Annotated checklist of Scolytinae and Platypodinae (Coleoptera, Curculionidae) of Switzerland

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http://zoobank.org/309DCA58-8314-412A-AAD2-A70F08B44A7

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Abstract

An updated checklist of the species belonging to the subfamilies Scolytinae and Platypodinae in Switzerland is presented and briefly discussed. A total of 113 species is confirmed. This checklist is based on 42836 occurrences obtained from the identification of specimens held in museum and private collections, as well as on records taken from the literature. Fifteen species recorded from Switzerland in the past are excluded from this list, for reasons of insufficient documentation.

Key Words
Curculionidae, Scolytinae, Platypodinae, species list, Switzerland, faunistics, distribution

Introduction

The subfamilies Scolytinae and Platypodinae have been the subject of several commented checklists for Switzerland (Stierlin and Gautard 1867; Stierlin 1898; Bovey 1987), the most recent by Germann (2010a). While each of these important contributions improved general knowledge of the local fauna, new elements have since become available that further improve our understanding of the Scolytinae and Platypodinae of Switzerland. First, Monnerat et al. (2015a) proposed a set of guidelines to assess the indigenousness of the species of Switzerland and provided a list of some problematic collections. Some species belonging to these collections were accepted as valid in previous works, but closer examination has revealed that these records are doubtful. Secondly, past surveys of specimens housed in museum collections were not complete and some species were missed. Consequently, an updated checklist of the species native to Switzerland was necessary.

This paper presents a commented and updated list of all Scolytinae and Platypodinae reported in Switzerland, based on a revision of the Swiss collections and a review of existing literature. Native species are thus distinguished from species that were mistakenly recorded, insufficiently documented or imported.

Material and methods

The goal of this study was to evaluate all existing information in order to write up a complete list of the Swiss fauna. We therefore performed an exhaustive examination of the relevant material present in major Swiss museum collections, as was recently done for other beetle groups (Chittaro and Blanc 2012; Monnerat et al. 2015b; Breitenmoser et al. 2016; Chittaro and Sanchez 2016, 2019a, 2019b; Cosandey et al. 2017; Sanchez and Chittaro 2018). The collections in the following museums were studied (parentheses indicate the contact person):

AGRO Agroscope-Changins (previously SFRA), Nyon (Stève Breitenmoser)
BNM Bündner Natur-Museum, Chur (Stephan Liersch)
are considered as synonyms by Alonso-Zarazaga et al. (Ratzeburg, 1837) as valid species, even though they were considered by Wood (2007) was followed. Secondly, we consider Reitter, 1898 and Pagiocerus frontalis P. lichtensteini (labeled, for instance, as "ex coll. Melly A.") but lack of specimens coming from his personal collection ("coll. Maerky C."). It also contains insects from other sources problematic (Monnerat et al. 2015a). In addition to the “Cooperative Catalogue of Palaearctic Coleoptera Curculionoidea” (Alonso-Zarazaga et al. 2017) and the catalog of Pfeffer (1995). Information on ecology and host plants come from Pfeffer (1995) and Balachowsky (1949), which are thus not cited in the texts related to the species. The list of the main synonyms of each taxon is provided in Alonso-Zarazaga et al. (2017) and is therefore not reported here.

Terminology for all plant names mentioned in the document follows Juillerat et al. (2017).

Once an exhaustive list of species was compiled, we followed the procedure proposed by Monnerat et al. (2015a) in order to assess which of these species should be considered indigenous to Switzerland. We only retained species whose relative data were deemed sufficient (unambiguous labeling, reliable collections, etc.) for inclusion on the national checklist.

Those species whose presence in Switzerland is substantiated by less than twenty valid observations are subject to an additional comment. In these cases, species names in the table are followed by a letter and a number in bold ("C1" for example) and all the examined specimens and published observations are mentioned in order to document and justify the presence of these species on this checklist. When not specified, all examined material was identified or reviewed by the authors.

The examined specimens and literature-based data are presented in chronological order of discovery or publication date and then in alphabetical order by the respective locality depending on available information. All occurrences are cited according to the following scheme: number of specimens, locality (pre-2000 data) or municipality and abbreviated canton (post-2000 data), date, collector, determinator, collection and official acronym of the institution where the insect is deposited.

Information about localities and dates are reported as found on the labels. Interpretations of alphabetical abbreviations are placed within square brackets (“[ ]”). In old collections, the collector (leg.) is not always explicitly labeled. In such cases, we favored the « coll. » tag. In some cases, the original collection holder was not labeled but we were nonetheless able to identify the source of the collection based on type labels and/or handwriting.

The Charles Maerky collection, held by the Natural History Museum of Geneva, has long been considered problematic (Monnerat et al. 2015a). In addition to specimens coming from his personal collection (“coll. Maerky C.”), it also contains insects from other sources (labeled, for instance, as “ex coll. Melly A.”) but lacking any original labels. In such cases, we maintained the “coll. Maerky C.” mention for his whole collection to...
ensure the association of these samples with the Maerky C. collection.

For the literature-based data, detailed under “Published data”, we retained the locality as it appeared in the original citation. We consider the “source” person (and not the legit) as the author of the publication and mentioned as follows: “Ormontsthal by Venetz I. (Sterlin and Gautard 1867)”. If the same data is repeated several times in publications, then only the oldest is kept. In fact, localities in ulterior publications are generally altered and sometimes truncated.

In their important works on Scolytinae, Bovey (1987) mainly proposed general distribution maps, Germann (2010a) proposed tables with presence/absence data for each of the biogeographic regions of Switzerland (Gonseth et al. 2001). Knížek (2011a) and Alonso-Zarazaga et al. (2017) only mentioned presence in Switzerland (“SZ”). In the present paper, this general information is grouped under “Published data” as follows: “Switzerland (Bovey 1987; Germann 2010a; Knížek 2011a; Alonso et al. 2017)”. When specific data are mentioned in these four papers, they are included under “Published data”.

Among the data cited in this document under “Examined material” or “Published data”, we inserted a superscript numbering before those entries we considered too insufficiently documented to retain, using the following code to describe error type (following Monnerat et al. 2015a). Thus, if a data fulfills one of these criteria, it is considered as doubtful:

1. data source cannot be verified
2. incorrect identification
3. specimen from problematic collection
4. specimen of unknown origin but attributed to a Swiss locality
5. double labeling, original locality misinterpreted or incorrectly recopied
6. confusion between the locality of origin, the breeding or hatching place and the collection storage site
7. non-Swiss localities or namesake foreign localities
8. chronological or ecological inconsistencies

Abbreviations used: coll. = collection, det. = determinator, ex. = specimen, leg. = collector, abbreviated Swiss cantons: AG = Aargau, BE = Bern, BL = Basel-Landschaft, GE = Geneva, GR = Graubünden, SG = St. Gallen, SO = Solothurn, SZ = Schwyz, TI = Ticino, VD = Vaud, VS = Valais, ZH = Zürich.

