♀; DT73, 27.vi.2018, 2♀;

*Beira Litoral, G, 28.v.2019, 2♂ (INV13104, INV13105);

Beira Alta, DT62, 20.vi.2018, 1♀; DT80, 7.vii.2018, 1♀; DT89, 10.vii.2018, 1♀; S07, 6.iv.2022, 1♀; S01, 6.iv.2022, 2♀; S04, 6.iv.2022, 1♀; S02, 6.iv.2022, 1♀; S11, 6.iv.2022, 3♀; S05, 6.iv.2022, 3♀; S09, 7.iv.2022, 1♀; S05, 17.v.2022, 1♀; S03, 18.v.2022, 2♀;

Beira Baixa, CA, 28.ii.2022, 1♀, leg. S. Castro; L01, 27.iii.2022, 2♀; L07, 27.iii.2022, 1♀; L04, 27.iii.2022, 3♀; L11, 27.iii.2022, 1♀; L11, 11.v.2022, 2♀; L06, 11.v.2022, 2♀; L04, 11.v.2022, 1♀; L09, 14.v.2022, 1♀; F06, 15.v.2022, 3♀; F07, 19.v.2022, 2♀; F04, 19.v.2022, 3♀.

Lasioglossum (Evyllaes) buccale (PÉREZ, 1903)

Douro Litoral, DT73, 27.vi.2018, 2♀; DT71, 29.vii.2018, 1♀;

Beira Litoral, PM, 3.v.2021, 1♀;

*Beira Alta, DT66, 20.vi.2018, 1♀; S03, 1.iv.2022, 1♀;

Beira Baixa, F01, 1.iv.2022, 1♀; F02, 1.iv.2022, 1♀.

Lasioglossum (Evyllaes) calceatum (SCOPOLI, 1763)

Minho, A1, 2.vii.2019, 1♀;

*Beira Litoral, C2, 11.iii.2019, 1♀;

Beira Alta, DT54, 13.vi.2018, 1♀.

Lasioglossum (Lasioglossum) callizonium (PÉREZ, 1895)

Minho, K, 29.iv.2019, 1♀;

*Douro Litoral, U, 29.v.2019, 1♀;

*Beira Litoral, N, 3.vi.2019, 1♀ (INV13066).

Lasioglossum (Evyllaes) capitale (PÉREZ, 1903)

*Beira Baixa, F02, 19.v.2022, 1♀.

Lasioglossum (Lasioglossum) costulatum (KRIECHBAUMER, 1873)

*Douro Litoral, T, 30.v.2019, 1♀ (INV13075);

Beira Alta, S06, 18.v.2022, 1♀; Guarda, Sabugal, Serra das Mesas, 12.vi.2022, 1♀, leg. S. Castro & J. Loureiro;

Beira Baixa, L04, 11.v.2022, 2♀; L06, 11.v.2022, 1♀; L07, 14.v.2022, 1♀; F11, 19.v.2022, 1♀.

Lasioglossum (Evyllaes) griseolum (MORAWITZ, 1872)

*Douro Litoral, H, 22.v.2019, 1♂.

Lasioglossum (Evyllaes) immunitum (VACHAL, 1895)

Beira Litoral, C2, 2.iv.2019, 1♀ (INV13083).

Lasioglossum (Evyllaes) interruptum (PANZER, 1798)

Beira Litoral, C1, 2.iv.2019, 1♀ (INV13093), det. T. Wood; PM, 4.v.2021, 2♀;

*Beira Alta, DT89, 10.vii.2018, 1♀; S03, 3.iv.2022, 1♀; S01,

6.iv.2022, 1♀; S11, 6.iv.2022, 1♀; S05, 6.iv.2022, 3♀; S06, 7.iv.2022, 1♀; S11, 17.v.2022, 2♀; S05, 17.v.2022, 3♀; S03, 18.v.2022, 2♀; S06, 18.v.2022, 1♀; Beira Baixa, L04, 27.iii.2022, 1♀.

