

Annual Report 2020

Italian Butterfly Monitoring Scheme



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Authors

Alessandro Mari, Elisa Plazio, Federica Paradiso, Leonardo Dapporto, Stefano Scalercio, Cristina G. Sevilleja, Simona Bonelli

Photos

Alessandro Mari, Federica Paradiso, Chris van Swaay

National coordinator

Simona Bonelli (simona.bonelli@unito.it)

Local coordinators

North Italy: Simona Bonelli (simona.bonelli@unito.it)

Central Italy: Leonardo Dapporto (leondap@gmail.com)

South Italy: Stefano Scalercio (stefano.scalercio@crea.gov.it)

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Online resources

Further information on the Italian Butterfly Monitoring Scheme, support materials and how to take part in butterfly monitoring can be found at:

<https://butterfly-monitoring.net/it/italy-bms>

<https://sway.office.com/JW6oHbROiA5Xi39G?ref=Link>

For the Associazione Lepidotterologica Italiana (ALI):

<https://www.lepidoptera.life>

For online data entry:

<https://butterfly-monitoring.net/mydata>

For any doubt or question you can write to: help.itbms@gmail.com



Summary

The new Italian Butterfly Monitoring Scheme (ITBMS) took off incredibly fast since its creation in 2019. However, there is data from a few transects since 2016.

This report summarizes the monitoring effort done during those years up to 2020, focusing on this last year. The Covid-19 pandemic disrupted and ultimately affected our lives. Still, the Italian BMS and their volunteers grew impressively during this period. In 2020, 24 transects were monitored by 22 volunteers, and 202 km were walked on transects. Since 2019, ITBMS has been following a standardized methodology for monitoring butterflies, and in 2020, it reached an average of 10 visits in all the Italian transects.

The butterfly biodiversity of the Italian peninsula is high. In 2020, 119 butterfly species were detected on the Italian transects, counting 8754 butterflies. The ITBMS community continues growing, and it is expected to cover more regions and more species in the coming years. That can be seen in the number of transects registered for 2021, meeting a total number of 109 transects in Italy.

Italian volunteers are making an excellent effort to better understand their natural heritage and the pressures affecting butterflies. Thanks to their data contribution, European BMS and Italian BMS can support the conservation of butterflies and other pollinators with their habitats.



202

Number of Km walked
on transects in 2020



24

Number of transects
monitored in 2020



8754

Number of butterflies
counted in 2020



119

Number of butterfly
species registered in 2020



251

Number of transect
visits done in 2020



22

Number of recorders
in 2020

Table of contents

Summary	2
1 Butterfly monitoring	4
2 Italian Butterfly Monitoring Scheme	6
3 Monitoring activity	7
4 Butterflies in numbers	10
5 2021 milestones	13
6 Acknowledgments	14
7 References	15
8 Annex I: Butterfly species counts in 2020	16
9 Annex II: Recorders list for 2020	17



1 Butterfly monitoring

In recent years, mounting evidence of declines in the diversity and abundance of terrestrial insects has grown across the globe (Van Swaay et al., 2020). As insects comprise more than half of all the described species and as they play important roles in the functioning of ecosystems, there is an urgent need to assess their status to address and monitor conservation targets (Van Swaay et al., 2020, Warren et al., 2020). For this purpose, butterflies are suitable biological indicators as they are well-documented and they react rapidly to environmental changes. Moreover, they are considered representative of many other groups of insects (Thomas, 2005).



There are 482 butterfly species in Europe, breeding in a wide range of habitats. They represent one of the best-monitored insect groups in Europe thanks to monitoring schemes that have been working for decades in some countries. The first Butterfly Monitoring Scheme (BMS) was set up in the United Kingdom in 1976 (UKBMS). Since then, the same intent was pursued in many other European countries, encouraged in particular by Butterfly Conservation Europe (BCE) and its partners collecting essential data of butterflies. Standardized butterfly data are gathered together in a central database, the **European Butterfly Monitoring Scheme (eBMS)** - created by Butterfly Conservation Europe (BCE) and UK Centre of Ecology and Hydrology (UKCEH) - used for assessing species population trends and developing indicators to help in the design and evaluation of conservation policies. In turn, this contributes not only to reducing biodiversity loss, but also to raising awareness on the importance of butterflies and, in general, biodiversity. All the general information on butterfly monitoring can be found on the eBMS website (<https://butterfly-monitoring.net>). eBMS is a powerful network database built by more than 20 partners, collecting standardized data from 25 monitoring schemes across 22 countries of Europe. So far, the database comprises nearly 14 million counts over 52 years (1976-2018) coming from over 9200 transects. However, butterfly counts of some Southern and Eastern European countries don't have the regular and systematic structure of a BMS. In 2018, a 2-year Pilot project, **Assessing Butterflies in Europe (ABLE)**, started with the aim to extend the eBMS network and create new monitoring schemes across Europe. Italy was one of the first countries to start its national BMS (ITBMS) with the help of ABLE. Indeed, thanks to the great coordination structure, support of materials, workshops, and training seminars held in many areas of the country, Italy developed a robust network of volunteers thus allowing designing a national scheme for systematic butterfly counts. Field monitoring and trained volunteers were and are increasingly essential to collect frequent counts information, especially when supported by field guides and efficient online recording.