Results

Swiss fauna Scolytinae and Platypodinae list

We consider that the 113 taxa listed in bold and without square brackets “[ ]” either do or did form populations in Switzerland, even if only scant information is available for many of them. We also consider as native several species from other parts of the world (alien species) that maintain (or maintained) continuous populations in Switzerland for several years, including strictly synanthropic species. These species are (or were) established in Switzerland and are (or were) part of its resident fauna.

On the other hand, the 15 species listed in square brackets “[ ]” should not be considered as belonging to the Swiss fauna, until new data show otherwise. In this category, we placed species whose individuals come from problematic collections, as Charles Maerky’s or Max Täschler’s (Monnerat et al. 2015a), those that were erroneously mentioned for Switzerland due to incorrect identifications and those cited in old publications, like Sterlin and Gautard (1867), without reference to specific individuals and consequently considered as doubtful. Other species may eventually be found in the Swiss territory, but currently available data are not sufficient to confirm their establishment in Switzerland.

To facilitate the species’ search in this document, taxa appear in alphabetical order for subfamilies, tribes, genera, subgenera, species and subspecies.

All collected information represent 42’836 occurrences within the concerned subfamilies. Updated distribution maps of these species are available on the info fauna – CSCF cartographic server (http://lepus.unine.ch/carto/). All the valid data are also available in http://www.GBIF.org (https://doi.org/10.15468/dl.tryac2).

Platypodinae Shuckard, 1840

Platypodini Shuckard, 1840

Platypus cylindrus (Fabricius, 1792)

Scolytinae Latreille, 1804

Bothrotermini Blandford, 1896

[Pagiocerus frontalis (Fabricius, 1801)] C1

Corthylini LeConte, 1876

Gnathotrichus materiarius (Fitch, 1858) C2

Pityophthorus buyssoni buyssoni Reitter, 1901 C3

Pityophthorus carrionicus Wichmann, 1910 C4

Pityophthorus excelsus (Ratzburg, 1837) C5

Pityophthorus glabratrus Eichhoff, 1878

Pityophthorus henscheli Seittner, 1887

Pityophthorus knoteki Reitter, 1898

Pityophthorus lichtensteinii (Ratzburg, 1837)

[ Pityophthorus micrographus micrographus (Linnaeus, 1758) ] C6

Pityophthorus pityographus pityographus Ratzburg, 1837

Pityophthorus pubescens (Marsham, 1802)

Cryphalini Lindemann, 1876

Cryphalus asperatus (Gyllenhal, 1813)

Cryphalus intermedius Ferrari, 1867

Cryphalus piceae (Ratzburg, 1837)

Cryphalus saltuarius Weise, 1891
Ernoporicus caucasicus (Lindemann, 1876)
Ernoporicus fagi (Fabricius, 1798)
Ernoporus tiliae (Panzer, 1793)
[Tryptothecus jalapae (Letzner, 1849)] C7
Trypholeon binodulosus (Ratzeburg, 1837) C8
[Tryptothecus granulatus (Ratzeburg, 1837)] C9
Trypholeon rybinskii rybinskii (Reitter, 1895) C10

Crypturgini LeConte, 1876

Crypturgus cinereus (Herbst, 1794)
Crypturgus hispidulus C. G. Thomson, 1870
Crypturgus pusillus (Gyllenhal, 1813)
Crypturgus subcribrosus (Eggers, 1933) C11

Dryocoetini Lindemann, 1876

[Coccotrypes dactyliperda (Fabricius, 1801)] C12
[Dactylotrypes longicollis (Wollastson, 1864)] C13
Dryocoetes alni (Georg, 1856)
Dryocoetes autographus (Ratzeburg, 1837)
Dryocoetes hectographus (Reitter, 1913)
Dryocoetes himalayensis Struthmeyer, 1908 C14
Dryocoetes villosus villosus (Fabricius, 1792)
[Lymantor aceris aceris (Lindemann, 1875)] C15

Hylastini LeConte, 1876

Hylastes angustatus (Herbst, 1793)
Hylastes ater (Paykull, 1800)
Hylastes attenuatus Ericson, 1836
Hylastes brunneus (Ericson, 1836)
Hylastes cunicularius Ericson, 1836
[Hylastes fallax Wichmann, 1875] C18
Hylastes linearis Ericson, 1836
Hylastes opacus Ericson, 1836
Hylurgops glabrat (Zetterstedt, 1828)
Hylurgops pallidus (Gyllenhal, 1813)

Hylesinini Ericson, 1836

Hylastinus fankhaueri Reitter, 1895
Hylastinus obscurus (Marsham, 1802)
Hylesinus crenatus (Fabricius, 1787)
Hylesinus torano (D’Anthoine, 1788)
Hylesinus varius (Fabricius, 1775)
Hylesinus wachtli orni (Fuchs, 1906)
Kissophagus novaki Reitter, 1894 C19
Kissophagus vicinus (Comoli, 1837)
Pteleobius kraatzii (Eichhoff, 1864) C20
Pteleobius vittatus (Fabricius, 1792) C21

Hylurgini Gistel, 1848

Dendroctonus micans (Kugelann, 1794)
Hylurgus ligniperda (Fabricius, 1787) C22
Tomicus minor (Hartig, 1834)
Tomicus piniperda (Linnaeus, 1758)
Xylechinus pilosus (Ratzeburg, 1837)
Xylopteles bispinus (Dufschmid, 1825)

Hypborini Nüsslin, 1911

Hypoborus ficus Ericson, 1836 C23
[Liparthrum bartschti Mühl, 1891] C24

Ipini Bedel, 1888

Ipis acuminatus (Gyllenhal, 1827)
Ipis amitinus (Eichhoff, 1872)
Ipis cembrae (Heer, 1836)
Ipis duplicatus (C. R. Sahlberg, 1836) C25
Ipis sexdentatus (Boerner, 1766)
Ipis typographus (Linnaeus, 1758)
[Orthotomicus erosus (Wollastson, 1857)] C26
Orthotomicus laricis (Fabricius, 1792)
Orthotomicus longicollis (Gyllenhal, 1827)
[Orthotomicus mannsfeldi (Wachtli, 1880)] C27
Orthotomicus proximus (Eichhoff, 1868)
Orthotomicus sutoralis (Gyllenhal, 1827)
Pityogenes bidentatus (Herbst, 1784)
[Pityogenes bistridentatus (Eichhoff, 1878)] C28
Pityogenes chalcographus (Linnaeus, 1760)
Pityogenes conjunctus Reitter, 1887
[Pityogenes irkutensis monacensis Fuchs, 1911] C29
Pityogenes quadridens (Hartig, 1834)
Pityogenes trepanatus (Nördlinger, 1848)
Pityokeytes curvidens (Germar, 1824)
Pityokeytes spinidos (Reitter, 1895)
Pityokeytes vorontzowi Jakobson, 1896