Lasioglossum (Lasioglossum) leucozonium (SCHRANK, 1781)
Beira Litoral, L, 1.v.2019, 1♂ (INV13110); G, 11.vi.2019, 1♂ (INV13111); C1, 1.viii.2019, 1♂ (INV13113); J, 18.viii.2019, 1♀ (INV13064), 1♂ (INV13112);
Beira Alta, S05, 6.iv.2022, 1♀; S06, 7.iv.2022, 1♀; S11, 17.v.2022, 1♀;
Beira Baixa, L06, 26.iii.2022, 1♀; L01, 27.iii.2022, 2♀; L04, 27.iii.2022, 1♀; L11, 27.iii.2022, 1♀; F01, 1.iv.2022, 1♀; F07, 2.iv.2022, 1♀; L03, 11.v.2022, 1♀; F11, 19.v.2022, 1♀.

Lasioglossum (Evyllaes) malachurum (KIRBY, 1802)
Minho, B2, 11.iii.2019, 1♀;
Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa, 28.ii.2020, 2♀, leg. H. Gaspar & S. Castro; Guarda, Vila Nova de Foz Côa, 21.x.2020, 2♀, leg. H. Gaspar & S. Castro;
Beira Litoral, Aveiro, Ovar, Contegança, 9.iii.2012, 1♀; C2, 11.iii.2019, 4♀; C1, 11.iii.2019, 1♀; C1, 3.iv.2019, 1♀; C1, 5.v.2019, 1♀ (INV13092), det. T. Wood; C2, 26.v.2019, 1♀; Coimbra, Botanical Garden, 23.vi.2021, 1♀, leg. S. Castro;
Beira Alta, S03, 3.iv.2022, 2♀; S07, 6.iv.2022, 2♀; S01, 6.iv.2022, 1♀; S04, 6.iv.2022, 1♀; S02, 6.iv.2022, 4♀; S11, 6.iv.2022, 1♀; S05, 6.iv.2022, 4♀; S08, 7.iv.2022, 1♀; S09, 7.iv.2022, 1♀; S06, 7.iv.2022, 2♀; OP01, 28.iv.2022, 5♀; S11, 17.v.2022, 1♀; S06, 18.v.2022, 1♀;
Beira Baixa, VS, 22.ii.2022, 1♀, leg. H. Gaspar; CA, 28.ii.2022, 1♀, leg. S. Castro; CA, 2.iii.2022, 1♀, leg. S. Castro; VS, 4.iii.2022, 1♀, leg. S. Castro; L05, 26.iii.2022, 4♀; L01, 27.iii.2022, 3♀; L07, 27.iii.2022, 1♀; L11, 27.iii.2022, 1♀; L04, 27.iii.2022, 2♀; F01, 1.iv.2022, 2♀; F06, 1.iv.2022, 2♀; F11, 2.iv.2022, 1♀; L11, 11.v.2022, 1♀; L09, 14.v.2022, 2♀; L07, 14.v.2022, 1♀; F06, 15.v.2022, 3♀; F05, 15.v.2022, 1♀; F03, 18.v.2022, 1♀; F02, 19.v.2022, 1♀; F11, 19.v.2022, 3♀; F04, 19.v.2022, 2♀; F01, 19.v.2022, 1♀;
Estremadura, OP09, 14.iv.2022, 1♀; OP08, 19.iv.2022, 2♀;

Lasioglossum (Evyllaes) marginatum (BRULLÉ, 1832)
Beira Alta, S05, 17.v.2022, 4♀; S04, 17.v.2022, 1♀.

Lasioglossum (Evyllaes) minutissimum (KIRBY, 1802)
Beira Litoral, C2, 11.iii.2019, 3♀ (INV13094, INV13095, INV13096); C1, 2.iv.2019, 1♀;
Estremadura, OP08, 19.iv.2022, 1♀.

Lasioglossum (Dialictus) morio (FABRICIUS, 1793)
*Beira Litoral, PM, 3.v.2021, 1♀ (INV13229).