This report aims to present the **results up to 2020 of the Italian Butterfly Monitoring Scheme**. These include information on the monitoring activity, showing how the effort has grown across the years, also presenting richness and abundance of the main butterfly species.

Butterfly Transects Count

Butterfly Transect Count is the main sampling method used by Butterfly Monitoring Schemes (BMSs). This represents a standardized method, developed by Ernie Pollard in the UK in 1974 (see Pollard and Yates, 1993), consisting in counting butterflies along fixed-routes ('transects'), with frequent visits (ideally weekly) during good weather conditions. Transects are typically about 1km long and are divided into sections that can represent different habitat areas or just separate components of a site. During a walk, only butterfly individuals seen in an imaginary box 5 m wide, 5 m high, and 5 m ahead of the observer are counted. The time frame for performing butterfly monitoring changes across different European regions, according to the regional variability in butterfly activity (i.e., their local flight season). Therefore, in Western, Central, and Eastern Europe it normally starts at the beginning of April and ends at the end of September. In Southern Europe, the season starts in March or even in February. In northern or mountain areas the season is typically limited to the summer months. Whenever counting on a weekly basis is not possible, it is recommended to visit the transects every two weeks or ten days, and if that is still not possible, at least the summer season when butterfly abundance is the highest should be covered. Once all the butterfly counts of a transect are recorded, e.g. using a field sheet or a notebook, they can be directly entered on the eBMS website or sent to the BMS coordinator. The manual with information on transect count methodology can be downloaded in Italian from <https://butterfly-monitoring.net/bms-materials>, while for an extended description see Sevilleja et al. (2019).

ButterflyCount app & 15-minute counts

The new multilingual **ButterflyCount** mobile application is now available for download from the main mobile digital stores. Launched by Butterfly Conservation Europe and the UK Centre for Ecology & Hydrology under the ABLE project, it provides many features to the user:

- a new type of recording method: the **15-minute count**. This option is fitted out with a stopwatch as well as with a GPS tracking facility that automatically records the walked route. Species can be easily selected by writing their name and by tapping +1 a new individual is added every time. Moreover, the app registers the coordinates for every individual recorded and will be available to download;
- the option of applying the 15-minute count on a single species to support the monitoring of protected or threatened species;
- the access to each volunteer's eBMS transects simply by login into the app with the personal eBMS account;
- a full list of the different butterfly species found across Europe (around 500 in total) and guides for each country available also offline.

The app is still under development to include new and improved features. Recorded data is extremely useful for scientists and professionals to implement ecological analysis and conservation actions. Moreover, eBMS also contributes to the status assessment of other groups of insects. In the updated ButterflyCount app version, a possibility of selecting among moths, bumblebees and dragonflies is also available. The group to monitor can be easily selected inside the app settings, and multiple groups are also allowed within the same 15-minute count. However, it is recommended to select a maximum of 2 groups for practical reasons, especially when the monitoring takes place in areas with high biodiversity.

2 Italian Butterfly Monitoring Scheme

The Italian Butterfly Monitoring Scheme (ITBMS) is part of the European Butterfly Monitoring Scheme (eBMS), contributing data and knowledge to the assessment of European butterfly status. The ITBMS has been active since 2019 thanks to the organization of butterfly experts and the recent European project ABLE (Assessing Butterflies in Europe).

The large habitat representation present in Italy is well-reflected in its butterfly diversity. Indeed, after Turkey, Italy is the European country with the highest number of butterfly species (290, according to the last Italian checklist - Balletto et al., 2014), 17 of which (6.0%) are Italian endemics and 20 (7.1%) have very restricted ranges (sub-endemic). Due to its wide north-south extension (from 47°29' N to 35°29' N) and altitudinal gradient (from 0 to 4810 m a.s.l of Monte Bianco), Italy hosts several types of climates and natural environments. Moreover, the location of the Italian peninsula in the center of the Mediterranean basin favors the presence of species originating from different zoogeographical subregions. At the national level, butterfly diversity is greater in the northern regions, as the alpine areas are characterized by an important habitat variety. For these primary reasons, butterfly richness is not homogeneous in the Italian landscape and therefore changes across different transects. On the other hand, the number of species detected within a certain transect is also related to the monitoring effort and, possibly, to the volunteer ability in recognizing each species.

The Mediterranean climate influence is largely dominant, implying a long butterfly monitoring season that in some areas may last from February until October. To cover the entire latitudinal range, the scheme coordination has been established in North, Central and South Italy. This allows for more efficient supervision of the ITBMS activity and better involvement of the local population. Several workshops, including one online, were held to train volunteers on identifying butterfly species and setting up a transect. They were often arranged inside National or Regional Parks and protected areas to strengthen the relationship with these institutions and engage rangers in the monitoring. Two workshops were held on two islands: Elba Island and Sicily. As the regional identification guides, specific material was developed to support the volunteers, and a technician was available to help design transects and identify butterflies. A system to assess volunteers' species identification was set by the Italian scheme via an iNaturalist project where expert taxonomists from ALI (the Italian Butterfly Association) confirm or correct the proposed species determinations. Collaborations and organizations of different stakeholders, authorities, associations, and NGOs have proved to be vital to the ITBMS.