Phloeosinini Nüsslin, 1912

Phloeosinus aubei (Perris, 1855)
Phloeosinus thujae (Perris, 1855)

Phloeotribini Chapuis, 1869

[Phloeotribus cristatus (Fauvel, 1889)] C30
Phloeotribus rhododactylus (Marsham, 1802)
Phloeotribus scarabaeoides (Bernard, 1788)
Phloeotribus spinulosus (Rey, 1883)

Polygraphini Chapuis, 1869

Carphoborus minimus (Fabricius, 1798)
Polygraphus grandiclavus C. G. Thomson, 1886
Polygraphus poligraphus (Linnaeus, 1758)
Polygraphus subopacus C. G. Thomson, 1871 C31
Scolytini Latreille, 1804

Scolytus carpinii (Ratzeburg, 1837) C32
Scolytus ensifer Eichhoff, 1881 C33
Scolytus intricatus (Ratzeburg, 1837)
Scolytus kirschii kirschii Schalitzky, 1876 C34
Scolytus laevis Chapuis, 1869
Scolytus mali (Bechstein, 1805)
Scolytus multistriatus (Marsham, 1802)
Scolytus pygmaeus (Fabricius, 1787)
Scolytus ratzeburgii E. W. Janson, 1856
Scolytus rugulosus (P. W. Müller, 1818)
Scolytus scolytus (Fabricius, 1775)

[Commented species

C1) [Pagiocerus frontalis] (Fabricius, 1801)

Examined material. 6ex.?, ex., Stadt Zürich, 2.XII.1996, leg. & coll. Anonymous, SPZH.

Published data. 6ex. **Vorratsschädling an Mais in Zürich im Jahr 1996, Beratungsfall der Beratungsstelle Schädlingsbekämpfung, Zürich** (Germann 2010).

Comment. As shown by Germann (2010) and confirmed by Beat Forster (pers. comm.), P. frontalis was introduced in 1996 in Switzerland by a tourist in possession of ornamental corn seeds from Peru, but the population was eradicated. The species is not considered as Swiss despite the presence of two valid specimens in museum collections.

C2) Gnathotrichus materiarius (Fitch, 1858)

Examined material. 1 ex., Bucheneg-Passhöhe, Müsli, 3.V.1984, leg. & coll. Hirschheydt J.; 1 ex., Therwil Umg. BL, 12.V.1984, leg. Studer M., MHNG; 1 ex., Jura BE, Burg, VI.1984, leg. Toumayeff G., MHNG; 2 ex., Genève, Chancy, Vers Vaux, VI.1987, 14.VI.1988, leg. Besuchet C., MHNG; 2 ex., Rickenbach SO, 2.–9. VI.1994, 4.–11.V.1995, leg. WSL; ? ex., Thayngen SH, 2.VII.1996, leg. & coll. Anonymous, SPZH; 6 ex., Habsburg AG, 1.–8.V.2015, 8.–15.V.2015, 29.V.5. VI.2001, 10.–17.VII.2001, 8.–15.VIII.2001, leg. WSL; 14 ex., Rapperswil-Jona SG, 7.V.2015, 28.V.2015, 18.VI.2015, 7.VII.2015, 20.VIII.2015, leg. Huber B., det. Büche B.; 4 ex., Oberentfelden AG, 27.V.2015, 8.VII.2015, 22.VII.2015, leg. Moser S., det. Bense U.

Published data. 1 ex., Bucheneg-Passhöhe, Müsli, 3.–10.V.1984, leg. Hirschheydt J.; ? ex., Burg/Leymental BE, leg. Toumayeff G.; 1 ex., Bois de Vers Vaux bei Chancy GE, 16.VI.1987, leg. Besuchet C.; 1 ex., Bois de Vers Vaux bei Chancy GE, 14.VI.1988, leg. Besuchet C. (Hirschheydt 1992), Switzerland (Germann 2010a; Kirkendall and Faccoli 2010; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This invasive species, native to the United States and Canada, was first found in northern Switzerland in 1984 but was not reported by Bovey (1987). Since these first records, it has been found several times, in the north of Switzerland and once in the Geneva region, under the bark of pine trees. Developing on various conifers (Pinus spp., Abies alba, Larix decidua), this species would likely be able to colonize the remaining regions of the country in the future. Bovey (1987) warned of the serious damages that G. materiarius could cause to Swiss forests, but so far, no major problems caused by this species have been reported.

C3) Pityophthorus buyssonii buyssonii Reitter, 1901

Fig. 1A

Examined material. 1 ex., Vaud, La Rippe, 3.VI.1979, leg. Besuchet C., MHNG; 1 ex., s’Tréten VS, VII.1980, leg. Toumayeff G., MHNG.

Published data. 23 ex., Derborence by Conthey, VIII.1949 by Besuchet C. (Linder 1953); Switzerland (Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. P. buyssonii buyssonii is considered as Swiss species on the basis of two specimens captured in the south of the country. The species is sparsely distributed in the Palearctic region (Bulgaria, France, Greece, Italy and Spain) and develops on pine trees, as it was the case for the individual from “La Rippe”, found on a Pinus sylvestris twig. The specimens cited by Linder (1953) were in fact Pityophthorus glabratus, as previously shown by Bovey (1987). Bovey (1987) and Germann (2010a) did not consider this species as Swiss despite the presence of two valid specimens in museum collections.

C4) Pityophthorus carniolicus Wichmann, 1910

Examined material. 1 ex., Tessin, Mte. Generoso, 9.VI.1962, leg. Besuchet C., det. Bovey P., MHNG; 1 ex., Tessin, Generoso, 26.V.1982, leg. Besuchet C., det. Bovey P., MHNG; 1 ex., Pura TI, 3.–10.IV.2007, leg. WSL.
Published data. 1 ex., Monte Generoso TI, 9.VI.1962, 1700m, and 26.V.1982, 1680m by Besuchet C., MHNG (Bovey 1976); Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species, distributed in Austria, Croatia, Czechia, France, Germany, Hungary, Italy, Poland, Slovakia and Slovenia, is considered Swiss based on three specimens collected in Tessin. Developing mainly on pines (*Pinus nigra* and *P. sylvestris*), its range in Switzerland is probably wider and specific exploratory research should be undertaken to better evaluate its distribution (Faccoli and Battisti 2011).