Lasioglossum (Lasioglossum) pallens (BRULLÉ, 1832)
*Beira Alta, S02, 6.iv.2022, 1♀, 3♂, det. H. Gaspar & T. Wood; S05, 6.iv.2022, 1♂, det. T. Wood; S07, 6.iv.2022, 4♂, det. T. Wood; S08, 7.iv.2022, 1♂, det. T. Wood; S09, 7.iv.2022, 2♂, det. T. Wood; S02, 17.v.2022, 3♀;
*Beira Baixa, CA, 23.ii.2022, 1♂, leg. H. Gaspar; L01, 27.iii.2022, 1♀; F06, 1.iv.2022, 2♀; F10, 2.iv.2022, 1♂, det. T. Wood; F09, 2.iv.2022, 1♂, det. T. Wood.

Lasioglossum (Evyllaes) pauperatum (BRULLÉ, 1832)
Douro Litoral, O, 24.v.2019, 1♂ (INV13103); Q, 27.v.2019, 1♀ (INV13067);
Beira Litoral, C2, 2.iv.2019, 2♀ (INV13097, INV13098).

Lasioglossum (Evyllaes) pauxillum (SCHENCK, 1853)
Trás-os-Montes e Alto Douro, Guarda, Vila Nova de Foz Côa, 21.x.2020, 2♀, leg. H. Gaspar & S. Castro;
Beira Litoral, C2, 2.iv.2019, 1♀, det. T. Wood;
Beira Alta, S01, 6.iv.2022, 1♀; S05, 6.iv.2022, 1♀; S06, 7.iv.2022, 2♀; S11, 17.v.2022, 1♀;
Beira Baixa, VS, 2.iii.2022, 1♀, leg. H. Gaspar; L05, 26.iii.2022, 5♀; L06, 26.iii.2022, 1♀; L08, 26.iii.2022, 1♀; L01, 27.iii.2022,

4♀; L11, 27.iii.2022, 2♀; F06, 1.iv.2022, 1♀.

Lasioglossum (Lasioglossum) prasinum (SMITH, 1848)
Beira Baixa, CA, 23.ii.2022, 1♀, leg. H. Gaspar.

Lasioglossum (Evyllaes) punctatissimum (SCHENCK, 1853)
Beira Baixa, L04, 27.iii.2022, 1♀.

Lasioglossum (Evyllaes) quadrinotatum (KIRBY, 1802)
*Douro Litoral, DT69, 19.vi.2018, 2♀;
*Beira Alta, S03, 18.v.2022, 2♀.

Lasioglossum (Lasioglossum) sexnotatum (KIRBY, 1802)
Minho, A1, 4.v.2018, 1♀; A1, 2.vii.2019, 1♂ (INV13078); Douro Litoral, T, 30.v.2019, 1♀ (INV13070).

Lasioglossum (Dialictus) smeathmanellum (KIRBY, 1802)
*Beira Alta, OP01, 28.iv.2022, 1♀.

Lasioglossum (Evyllaes) sphecodimorphum (VACHAL, 1892)
Beira Baixa, F02, 19.v.2022, 2♀.

Lasioglossum (Evyllaes) strictifrons (VACHAL, 1895)
Beira Litoral, G, 1.v.2019, 1♀ (INV13099), det. T. Wood; P, 28.v.2019, 1♀ (INV13101), det. T. Wood; G, 11.vi.2019, 1♀ (INV13068); G, 11.vii.2019, 1♂ (INV13079); G, 31.vii.2019, 1♀ (INV13100).

Lasioglossum (Evyllaes) subaenescens (PÉREZ, 1895)
*Douro Litoral, DT69, 19.vi.2018, 1♀.

Lasioglossum (Evyllaes) subhirtum (LEPELETIER, 1841)
*Beira Litoral, C1, 11.iii.2019, 1♀;
*Beira Alta, S05, 6.iv.2022, 1♀;
Beira Baixa, L05, 26.iii.2022, 4♀; L01, 27.iii.2022, 1♀; L04, 27.iii.2022, 1♀.