The wide-ranging participation in the activity and the Italian biodiversity are the pillars of the ITBMS and so the reason for the excellent results achieved in a short time. The regional coordination has proved to be successful and the network is constantly expanding thanks to new volunteers.



3 Monitoring activity

Transects

In Italy, butterfly communities have been counted and added to the eBMS since 2016, starting with a few transects located in the North area. However, only from 2019 counts were made following a standardized method. Therefore, 2019 is considered the first official year of activity of the ITBMS.

In 2020, 24 transects were monitored on a regular basis, doubling the number of 2019 (Fig. 1). In the coming years, the number is expected to increase rapidly as new recorders are joining. Indeed, the number of recorders reached up to 22 from the 5 of 2019 (Fig. 2). In 2020, 24 transects were spread through 7 of the 20 Italian regions (Fig. 3) and covered 39 weeks of the butterfly monitoring season, with the first record on the 15th of February and the last one on the 5th of November. These values point out a growing effort by the volunteers despite the restriction of free movement in response to the COVID-19 pandemic. Since the start of the ITBMS, a great number of new transects have been set up in a short period of time. The complete list of recorders, with their site names, can be found in Annex II.

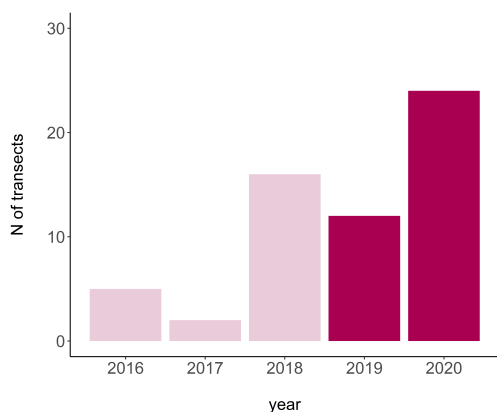


Figure 1: Number of transects in each year from 2016 to 2020; previous ITBMS (in pink); ITBMS transects (in red)

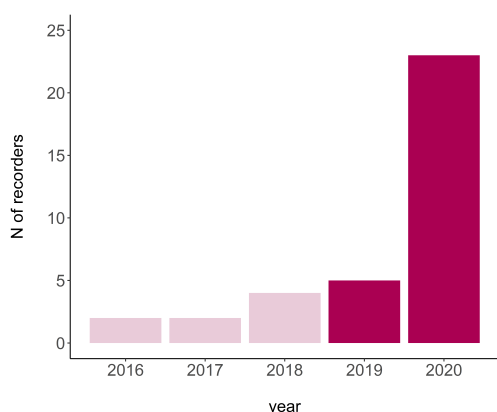


Figure 2: Number of recorders in each year from 2016 to 2020; previous ITBMS (in pink); ITBMS transects (in red)



Figure 3: Distribution of ITBMS transects in 2020

As mentioned before, the Italian territory has considerable habitat diversification due to its geological and climate features. The habitat diversity in the 24 transects for the year 2020 is shown in figure 4. Ecotonal and agricultural are the two most represented types of habitat (33.3 and 29.2 % respectively), as at first they may be considered by the recorders as the most suitable to conduct a transect activity. Grassland habitat is third with 12.5%, while wetlands, which host several rare species (e.g., *Lycaena dispar*), are only 4.2% of the whole. In the coming years, when an equal distribution of the transects across the Italian regions is likely to be achieved, it will be possible to retrieve a clearer view of the habitat representation in the ITBMS.



Regarding the land tenure of the Italian transects for 2020 (Fig. 5), the most represented ones are the Nature Conservation institution and the private land tenures, representing together more than half of the ITBMS transects. The role of the institutions appears clear considering the substantial contribution of the National and Regional administrations in designing monitoring schemes. The least widespread land tenure is forestry, with 4.2%.

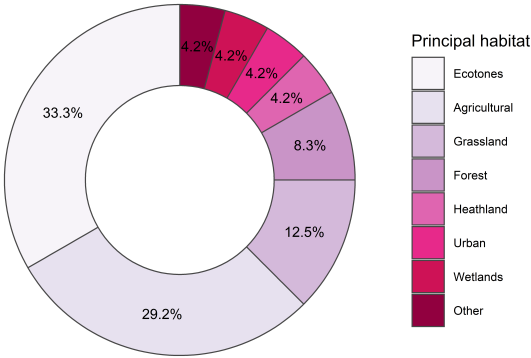


Figure 4: Primary habitat of ITBMS transects in 2020

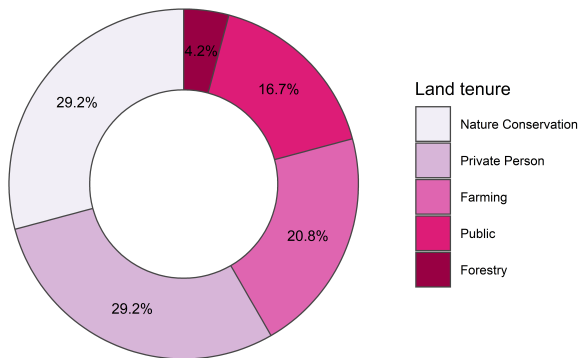


Figure 5: Land tenure of ITBMS transects in 2020

Visits

The number of transect visits and its average on the total of transects monitored each year provide useful information on the ITBMS monitoring effort.