**C5) Pityophthorus exsculptus** (Ratzeburg, 1837)

Examined material. 1 ex., Wangs, Pizol, 13.VII.1958, leg. Anonymous, coll. Spälti A., MHNG; 66 ex., Thurgovie, Kesswil, 10.IV.1982, 17.I.1983, leg. Besuchet C., MHNG; 34 ex., Thurg., Kesswil, VI.1983, leg. Besuchet C., MHNG; 9 ex., Kesswil, 17.I.1983, leg. Besuchet C., coll. Scherler P. & coll. Bovey P., NMBE & MZL; 1 ex., Wengi BE, 2.–9.VII.1987, leg. WSL, det. Klausnitzer B.; 1 ex., Ruppoldsried, 25.VI.-2.VII.1987, leg. WSL, det. Klausnitzer B.; 2 ex., Glaris, Ennenda, III.1994, leg. Besuchet C., MHNG.

Published data. Kesswil TG, 10.IV.1982 and VI.1982 by Besuchet C. (Bovey 1987); Switzerland (Germann 2010a, Knížek 2011a, Alonso-Zarazaga et al. 2017).

Comment. This species, which develops exclusively in branches on standing moribund spruce trees (*Picea abies*) and pine trees (*Pinus spp.*) (Balachowsky 1949), is only known from Central Europe. In Switzerland, only scant data attest to its presence, all records dating back more than 20 years from branches of *Picea abies.*
C6) [Pityophthorus micrographus micrographus] (Linnaeus, 1758)

Published data. 1Basel by Imhof L., 1Genf [Geneva] by Chevrier F. and 1Kant. Zürich by Fusselin J. C. (Sterlin and Gautard 1867); 1Lausanne by Bugnon E. (Favre 1890); 1Chiasso by Fontana P. (Fontana 1947);
1Frauenfeld, Burgerholz by Hugentobler H. (Hugentobler 1966); 1Switzerland (Knižek 2011a; Alonso-Zarazaga et al. 2017).

Comment. No specimen was found in the examined collections to support citations in the literature. Thus, P. micrographus micrographus is not considered a native species at present. This species, which develops on Picea obovata Ledeb., P. abies and Abies sibirica Ledeb., is widely distributed in Europe but relatively rare. As its preferred host plants are abundant in Switzerland, it may be discovered here in the future.

C7) [Scolytogenes jalappae] Letzner, 1849

Published data. 2Chiasso by Fontana P. (Fontana 1947).

Comment. Reported from Chiasso by Fontana P. (1947), the only specimen found in his collection in the MSN L under Pityophthorus jalap pae belongs in reality to the family Ciidae! Scolytogenes jalappae, a species widespread in America, is not present in Switzerland, although it was imported several times to Europe.

C8) Trypophloeus binodulus (Ratzburg, 1837)

Examined material. 4 ex., Bicoque [Préverenges VD], 3.VII.1949, leg. Besuchet C., MHNG; 60 ex., Vaud, Agiez, 7.VII.1949, 8.VII.1949, 9.VII.1949, III.1950, 25.V.1950, 5.II.1951, leg. Besuchet C., MHNG; 1 ex., Agiez s/Orbe, 10.VIII.1949, leg. Besuchet C., MHNG; 44 ex., Vaud, Aigle, 27.IX.1953, IX.1954, leg. Besuchet C., MHNG; 12 ex., Genève, Jussy, 19.VI.1974, leg. Besuchet C., MHNG; 20 ex., Genève, Chancy, 2.VII.1974, leg. Besuchet C., MHNG; 1 ex., Valais, Forêt de Finges, 1.VIII.1974, leg. Besuchet C., MHNG; 14 ex., Tessin, Is. Brissago, 10.VII.1976, leg. Besuchet C., MHNG; 12 ex., Genève, Mategnin, 4.VII.1984, leg. Besuchet C., MHNG; 1 ex., Genève, Onex, 7.VIII.1992, leg. Besuchet C., MHNG; 57 ex., Vaud, Onnens-Lac, 14.VII.1993, leg. Besuchet C., MHNG; 2 ex., Genève, Corsier-Port, VI.1994, leg. Besuchet C., MHNG; 10 ex., Vaud, Bursinel, 25.VIII.1994, leg. Besuchet C., MHNG.

Published data. Orbe, VI.1949, V.1950, leg. Besuchet C. (under T. asperatus) (Linder 1953); many data in Switzerland under T. asperatus (Gyllenhal, 1813) (Bovey 1987); 1Bassecourt (JU) (under Cryptalus abietis) and 1TG (under T. asperatus spiculatus) (Meier et al. 1995); 1 ex., Aigle WD, 27.IX.1953, leg. Besuchet C., MHNG and 1 ex., Pflywald VS, 1.VIII.1974, leg. Besuchet C., MHNG (under T. asperatus asperatus (Gyllenhal, 1813), T. asperatus grothi Hagedorn, 1904 and T. asperatus spiculatus Eggers, 1927) (Germann 2010a); 1 ex., Aigle WD, 27.IX.1953, leg. Besuchet C., 2 ex., Isola Bissagno TI, VII.1976, leg. Besuchet C. and 1 ex., Pflywald VS, leg. Besuchet C. (under T. asperatus grothi Hagedorn, 1904) (Germann 2010b); Switzerland (Knižek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species, widely cited in the literature under different subspecies of T. asperatus, is considered Swiss on the basis of several specimens collected from different localities. All were collected by Besuchet C. under the bark of different species of Populus, which is the only genus of host plant known for this species.

C9) [Trypophloeus granulatus] (Ratzburg, 1837)

Published data. 27 ex., Arnex VD, 25.VI.1950 and 21 ex., Finges VS, 1.VIII.1974 by Besuchet C. (Bovey 1987); 1Switzerland (Germann 2010a; Knižek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species was first cited by Bovey (1987) on the basis of seven specimens collected by Besuchet C. in the Valais and in Vaud. After a careful examination of Swiss collections, we found a series of specimens of T. binodulus bearing identical labels to those records reported in Bovey (1987) for T. granulatus. The misidentification of T. binodulus for T. granulatus is thus likely. Trypophloeus granulatus, a species known from central and southern Europe and developing on poplars, is not considered as indigenous in Switzerland at the moment. Known from all neighboring countries, we consider that it has the potential to expand its distribution into Switzerland.