Lasioglossum (Evyllaes) transitorium (SCHENCK, 1868)
*Beira Litoral, C2, 11.iii.2019, 1♀ (INV13084).

Lasioglossum (Evyllaes) villosulum (KIRBY, 1802)
Beira Litoral, C1, 2.iv.2019, 1♀ (INV13069); S, 1.v.2019, 1♀ (INV13088);
Beira Alta, S04, 6.iv.2022, 1♀; S02, 6.iv.2022, 2♀; S11, 6.iv.2022, 2♀; S05, 6.iv.2022, 2♀; S08, 7.iv.2022, 1♀; S09, 7.iv.2022, 1♀; S06, 7.iv.2022, 1♀; OP01, 28.iv.2022, 1♀; S01, 17.v.2022, 1♀; S03, 18.v.2022, 1♀;
Beira Baixa, F11, 2.iv.2022, 1♀; L03, 11.v.2022, 1♀; BEIRA BAIXA, L06, 11.v.2022, 1♀; F11, 19.v.2022, 2♀;
Estremadura, OP06, 18.iv.2022, 1♀; OP08, 19.iv.2022, 1♀; OP07, 20.iv.2022, 1♀.

Lasioglossum (Lasioglossum) xanthopus (KIRBY, 1802)
*Beira Alta, S05, 6.iv.2022, 3♀, 1♂; S11, 6.iv.2022, 1♂; S09, 18.v.2022, 1♀;
Beira Baixa, L09, 27.iii.2022, 2♀, 1♂; L01, 27.iii.2022, 1♂; F01, 1.iv.2022, 1♀.

Lasioglossum (Lasioglossum) zonulum (SMITH, 1848)
Douro Litoral, U, 9.ix.2019, 1♀, 1♂ (INV13081);
Beira Litoral, L, 1.v.2019, 1♂ (INV13082); L, 22.v.2019, 1♀ (INV13077), 1♂ (INV13080), det. H. Gaspar & T. Wood.

Genus *Nomiapis* Cockerell, 1921

Nomiapis (Nomiapis) diversipes (LATREILLE, 1806)
Beira Alta, DT82, 7.vii.2018, 1♀ (INV13219).

Nomiapis (Nomiapis) paulyi WOOD & LE DIVELEC 2022
Beira Baixa, F04, 19.v.2022, 1♂.

Genus *Sphecodes* Latreille, 1805

Sphecodes albilabris (FABRICIUS, 1793)
Beira Alta, S06, 7.iv.2022, 1♂.

Sphecodes crassus THOMSON, 1870
*Douro Litoral, I, 1.iii.2019, 1♂;
*Beira Alta, S06, 7.iv.2022, 1♂;
Beira Baixa, L07, 27.iii.2022, 1♂.

Sphecodes croaticus MEYER, 1922

*Beira Alta, S11, 17.v.2022, 1♂.

Sphecodes ferruginatus HAGENS, 1882

*Beira Alta, S07, 6.iv.2022, 1♀; S11, 6.iv.2022, 1♀; S09, 7.iv.2022, 1♀;

Beira Baixa, L04, 27.iii.2022, 1♀.

Sphecodes hirtellus BLÜTHGEN, 1923

Beira Litoral, E, 23.iv.2019, 1♀ (INV13117).

Sphecodes longulus HAGENS, 1882

*Beira Litoral, C1, 5.v.2019, 1♀ (INV13116); D, 29.v.2019, 1♀.

Sphecodes marginatus HAGENS, 1882

*Beira Litoral, P, 28.v.2022, 1♂ (INV13085).

Sphecodes monilicornis (KIRBY, 1802)

*Beira Litoral, D, 29.v.2019, 1♂ (INV13121);

Beira Baixa, L04, 11.v.2022, 1♀.

Sphecodes niger VON HAGENS, 1874

*Douro Litoral, I, 1.vii.2019, 1♀ (INV13115).