When averaged over all the transects, in 2020 each transect was visited 10.5 times (SD = 6.0) (Fig. 6), thus meeting the BMS protocol requirement of at least 10 visits throughout the butterfly season. Almost a half of the transects were visited 10 times or more. Notably, two transects, **Riserva naturale Bessa** and **Bosco di Agognate**, were counted notably more, with 29 and 21 visits respectively. These two transects are in fact located inside Parco del Ticino, in the region Lombardia, which is actively using the data to produce a butterfly atlas for the park and for conservation purposes.

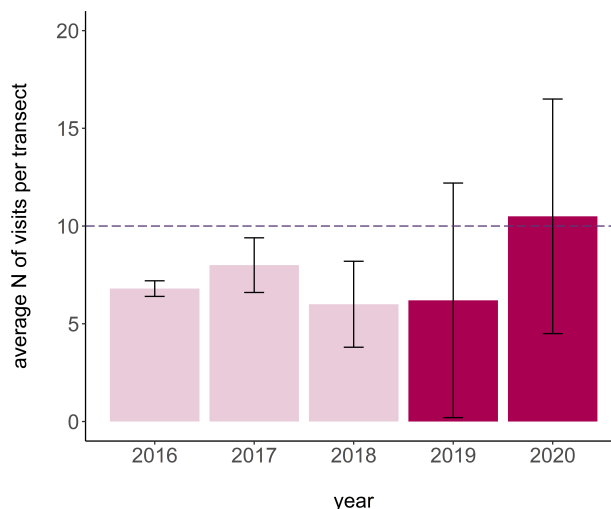


Figure 6: Average number of visits per transect in each year from 2016 to 2020; previous ITBMS (in pink); ITBMS transects (in red)

The butterfly monitoring season lasted from February to October 2020. The visit frequency varied across the season (Fig. 7), having its peak around June and July. This should be expected given that these months are characterized by the highest species richness (see next section) and greater recorder availability.

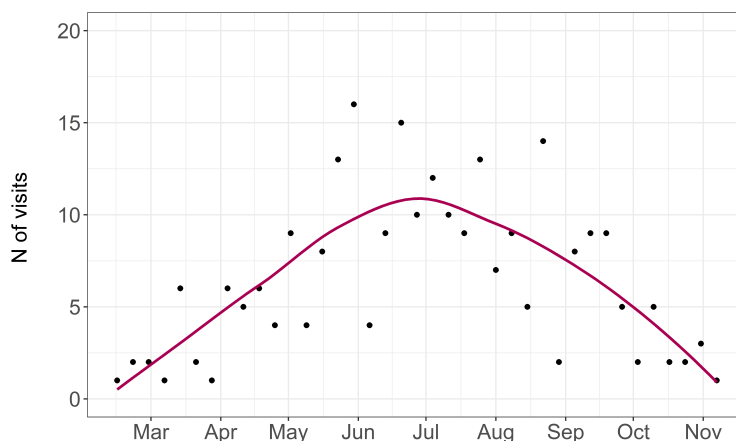


Figure 7: Number of visits in each butterfly monitoring week in 2020

4 Butterflies in numbers

As the number of transects and recorders significantly increased in 2020 when compared to the previous years, the detection of greater species richness (Fig. 8) and individual abundance (Fig. 9) was also achieved. During 2020, 119 butterfly species were detected with more than 8500 individuals counted in total.

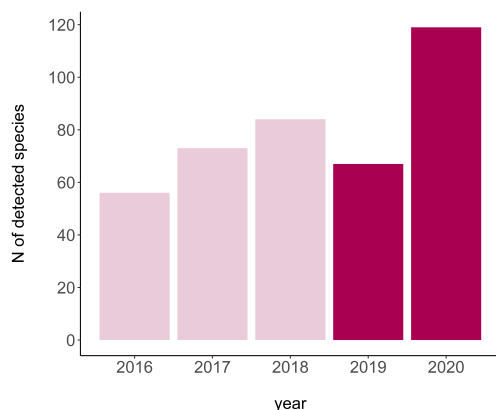


Figure 8: Number of species detected in each year from 2016 to 2020; previous ITBMS (in pink); ITBMS transects (in red)

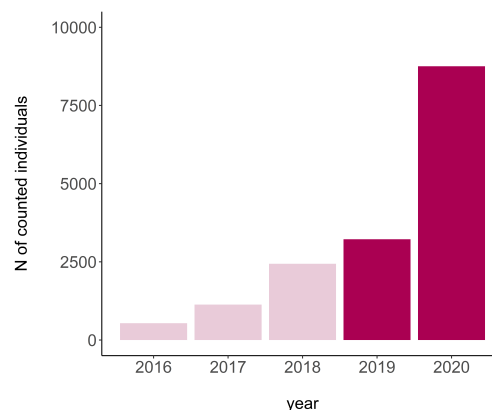


Figure 9: Number of individuals counted in each year from 2016 to 2020; previous ITBMS (in pink); ITBMS transects (in red)

Species richness

The last figures summarize the total number of species and individual abundance detected in the period 2016-2020. A great diversity in both terms exists in the Italian transects, which are distributed across various habitats.