C10) Trypophloeus rybinskii rybinskii Reitter, 1895

Examined material. 2 ex., Val Müstair, Fuldera, 17.VII.2018, leg. Huber B., det. Büche B., BNM; 1 ex., Val Müstair, Sta. Maria, Aue, 21.VIII.2018, leg. Huber B., det. Büche B.

Comment. Trypophloeus rybinskii, a species widely distributed in central Europe, is considered as Swiss on the basis of three specimens found in Graubünden in 2018, using flight and beer traps. It develops on different species of Salix and Populus.

C11) Cryptergus subcribrosus Eggers, 1933

Examined material. 4 ex., Genève, B. Merdisel, 17.VII.1974, leg. Besuchet C., MHNG; 15 ex., Kt. Bern, Burgdorf Meienm., 21.II.1980, leg. Kiener S., MHNG; 11 ex., Genève, Avully, 10.V.1993, leg. Besuchet C., MHNG; 7 ex., Wynigen, Riedereinwald BE, 15.XII.1993, leg. & coll. Kobel E., NMBE. Published data: Switzerland (Germann 2010a; Knižek 2011a; Alonso-Zarazaga et al. 2017).

Comment. In agreement with Jard and Knižek (2007), we consider C. subcribrosus as a valid species, separated from C. cinereus. This species, distributed in north-eastern Europe and also present in France (Dodelin
B. and Soldati F. pers. comm.), has been found only a few times in Switzerland, always under the bark of spruces (*Picea* spp.). It is possible that other Swiss specimens attributed to *C. cinereus* may turn out to be *C. subcribrosus* and therefore all specimens should be revised. Bovey (1987) did not consider the species as resident.

**C12** | *Coccotrypes dactyliperda* (Fabricius, 1801)
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**Examined material.** 3,4,6,8,13 ex., Genève, coll. Maerky C., MHNG; 3,4,6,8,1 ex., Genève, coll. Maerky C., ex coll. Melly A., MHNG; 3,4,6,8,1 ex., Genf [Geneva], col. Linder-Hebeisen A., ex coll. Täschler M., ETH; 4,6,8,2 ex., Schaffhausen, leg. Stierlin G., det. Bovey P., Deutsches Entomologisches Institut; 4,6,8,9 ex., Zürich ZH, I.1977, leg. & coll. Bovey P., MHNG & MZL.

**Published data.** 1,4,6,8,9*Genf [Geneva]* by Chevrier F. and 1,4,6,8*Genf [Geneva]* by Tournier H. (Stierlin and Gautier 1867); 1,4,6,8*Schaffhausen*, in Magazinen der Früchtenhändler (Stierlin 1898); 1,6,8,4 ex., Genève et Zürich, EPFZ Institut de sylviculture, grains de *Phoenix dactylifera*, 1977 by Marcet (Bovey 1987); 1,6,8*Switzerland* (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

**Comment.** This species, developing on palm fruits from *Phoenix dactylifera* (Linnaeus, 1753) and *Chamaerops humilis* (Linnaeus, 1753), is native to central and western Mediterranean areas only but is regularly imported to the rest of Europe. In Switzerland, it is only known from specimens housed in a problematic collection (Maerky C.) that should not be taken in account, or from three different attested importations: in Schaffhausen in a fruits market, and in Geneva and Zürich with seeds from *P. dactylifera*. The species does not develop in the wild in Switzerland and is thus not considered as a resident, even if many palms grow in cities.

**C13** | *Dactylotrypes longicollis* (Wollaston, 1864)
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**Examined material.** 5,8,44 ex., Kt. Bern, Thun, 20.I.1983, leg. Marggi W., coll. Kiener S., coll. Bovey P., coll. Scheller P., MHNG, MZL & NMBE.

**Published data.** 5,8*Thoune BE*, grains de Palmier, 1.I.1983 by Marggi W. (Bovey 1987); 6,8*Switzerland* (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

**Comment.** Several specimens were found in Thun in 1983, all hatched from palm seeds. *Dactylotrypes longicollis*, indigenous to the Canary Islands and Madeira, was introduced several times to Europe (Croatia, southern France, Italy, Malta, Slovakia, mainland Spain). The species develops in seeds of different species of date palm (*Arecaceae*) (Labonte and Takahashi 2012). Even if Bovey (1987) considered this species as part of the Swiss fauna (under *Dactylotrypes nytenhoogarti* Eggers, 1927), palm trees are not native to Switzerland and no specimens have ever been found in the wild. Therefore, it cannot be considered as belonging to the Swiss fauna.

**C14** | *Dryocoetes himalayensis* Strohmeyer, 1908
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**Examined material.** 1 ex., Aldorf, Vogelsang UR, VII.1980, leg. Reser-Resbanyai L., coll. Knížek M.; 1 ex., Brugg AG, 8.–15.V.2001, leg. WSL; 1 ex., Habsburg AG, 11.–18.V.2001, leg. WSL; 1 ex., Sarmenstorff AG, 2.–9.VIII.2004, leg. WSL.

**Published data.** 2 ex., Habsburg AG, 2001, det. M. Knížek “mit Restunsicherheit” (Germann 2010a); Switzerland (Kirkendall and Faccoli 2010, Knížek 2011a, 2011b, Alonso et al. 2017); 3 ex., Schweiz, Kanton Aargau, Oberenfelden, 27.V.–8.VII.2015, leg. Bense U. (Gebhardt and Bense 2016).

**Comment.** This species was originally described from Kashmir (Strohmeyer 1908) and was first collected in Europe in 1975 in France (Schott 2016). It was collected in Switzerland in 1980 (Knížek 2011b) and found again in 2001 and 2004, each time in the north. The species is now considered established in Europe (Kirkendall and Faccoli 2010). The host plants are unknown in Switzerland because all specimens were captured in flight by interception traps but given what is known about its host plant preference in general, it likely develops on *Juglans* trees (Foit et al. 2017).

**C15** | *Lymantor aceris aceris* (Lindemann, 1875)
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**Published data.** 1*Schweiz [Switzerland]* (Pfeffer 1995); 1*Switzerland* (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

**Comment.** *Lymantor aceris aceris* is widespread in Europa and develops mostly on different species of maple trees (*Acer* spp.) but also on buckthorn (*Frangula alnus* Mill.) and cornelian cherry (*Cornus mas* L.), in symbiosis with fungus. Even though the species was cited in the literature, no specimens supporting its presence in Switzerland were found in the collections examined. However, given its distribution in neighboring countries, particularly in France (Schott and Callot 1994; Dodelin 2014), its presence in Switzerland remains possible.