Sphecodes pseudofasciatus BLÜTHGEN, 1925

Beira Baixa, L11, 27.iii.2022, 1♀; L04, 27.iii.2022, 1♀.

Sphecodes rubicundus HAGENS, 1875

*Beira Litoral, C1, 23.v.2019, 1♂ (INV13119); D, 29.v.2019, 1♂ (INV13122);

*Beira Alta, S11, 6.iv.2022, 3♀; S06, 7.iv.2022, 1♀; S04, 17.v.2022, 1♀;

Beira Baixa, L04, 27.iii.2022, 2♀; F11, 2.iv.2022, 1♀.

Sphecodes ruficrus (ERICHSON, 1835)

*Beira Litoral, C1, 11.iii.2019, 1♂; E, 1.v.2019, 1♀.

MEGACHILIDAE

Genus *Anthidiellum* Cockerell, 1904

Anthidiellum (Anthidiellum) strigatum (PANZER, 1805)

Beira Baixa, L09, 14.v.2022, 1♂.

Genus *Anthidium* Fabricius, 1804

Anthidium (Anthidium) manicatum (LINNAEUS, 1758)

Douro Litoral, H, 22.v.2019, 1♀ (INV13142);

Beira Litoral, C1, 7.x.2019, 1♂ (INV13143).

Genus *Chelostoma* Latreille, 1809

Chelostoma (Foveosmia) campanularum (KIRBY, 1802)

*Beira Baixa, L11, 11.v.2022, 1♂; L02, 14.v.2022, 1♂.

Chelostoma (Foveosmia) distinctum (STÖCKHERT, 1929)

*Douro Litoral, DT73, 27.vi.2018, 1♀ (INV13220); DT71, 9.vii.2018, 1♀;

Beira Alta, DT78, 6.vii.2018, 4♀, 2♂ (INV13221); DT80, 7.vii.2018, 2♀;

*Beira Litoral, PM, 8.v.2021, 1♀.

Chelostoma (Chelostoma) emarginatum (NYLANDER, 1856)

*Beira Alta, S02, 17.v.2022, 1♀.

Chelostoma (Chelostoma) florisomne (LINNAEUS, 1758)

*Beira Alta, S02, 17.v.2022, 1♀; S04, 17.v.2022, 1♂.

Chelostoma (Gyrodromella) rapunculi (LEPELETIER, 1841)

*Beira Alta, S06, 18.v.2022, 1♀;

*Beira Baixa, L07, 14.v.2022, 2♀, 4♂.

Genus *Dioxys* Lepeletier & Serville, 1825

Dioxys cinctus (JURINE, 1807)

Beira Baixa, L11, 11.v.2022, 1♀, 1♂.

Genus *Heriades* Spinola, 1808

Heriades (Heriades) rubicola PÉREZ, 1890

Beira Alta, S06, 7.iv.2022, 1♂; S10, 18.v.2022, 6♂; S08, 18.v.2022, 1♂.

Heriades (Heriades) truncorum (LINNAEUS, 1758)

Douro Litoral, T, 30.v.2019, 1♂ (INV13125);

Beira Alta, S10, 18.v.2022, 2♀.

Genus *Hoplitis* Klug, 1807

Hoplitis (Hoplitis) adunca (PANZER, 1798)

Beira Alta, S05, 17.v.2022, 1♂; S06, 18.v.2022, 3♂;

Beira Baixa, L11, 11.v.2022, 2♂; F11, 19.v.2022, 3♂.

Hoplitis (Anthocopa) albiscopa (FRIESE, 1899)

Beira Baixa, L04, 11.v.2022, 1♀, 3♂; L07, 14.v.2022, 1♂; F05,

15.v.2022, 2♀, 6♂; F07, 19.v.2022, 1♀; F04, 19.v.2022, 1♂.

Hoplitis (Hoplitis) annulata (LATREILLE, 1811)

Beira Baixa, F05, 15.v.2022, 3♂; F11, 19.v.2022, 1♂.