In figure 10, the distribution of the number of species detected each year in all transects is shown with points indicating single transects. The year 2017 presents a distribution concentrated around high numbers of species. This may be explained by the fact that only two species-rich transects were monitored that particular year. Conversely, the following years are characterized by a larger variation in species richness, as transects with both low and high numbers of species were monitored. In 2020, on average, around 30 species were recorded in each transect. This number is a valid accomplishment considering that also species-poor transects, like the ones located in urban or farmland areas, were monitored.

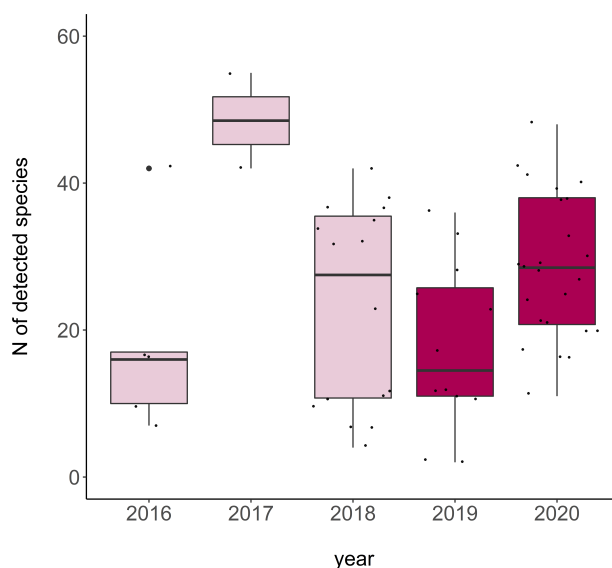
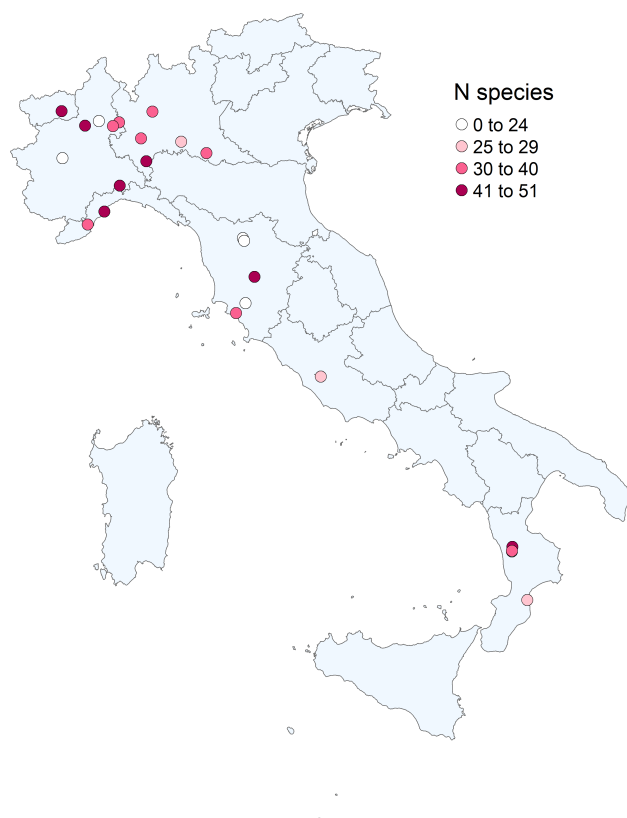


Figure 10: Distribution of the number of species relative to all the transects in each year from 2016 to 2020; previous ITBMS (in pink); ITBMS transects (in red)



The number of species detected in 2020 differs from transect to transect (Fig. 11). The map shows how species-poor and species-rich transects both occur. Areas with a greater number of species are generally located in the Alps mountains, but they can also be easily found in the other Italian regions. For each surveyed region, except for Lazio, at least one transect where more than 38 species were observed in the whole year was present. This confirms a great butterfly diversity across the entire Italian territory. Still, a larger number of transects need to be implemented to investigate the species richness gradient across the Italian peninsula.

Figure 11: Distribution and species richness of each transect in 2020

The number of species detectable in each transect varies strongly across the butterfly monitoring season (Fig. 12). However, it is always recommended to start counting at the beginning of the season even if a smaller species richness is present. The highest numbers of species are recorded in the weeks between June and August. After summer, less and less species are flying. It is important to mention that the trend described by the curve in figure 12 is a result of the variability in flight period of different butterfly species. Indeed, while some species are characterized by having more generations per year, others have a single spring or summer generation. For this reason, it is required to visit the transects frequently in order to cover the flight period of all species.