**C16** | *Taphryochus siculus* (Eggers, 1908)
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**Fig. 1B**

**Examined material.** 5 ex., Locarno TI, 6.VIII.1950, 10.IX.1950, 10.IX.1950, leg. Besuchet C., det. Pfeffer A., MHNG; 14 ex., Tessin, Arecegno, 8.IX.1953, leg. Besuchet C., det. Pfeffer A., MHNG.

**Published data.** südSchweiz (Pfeffer 1995); Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

**Comment.** Despite its sparse distribution in Europe (only known from Bosnia and Herzegovina and Sicily), this very rare species, which breeds on alders (*Alnus* spp.), is considered as a resident of Switzerland on the basis of several individuals caught in southern Ticino in the 1950s under the bark of alder trees. Since then, it has not been found in the country. *T. siculus* was not reported by Bovey (1987).
C17) Thamnurgus kaltenbachii (Bach, 1849)

Fig. 1C

Examined material. 1 ex., Generoso, 6.VI., leg. & coll. Fontana P., MSNL; 1 ex., Genève, B. Veyrier, IV.1953, leg. & coll. Tourmayeff G., MHNG.

Published data. Generoso and 1,8 Chiasso by Fontana P. (Fontana 1947); Monte Generoso TI by Fontana P. and Bois de Veyrier GE, III.1953 by Tourmayeff G. (Bovey 1987); Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2010).

Comment. Two specimens only, from the south of the country, confirm the presence of this rare species in Switzerland. T. kaltenbachii is limited to Central Europe and his presence in France was also confirmed (Prudhomme J.-C. 2016, Dedelin B. pers. comm.). Within the bark beetles, T. kaltenbachii develops on herbaceous plants only (stems of Lamiaceae in this case), as do other members of the same genus (Mandelshtam et al. 2012).

C18) [Hylastes fallax] Wichmann, 1911

Published data. 1,8 1 ex., Olten (Wermelinger B. pers. comm. in Germann 2010a); 1,8 Switzerland (Knížek 2011a). All published data under Hylastes gergeri Eggers, 1911.

Comment. This species was cited from Switzerland on the basis of one specimen supposedly caught in Switzerland in 1994 in the region of Olten. Nevertheless, this species is not considered as part of the Swiss fauna at the present time. The only mentioned specimen is unverifiable and additional data must be gathered to confirm the presence of this species in Switzerland. Hylastes fallax is only known from eastern Europe (Czech Republic, Romania, Slovakia, eastern Austria and eastern Italy). Its host plants are unknown.

C19) Kissophagus novaki Reitter, 1894

Examined material. 2 ex., Genève, Mategnin, 4.V.1963, 15.V.1968, leg. Besuchet C., MHNG; 1 ex., Vaud, Roche, 27.VI.1970, leg. & coll. Scherler P., NMBe; 1 ex., Vandoeuvres GE, 27.VI.1974, leg. Besuchet C., Bovey P., MZL; 2 ex., Genève, Vandoeuvres, 27.VI.1974, leg. Besuchet C., MHNG; 1 ex., Genève, Vernier, 13.III.1976, Besuchet C., MHNG; 1 ex., Genève, Genève-Florissant, 12.VI.1987, leg. Steffen J., MHNG; 1 ex., Genève, La Laire, 23.VI.1988, leg. Steffen J., MHNG; 1 ex., Valais, s/s Fully, 1.IV.1994, leg. Besuchet C., MHNG; 1 ex., Genève, Corsier-Port, 23.V.1994, Besuchet C., MHNG; 1 ex., Martigny, La Bâtie, 23.XII.2009, leg. & coll. Germann C.

Published data. 1 ex., Fully VS, 1.IV.1994, leg. Besuchet C., MHNG, 1 ex., Martigny, La Bâtie, N571.490/E106.080, 520 m ü. NN, 23.XII.2009, GS Moos, Polsterpflanzen, Grasbulten, leg. & coll. Germann C. (Germann 2010b); Switzerland (Bovey 1987; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species developing on ivy (Hedera helix) is only known in Switzerland from very few records from the south of the country, the most recent in 2009 (Germann 2010b). Kissophagus novaki is widely distributed in Europe, from southern France to the Caucasus.

C20) Pteleobius kraatzii (Eichhoff, 1864)

Examined material. 2 ex., Kt. Genf, Allondon, VI.1954, leg. & coll. Linder-Hebeisen A., ETH; 10 ex., Kt. Genf, Genf [Geneva], VI.1954, leg. & coll. Linder-Hebeisen A., ETH; 7 ex., La London [Allondon], VI.1954, leg. [Besuchet C.], coll. Sermet A., MZL; 8 ex., Genève, Allondon, 24.VI.1954, leg. & coll. Scherler P., NMBe; 54 ex., Genève, London [Allondon], 27.VI.1954, leg. Besuchet C., MHNG; 3 ex., V. Allondon GE, 27.VI.1954, leg. Scherler P., coll. Allessparich V., NMBe; 1 ex., Kt. Genf, Meyrin, VIII.1966, leg. & coll. Linder-Hebeisen A., ETH; 1 ex., Genève, Jussy, 24.V.1968, leg. Besuchet C., MHNG; 3 ex., Genève, Bois de Jussy, 25.VI.1968, leg. Besuchet C., MHNG; 15 ex., Jussy GE, 31.VII.1968, leg. Besuchet C., coll. Bovey P., MZL; 1 ex., Genève, Jussy, 31.VII.1968, leg. Besuchet C., MHNG; 9 ex., Genève, Vandoeuvres, V.1974, leg. Vit S., MHNG; 9 ex., Genève, Jussy, VII.1974, leg. Besuchet C., coll. Bovey P., MZL; 4 ex., Genève, Jussy, 4.VII.1974, leg. Besuchet C., MHNG; 1 ex., Genève, Corsier-Port, 8.VI.1981, leg. Besuchet C., det. Bovey P., MHNG.

Published data. 60 ex., La Plaine GE, 27.VI.1954, leg. Besuchet C., Scherler P. & Sermet A. (Linder 1968); Switzerland (Bovey 1987; Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species, widely distributed in central and western Europe, has only been found in the Geneva region in Switzerland until now. Most of the specimens were caught on trunks of elm species. Pteleobius kraatzii mainly develops mainly on Ulmus laevis and U. minor.