Hoplitis (Hoplitis) anthocopoides (SCHENCK, 1853)

*Beira Baixa, L11, 11.v.2022, 1♀; L04, 11.v.2022, 1♀.

Hoplitis (Anthocopa) antigae (PÉREZ, 1895)

Beira Baixa, L06, 11.v.2022, 2♂; L07, 14.v.2022, 2♀, 1♂; F07, 19.v.2022, 3♂.

Hoplitis (Hoplitis) benoisti (ALFKEN, 1935)

*Beira Baixa, F11, 19.v.2022, 1♀.

Hoplitis (Hoplitis) marchali (PÉREZ, 1902)

*Beira Baixa, L07, 14.v.2022, 1♀.

Hoplitis (Hoplitis) stecki (FREY-GESSNER, 1908)

Beira Alta, S05, 17.v.2022, 1♂.

Hoplitis (Alcidamea) tridentata (DUFOUR & PERRIS, 1840)

*Beira Baixa, F01, 19.v.2022, 1♂.

Genus *Megachile* Latreille, 1802

Megachile (Eutricharaea) apicalis SPINOLA, 1808

*Douro Litoral, O, 21.v.2019, 1♀ (INV13127).

Megachile (Eutricharaea) argentata (FABRICIUS, 1793)

Beira Litoral, G, 28.v.2019, 1♂ (INV13129);

Beira Baixa, L05, 11.v.2022, 1♂.

Megachile (Megachile) centuncularis (LINNAEUS, 1758)

Douro Litoral, O, 24.v.2019, 1♀ (INV13130);

*Beira Litoral, Coimbra, Botanical Garden, 23.vi.2021, 1♀, leg. S. Castro.

Megachile (Xanthosarus) lagopoda (LINNAEUS, 1861)

Beira Litoral, Coimbra, Botanical Garden, 23.vi.2021, 1♂, leg. S. Castro.

Megachile (Eutricharaea) leachella CURTIS, 1828

Beira Litoral, G, 2.vii.2019, 1♀ (INV13126).

Megachile (Megachile) melanopyga COSTA, 1863

Douro Litoral, T, 30.v.2019, 1♂ (INV13128);

Beira Baixa, F11, 19.v.2022, 1♂.

Megachile (Megachile) pyrenaica PÉREZ, 1890

*Beira Baixa, L11, 11.v.2022, 1♀, 1♂.

Megachile (Chalicodoma) sicula (ROSSI, 1792)

*Beira Baixa, F07, 19.v.2022, 1♀.

Megachile (Xanthosarus) willughbiella (KIRBY, 1802)

*Beira alta, S05, 17.v.2022, 2♂;

*Beira Baixa, F11, 19.v.2022, 1♀.

Genus *Osmia* Panzer, 1806

Osmia (Hoplosmia) anceyi PÉREZ, 1879

Beira Baixa, F01, 19.v.2022, 1♀.

Osmia (Helicosmia) aurulenta PANZER, 1799

Beira Litoral, D, 29.v.2019, 1♀ (INV13131);

Beira Alta, S05, 17.v.2022, 1♀; S03, 18.v.2022, 1♀;

Osmia (Osmia) bicornis (LINNAEUS, 1758)

Douro Litoral, Q, 3.iv.2019, 1♂ (INV13140);

*Beira Litoral, P, 29.iv.2019, 1♂ (INV13141);
Beira Alta, S06, 7.iv.2022, 2♂; S11, 17.v.2022, 1♀; S02,
17.v.2022, 2♂;
*Beira Baixa, L11, 27.iii.2022, 1♀, 2♂; L01, 27.iii.2022, 1♂;
L09, 27.iii.2022, 2♂; F06, 1.iv.2022, 2♂; F11, 2.iv.2022, 1♂;
F09, 2.iv.2022, 1♂; F07, 2.iv.2022, 1♂; L11, 11.v.2022, 1♀.

Osmia (Metallinella) brevicornis (FABRICIUS, 1798)

*Beira Alta, S05, 17.v.2022, 1♀.