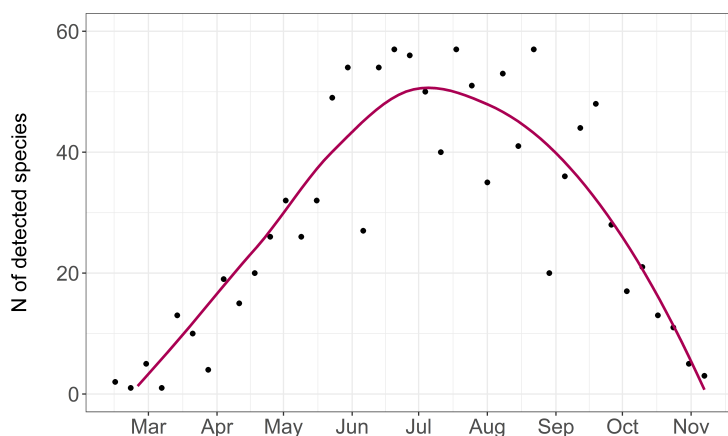


Figure 12: Number of species detected in each butterfly monitoring week in 2020

Individual abundance

The figure 13 shows the number of individuals counted in each butterfly monitoring week in 2020. Given the different overall length of the transects and the effect of this factor on the monitoring effort, counts were standardized for 1km transects. The trend is similar to the one observed in figure 12 for the number of species, but with a small delay in the peak towards the months of July and August. As the number of counted individuals steadily approaches the peak in the first months of the monitoring season, it decreases rapidly after the peak towards the end of the season.

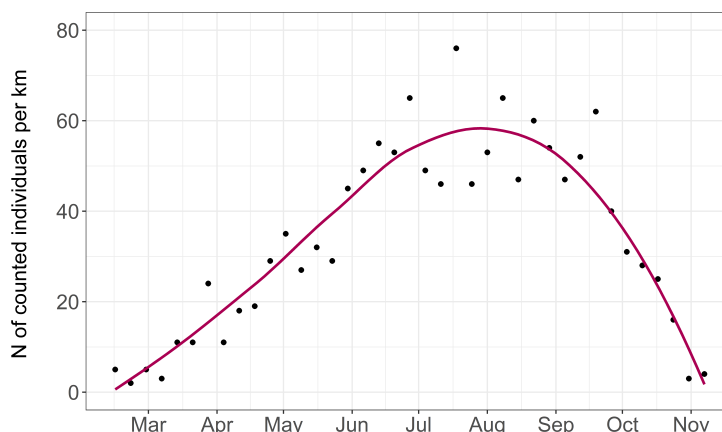


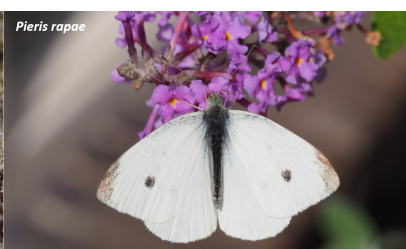
Figure 13: Number of individuals counted per km in each butterfly monitoring week in 2020

Species frequency

Annex I shows the complete list of 119 butterfly species recorded in 2020 together with the related number of individuals counted. In addition to this, an overview of the most common butterflies detected during the years of activity of the ITBMS (2018, 2019, and 2020) is presented in Table 1. In 2018, *Plebejus argus*, *Pieris rapae*, and *Erebia albergana* were the most common species. Whereas, in the last two years (2019 and 2020) the most frequently reported species were *Polyommatus icarus*, *Coenonympha pamphilus*, and *Pieris rapae*. However, it should be noted that in 2018 all the 16 transects were located within the Piedmont region, making it impossible to fully compare such results.

Table 1: 10 most common species in 2018, 2019 and 2020

2018		2019		2020	
<i>Plebejus argus</i>	396	<i>Polyommatus icarus</i>	443	<i>Polyommatus icarus</i>	767
<i>Pieris rapae</i>	286	<i>Pieris rapae</i>	424	<i>Coenonympha pamphilus</i>	683
<i>Erebia albergana</i>	118	<i>Coenonympha pamphilus</i>	348	<i>Pieris rapae</i>	603
<i>Cupido argiades</i>	85	<i>Colias crocea</i>	191	<i>Melanargia galathea</i>	508
<i>Erebia cassioides</i>	68	<i>Cupido argiades</i>	173	<i>Lasiommata megera</i>	444
<i>Polyommatus icarus</i>	65	<i>Pieris napi</i>	154	<i>Maniola jurtina</i>	443
<i>Pieris napi</i>	62	<i>Melitaea didyma</i>	129	<i>Colias crocea</i>	345
<i>Lycaena dispar</i>	58	<i>Thymelicus lineola</i>	107	<i>Pieris napi</i>	320
<i>Coenonympha pamphilus</i>	55	<i>Vanessa cardui</i>	93	<i>Cupido argiades</i>	243
<i>Pieris bryoniae</i>	53	<i>Maniola jurtina</i>	91	<i>Papilio machaon</i>	202



5 2021 milestones

New transects

The ITBMS is devoting a great effort to extend the scheme across all the Italian regions and to cover the vast majority of habitat types. It is noteworthy to mention that in 2021 new transects were implemented in many different areas, a few islands included. Transects have now reached a number of 109, covering 15 of the 20 Italian regions (Fig. 14). Having more transects would imply obtaining a larger amount of data useful to produce population trends for each butterfly species. In turn, this will allow assessing possible declines and delineating appropriate conservation measures directed to reverse the trend.