C21) Pteleobius vittatus (Fabricius, 1792)

Examined material. 7 ex., Castello, leg. & coll. Fontana P., MSNL; 1 ex., Castello, 11.V.1926, leg. & coll. Fontana P., MSNL; 2 ex., Chiasso, 12.IV.1928, 17.V.1928, leg. & coll. Fontana P., MSNL; 18 ex., Genève, La Plaine, X.1958, leg. Besuchet C., MHNG; 1 ex., Genève, Meyrin, 2.IV.1966, leg. Besuchet C., MHNG; 6 ex., Kt. Genf, Meyrin, VIII.1968, leg. [Besuchet C.], coll. Linder-Hebeisen A., ETH; 6 ex., Meyrin GE, VIII.1968, leg. Besuchet C., coll. Bovey P., MZL; 6 ex., Genève, Meyrin, VIII.1968, leg. Besuchet C., MHNG; 1 ex., Bel-Air, Clinique GE, 11.II.1973, MHNG; 16 ex., Genève, Jussy, 19.VI.1973, 5.V.1974, VII.1974, leg. Besuchet C., coll. Bovey P., MHNG & MZL; 1 ex., Genève, Onex, 30.VI.1974, leg. Besuchet C., MHNG; 8 ex., Allschwiler BL, V.1978, leg. Angst M., coll. Bovey P., MZL; 7 ex., Allschwiler BL, VII.1978, leg. Angst M., NMB; 1 ex., Valais, Branson, V.1980, leg. Anonymous, MHNG; 1 ex., Habsburg AG, 1.–8.V.2001, leg. WSL; 2 ex., Fully VS, 24.III.2015, 24.III.–16.IV.2015, leg. Chittaro Y., det. Büche B.
Published data. 1Genf [Geneva] by Chevrier F. and 1Peney bei Genf [Geneva] by Tournier H. (Stierlin and Gautard 1867); 1Basel (Sterlin 1898); Chisso and Castello S. P. [Castello San Pietro] by Fontana P. (Fontana 1947); Switzerland (Bovey 1987; Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. Pleleobius vitatus breeds on several species of elm (especially Ulmus minor, U. laevis). In Switzerland, it is mainly known from the south of the country (Geneva, Valais, Ticino) and has almost always been found on elms.

C22) Hylurgus ligniperda (Fabricius, 1787)

Examined material. 4 ex., Sierre, leg. Favre E., HGSB; 31 ex., St. Gallen, leg. Anonymous, coll. Täschler M., MHNG; 1 ex., Kt. Bern, Bern, IV.1901, leg. Anonymous, coll. Linder-Hebeisen A., ETH; 1 ex., Avants, 18.IV.1901, leg. & coll. Gaud A., MZL; 1 ex., Kt. SZ, Ober-Iberg, VIII.1938, leg. Lautner J., coll. Linder-Hebeisen A., ETH; 1 ex., Mte. Ceneri, 16.V.1951, leg. Anonymous, coll. Spalti A., MHNG; 12 ex., Alpes, Villars, 2.VII., leg. & coll. Maerky C., MHNG; 23 ex., B. d. Frères [Bois des Frères], 20.X.1874, leg. Anonymous, det. Besuchet C.

Published data. 1Jura, Vullorbe by Mellet P. (Stierlin and Gautard 1867); 1Jura, 1Westschweiz and 1Wallis (Sterlin 1898); 1Simplex by Rosset F.-C. (Rosset 1879); 1Bois de Finge and Sierre by Favre E., 1Sion by Bugnion E., 1Genève and 1Vaud (Favre 1890); Switzerland (Germann 2010a; Alonso-Zarazaga et al. 2017).

Comment. This pine-associated (Pinus spp.) species is widely distributed in Europe, North Africa and Asia and is considered a pest in many regions (Clare and George 2016). It is, however, only known from a few records in Switzerland. All specimens have been caught under the bark of pine trunks, according to the scant ecological information available.

C23) Hypoborus ficus Erichson, 1836

Examined material. 12 ex., Castello, leg. Fontana P., det. Bovey P., MSNL; 91 ex., Omnens [VD], leg. Anonymous, coll. Sermet A., MZL; 4 ex., Tessin, leg. & coll. Lautner J., NMB; 1 ex., Chisso, 25.VIII.1928, leg. Fontana P., MSNL; 54 ex., Tessin, Gandria, IV.1943, 3.III.1948, 3.IV.1948, IV.1948, leg. Besuchet C., coll. Sermet A., coll. Scherler P. & coll. Linder-Hebeisen A., MZL, MHNG, NMBE, ETH; 1 ex., Dalpe, 17.VI.–2.VII.1957, leg. & coll. Allenspach V., NMB; 20 ex., Dino, 10.–19.VI.1963, leg. & coll. Allenspach V., NMB; 1 ex., 18.VIII.1966, Rancate, leg. Anonymous, coll. Sermet A., MZL, 7 ex., Tessin, Rancate, 7.IX.1966, 18.IX.1966, leg. & coll. Scherler P., NMBE; 121 ex., Tessin, Caviano, 10.VII.1975, 7.VII.1975, leg. Besuchet C., coll. Bovey P. & coll. Scherler P., MHNG, MZL, NMBE; 15 ex., Tessin, s’Rovio, 21.VIII.1975, leg. Besuchet C., MHNG; 6 ex., S. Nazzaro, IX.1993, leg. & coll. Kutter-Trüb H., MZL; 4 ex., S. Nazzaro, IX.1993, leg. Allenspach V., det. Bovey P., ETH.

Published data. Chiasso, Castello and Chiasso Tannino by Fontana P. (Fontana 1947); Switzerland (Bovey 1987; Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. Native to the Mediterranean region and the Canary Islands, this monophagous species developing on Ficus carica has been reported many times from the south of Ticino, where most introduced fig trees are concentrated. Since the species has been reported regularly for more than 90 years, we consider it here as established in Switzerland, even if no observations exist since 1993. Furthermore, based on the numerous fig trees in gardens in other parts of Switzerland, continued expansion of H. ficus towards the north can be expected.

C24) Liparthrum bartschti Mühl, 1891

Published data. 25Periv, 17.VII.1919 by Handschin E. (Handschin 1963).

Comment. This species is only known from eastern Europe (east Austria, Slovakia and Hungary) and is not present in Switzerland. The specimen cited in literature was a Polygraphus grandiclavus, as already shown by Bovey (1987). Liparthrum bartschti develops on Viscum album growing on Populus spp.