Osmia (Helicosmia) caerulea (LINNAEUS, 1758)

Minho, B2, 11.iii.2019, 2♂ (INV13133, INV13136);

*Beira Litoral, E, 3.v.2019, 1♀ (INV13132);

Beira Alta, S09, 7.iv.2022, 1♂; S06, 7.iv.2022, 1♂;

Beira Baixa, F11, 2.iv.2022, 1♂.

Osmia (Pyrosmia) cephalotes MORAWITZ, 1870

*Douro Litoral, DT69, 19.vi.2018, 1♂;

*Beira Alta, DT62, 20.vi.2018, 1♀.

Osmia (Helicosmia) labialis PÉREZ, 1879

Beira Baixa, L07, 14.v.2022, 1♀.

Osmia (Helicosmia) latreillei (SPINOLA, 1806)

Beira Baixa, L03, 11.v.2022, 1♀. F07, 19.v.2022, 1♂.

Osmia (Hoplosmia) ligurica MORAWITZ, 1868

*Beira Litoral, E, 4.v.2019, 1♂ (INV13134);

Beira Alta, S08, 18.v.2022, 1♂;

Beira Baixa, L11, 11.v.2022, 2♀, 2♂; L03, 11.v.2022, 1♂; L02,

14.v.2022, 2♀; L09, 14.v.2022, 1♂; F11, 19.v.2022, 1♂.

Osmia (Helicosmia) niveata (FABRICIUS, 1804)

*Douro Litoral, R, 2.v.2019, 1♂ (INV13138);

Beira Litoral, S, 20.v.2019, 1♂ (INV13137);

*Beira Alta, OP01, 28.iv.2022, 1♂; S04, 17.v.2022, 3♂;

Beira Baixa, L07, 14.v.2022, 1♂; F04, 19.v.2022, 1♂.

Osmia (Helicosmia) signata ERICHSON, 1835

*Beira Litoral, G, 31.vii.2019, 1♀ (INV13139);

*Beira Alta, S08, 18.v.2022, 1♀;

Beira Baixa, L07, 14.v.2022, 1♀.

Osmia (Pyrosmia) submicans MORAWITZ, 1870

*Douro Litoral, R, 3.v.2019, 1♂ (INV13135);

*Beira Alta, S01, 6.iv.2022, 1♂; S05, 17.v.2022, 1♀.

Genus *Rhodanthidium* Friese, 1898

Rhodanthidium (Rhodanthidium) septemdentatum (LATREILLE, 1809)

*Beira Baixa, F01, 19.v.2022, 1♂.

Genus *Stelis* Panzer, 1806

***Stelis (Pseudostelis) minuta* LEPELETIER AND AUDINET-SERVILLE 1825

Beira Baixa, F01, 19.v.2022, 1♀.

Stelis (Stelis) phaeoptera (KIRBY, 1802)

*Beira Baixa, L05, 11.v.2022, 1♀.

Genus *Dasypoda* Latreille, 1802

Dasypoda (Microdasypoda) cingulata ERICHSON, 1835

Beira Litoral, G, 1.v.2019, 1♀ (INV13148).

Dasypoda (Microdasypoda) crassicornis FRIESE, 1896

*Beira Alta, S11, 17.v.2022, 1♀; S05, 17.v.2022, 1♂;

Beira Baixa, F06, 15.v.2022, 1♂; F11, 19.v.2022, 2♂; F04,
19.v.2022, 2♂.

Dasypoda (Dasypoda) dusmeti QUILIS, 1928

Beira Litoral, D, 1.viii.2019, 1♀ (INV13152), 1♂ (INV13144).

Dasypoda (Dasypoda) hirtipes (FABRICIUS, 1793)

Douro Litoral, I, 28.x.2019, 1♀ (INV13151);

Beira Litoral, C1, 1.viii.2019, 1♂ (INV13147); J, 18.viii.2019, 2♀
(INV13149), 2♂ (INV13145, INV13146).

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