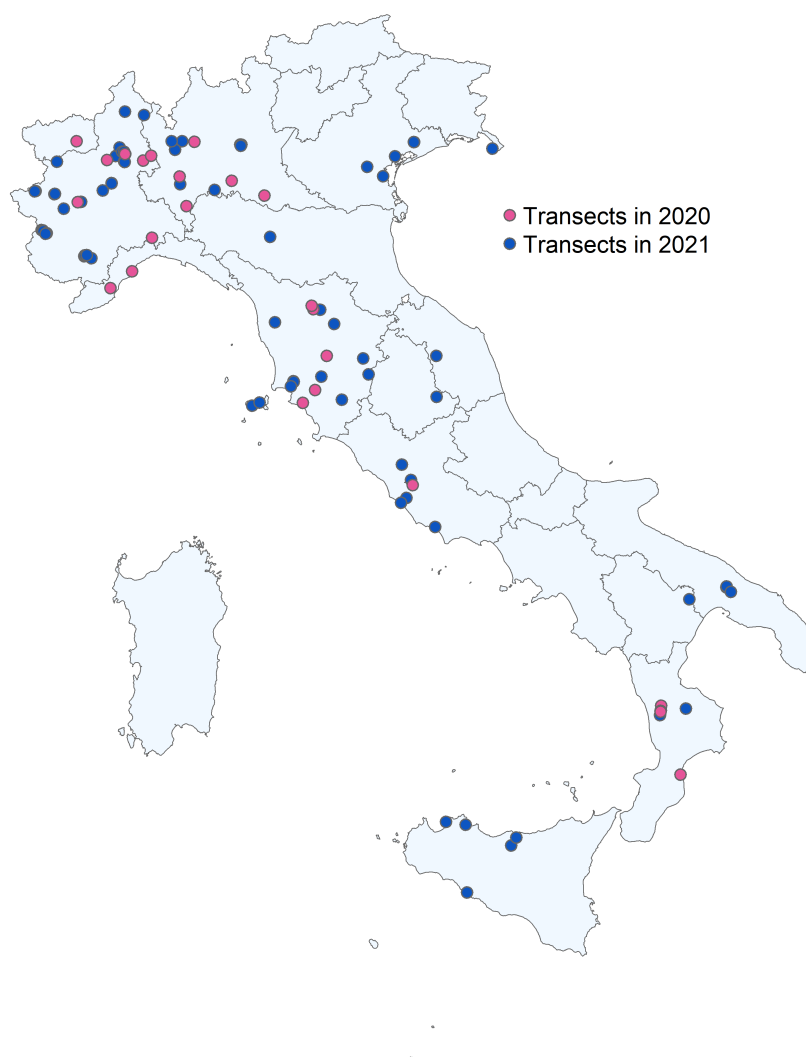


Figure 14: Distribution of the ITBMS transects in 2020 (in pink) and in 2021 (in blue)

Join the Italian Butterfly Monitoring Scheme

If you enjoy walking surrounded by nature and love butterflies you are welcome in the Italian Butterfly Monitoring Scheme. Joining the project is easy:

1. visit our website (<https://butterfly-monitoring.net/it>) to create your own account;
2. choose a place close to your home, or a handy place where you can count butterflies;
3. contact your national coordinator and propose your transect:
 - North Italy: Simona Bonelli (simona.bonelli@unito.it)
 - Central Italy: Leonardo Dapporto (leondap@gmail.com)
 - South Italy: Stefano Scalercio (stefano.scalercio@crea.gov.it)
4. draw your transect together with our technicians;
5. download our App;
6. download our manual and identification guides.

If you should experience any problem with the website or the app, do not hesitate to contact us at help.itbms@gmail.com.

Enjoy your time in nature counting butterflies!

6 Acknowledgments

The ITBMS board wants to thank everyone who contributed to the creation of the scheme. For several years, the development of this scheme was waiting to be started, but finally it's becoming a reality thanks to the support of the many volunteers, institutions and all the stakeholders involved.



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8 Annex I: Butterfly species counts in 2020

Table 2: Abundance for each butterfly species in 2020

Species name	Abundance	Species name	Abundance	Species name	Abundance
<i>Polyommatus icarus</i>	767	<i>Melitaea cinxia</i>	39	<i>Colias alfacariensis</i>	9
<i>Coenonympha pamphilus</i>	683	<i>Pontia edusa</i>	37	<i>Erynnis tages</i>	8
<i>Pieris rapae</i>	603	<i>Satyrus ilicis</i>	37	<i>Boloria euphrosyne</i>	8
<i>Melanargia galathea</i>	508	<i>Thymelicus acteon</i>	37	<i>Gegenes nostrodamus</i>	8
<i>Lasiommata megera</i>	444	<i>Lycaena dispar</i>	35	<i>Satyrus esculi</i>	7
<i>Maniola jurtina</i>	443	<i>Callophrys rubi</i>	33	<i>Pyronia cecilia</i>	7
<i>Colias crocea</i>	345	<i>Erebia aethiops</i>	32	<i>Satyrus spini</i>	6
<i>Pieris napi</i>	320	<i>Erebia euryale</i>	32	<i>Favonius quercus</i>	6
<i>Cupido argiades</i>	243	<i>Aglais io</i>	31	<i>Erebia ligea</i>	6
<i>Papilio machaon</i>	202	<i>Cupido alcetas</i>	31	<i>Thymelicus lineola</i>	5
<i>Pararge aegeria</i>	185	<i>Glaucopsyche alexis</i>	30	<i>Iolana iolas</i>	5
<i>Brintesia circe</i>	176	<i>Cacyreus marshalli</i>	26	<i>Lycaena virgaureae</i>	5
<i>Ochlodes sylvanus</i>	173	<i>Anthocharis cardamines</i>	25	<i>Limenitis camilla</i>	5
<i>Melitaea didyma</i>	167	<i>Lasiommata maera</i>	24	<i>Hyponphele lycaon</i>	5
<i>Lycaena phlaeas</i>	155	<i>Issoria lathonia</i>	24	<i>Fabriciana niobe</i>	4
<i>Lampides boeticus</i>	155	<i>Polyommatus thersites</i>	23	<i>Nymphalis polychloros</i>	3
<i>Aricia agestis</i>	115	<i>Apatura ilia</i>	22	<i>Libythea celtis</i>	3
<i>Hipparchia statilinus</i>	110	<i>Melitaea celadussa</i>	21	<i>Pontia daplidice</i>	3
<i>Pieris mannii</i>	98	<i>Limenitis reducta</i>	20	<i>Hamearis lucina</i>	2
<i>Celastrina argiolus</i>	96	<i>Melitaea athalia</i>	19	<i>Cupido osiris</i>	2
<i>Lysandra hispana</i>	90	<i>Fabriciana adippe</i>	19	<i>Heteropterus morpheus</i>	2
<i>Iphiclydes podalirius</i>	87	<i>Hipparchia semele</i>	19	<i>Brenthis hecate</i>	2
<i>Leptidea sinapis/juvernica/reali</i>	86	<i>Lysandra bellargus</i>	18	<i>Plebejus idas</i>	2
<i>Minois dryas</i>	82	<i>Pyrgus armoricanus</i>	18	<i>Brenthis daphne</i>	2
<i>Vanessa atalanta</i>	79	<i>Hesperia comma</i>	18	<i>Polyommatus dorylas</i>	2
<i>Argynnis paphia</i>	73	<i>Hipparchia fagi</i>	17	<i>Boloria titania</i>	2
<i>Lycaena tityrus</i>	60	<i>Zerynthia cassandra</i>	16	<i>Melitaea diamina</i>	2
<i>Melitaea phoebe</i>	57	<i>Erebia albergana</i>	16	<i>Pyrgus malvae</i>	1
<i>Aporia crataegi</i>	57	<i>Boloria dia</i>	14	<i>Nymphalis antiopa</i>	1
<i>Polygonia c-album</i>	54	<i>Polyommatus escheri</i>	14	<i>Euchloe ausonia</i>	1
<i>Pyrgus malvoides</i>	54	<i>Satyrus ferula</i>	14	<i>Parnassius apollo</i>	1
<i>Leptotes pirithous</i>	52	<i>Pyronia tithonus</i>	14	<i>Melanargia occitanica</i>	1
<i>Charaxes jasius</i>	52	<i>Cupido minimus</i>	13	<i>Lycaena thersamon</i>	1
<i>Carcharodus alceae</i>	49	<i>Vanessa cardui</i>	13	<i>Satyrus acaciae</i>	1
<i>Thymelicus sylvestris</i>	45	<i>Aglais urticae</i>	11	<i>Satyrus w-album</i>	1
<i>Pieris brassicae</i>	44	<i>Spialia sertorius</i>	11	<i>Phengaris arion</i>	1
<i>Gonepteryx cleopatra</i>	43	<i>Euchloe crameri</i>	10	<i>Melitaea trivia</i>	1
<i>Plebejus argyrognomon</i>	43	<i>Gegenes pumilio</i>	9	<i>Carcharodus floccifera</i>	1
<i>Coenonympha arcania</i>	43	<i>Plebejus argus</i>	9	<i>Coenonympha corinna</i>	1
<i>Gonepteryx rhamni</i>	41	<i>Pseudophilotes baton</i>	9		

9 Annex II: Recorders list for 2020

Table 3: List of recorders with the relative site name for 2020

Recorder name	Transect name
Associazione IOLAS	Costa del Vento, Montalto Pavese PV - IOLAS 01
Bonifacino Marco	Monte Mao
Bosio Gianna	Costaz 1
Contu Karen	Bosco Vedro
Farina Laura	Valle della Nava
Favilli Leonardo	La Rosa
Garavaglia Roberto	La Cassinazza 1
Gennaro Antonio	Bosco Vedro
Ghisolfi Marco	Annicco Cremona
Ghisolfi Marco	Castelleone
Gola Giacomo	Cirimilla
Infusino Marco	Infusino Taverna
Italian Butterfly Group	San Giorgio a Colonica
Italian Butterfly Group	Li Rocchi
Italian Butterfly Group	via del Purgatorio
Leandri Fausto	Canale Acque Alte
Lombardo Margherita	Davoli
Martelli Francesca	Parco Piemonte, Turin
Mazzei Antonio	Orto Botanico Università della Calabria
Ricci Marco	Bosco di Agognate
Ricci Marco	Bosco Vedro
Rustici Pamela	Isola clodia
Rustici Pamela	Sticciano Scalo
Serafini Matteo	Colla di Ortovero (monte Chiesa)
Ticino e Lago Maggiore E.G.A.P.	Riserva naturale Bessa
Trovò Paola	Bosco Vedro
Una Garlanda	Una Garlanda