C25) Ips duplicatus (C. R. Sahlberg, 1836)

Examined material. 194 ex., Altstätten SG, 25.IV.2019, 05.VI.2019, 15.VII.2019, leg. WSL, det. Schneider Mathis D.; 5 ex., Gams SG, 25.IV.2019, 15.VII.2019, leg. WSL, det. Schneider Mathis D.; 175 ex., Rüthi SG, 25.IV.2019, 25.VII.2019, leg. WSL, det. Schneider Mathis D.

Published data. 2Craistas, 4.V.1953, 2Il Fuorn, 19.V.1953, 2Sta. Maria, 22.V.1953 and 2Costeras, 20.VI.1953 by Handschin E. (Handschin 1963).

Comment. Bovey (1987) has already shown that the four specimens cited by Handschin (1963) were in fact two individuals of Ips amitinus and two individuals of I. cembrae. Ips duplicatus, originally distributed in northern Europe and Siberia, was previously rare in Central Europe. A recent serious outbreak in Czech Republic is currently colonizing Europe toward the west and the species was discovered in 2017 in Rankweil (Austria), only a few kilometers from the Swiss border (Steyrer 2018). In 2019, numerous specimens were caught in the St. Gall region using pheromone traps (Wermelinger B. pers. comm.). This species is expected to increase its distribution in Switzerland in the next years.

C26) Orthotomicus erosus] (Wollaston, 1857)

Examined material. 31 ex., Genève, Vessy, 3.VII., leg. & coll. Maerky C., det. Bovey P., MHNG.

Published data. 2zwischen Derborence und Ardon, VIII.1949 by Besuchet C., det. Balachowsky A. (Linder 1953); 31 ex., Vessy GE, 1920 by Maerky C., MHNG (Bovey 1987); 3Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).
Comment. The Mediterranean pine engraver beetle, native to North Africa, Asia and the Pacific, is now well distributed in Europe and North America. It develops on different species of pine (\textit{Pinus} spp.) and may cause damage in pine forests. Unlike Bovey (1987) and Germann (2010a), we do not consider \textit{O. erosus} as part of the Swiss fauna because the only examined specimen belongs to a problematic collection that cannot be taken in account. The data cited by Linder (1953) was a misidentification (the specimen in question was in fact \textit{O. proximus}), as already mentioned by Bovey (1987). However, as \textit{O. erosus} is known from all neighboring countries (except Germany), its presence in Switzerland remains possible.

C27) \textit{[Orthotomicus mannsfeldi]} (Wachtli, 1879)

Examined material. 1,8,1 ex., Habsburg AG, 5.-12. IX.2000, leg. WSL, det. Hölling D.

Published data. 1,8,1 ex., Habsburg AG, 2000 by WSL (Germann 2010a).

Comment. This species is widely distributed in southern Europe and has been reported once from Switzerland. As only one specimen was found despite regular monitoring in the region and because its host plant (\textit{Pinus nigra}) is not a native species in Switzerland, \textit{O. mannsfeldi} is not considered as Swiss at the moment. It should be noted that the specimen caught is unfortunately no longer available for consultation.

C28) \textit{[Pityogenes bistridentatus]} (Eichhoff, 1878)

Published data. 1) Forêt d’Aletsch, 2) Engadine by Bugnion 1893; 3) Grindelwald by Mühl (Favre 1890); 4) S-chanf, 8.VII.1919, 5) Val Truchum, 8.VII.1919 and 6) Val dal Botsch, VII.1926 by Handschin E. (Handschin 1963); 1) Switzerland (Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. Some \textit{Pityogenes} spp. conserved in Swiss collections were first identified as \textit{P. bistridentatus}. However, after examination, it appears that all these specimens were in fact \textit{P. conjunctus}, as already noted by Bovey (1987), Pfeffer (1995) and Germann (2010a). Therefore, \textit{P. bistridentatus} is not considered part of the Swiss fauna.

C29) \textit{[Pityogenes irkutensis monacensis]} A. G. Fuchs, 1911

Published data. 1) Switzerland (Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species, mainly known from eastern Europe and developing on pine (\textit{Pinus sylvestris}), is not considered a Swiss species at present. Although its presence remains possible in eastern Switzerland, no specimens were found in the examined collections.

C30) \textit{[Phloeotribus cristatus]} (Fauvel, 1889)

Examined material. 1,4,8,1 ex., Sierre, Guillebeau F., Muséum national d’Histoire naturelle (Paris).

Published data. 1,4,8,1 Valais, Sierre (Guillebeau 1893); 1,4,8,1 Sierre (Valais) (Bovey 1987); 1,4,8,1 Westschweiz (Pfeffer 1995); 1,4,8,1 Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. A specimen of \textit{P. cristatus} supposedly captured in “Sierre (Valais)” at the end of the 19th century was used to describe a new species (\textit{P. helveticus} Guillebeau, 1893), later synonymized with \textit{P. cristatus} by Pfeffer (1995). This taxon is known from northern Spain and the Canary Islands, southern France and Corsica, Italy and Sardinia, Bosnia and Herzegovina, Turkey, Algeria, Madeira, and Morocco and develops on \textit{Spartium junceum}, \textit{Cytisus scoparius}, \textit{Calicotome villosa} (Poir.) Link, \textit{C. spinosa} (L.) Link, \textit{Genista} spp. and \textit{Lysos} spp. Given the scant data available (inaccurate locality without date of capture, absence of collector and the fact that the species was never found again since the first and only capture), the absence of its host plants in Valais (according to the records of info flora) and the Mediterranean distribution of the species, \textit{P. cristatus} is not considered Swiss for the moment. However, the species was recently confirmed in northern Italy (Gatti 2011) and therefore has potential for expansion into Switzerland, most likely in Ticino (south of Switzerland).

C31) \textit{Polygraphus subopacus} C. G. Thomson, 1871

Fig. 1D

Examined material. 1 ex., U. Zürich(berg), 4.III.1932, leg. & coll. Lautner J., MHNG; 5 ex., U. Zürich(berg), 9.IV.1932, leg. & coll. Lautner J., NMB; 1 ex., Domleschg, Realta, 13.V.1940, leg. Wolf J-P., MHNG; 1 ex., Bern, 29.IX.1949, leg. Bärtschi, NMNG; 1 ex., Ins, Landwirtsch. Schule [Landwirtschaftliche Schule], 11.VIII.1980, leg. Reser-Rezbanyai L., det. Herger P., NMLU.

Published data. 1) Valais and 1) région de Bâle (Balachowsky 1949); Switzerland (Bovey 1987; Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species, well distributed in northern Europe, is only known from a few confirmed records in Switzerland. According to Pfeffer (1995) and Balachowsky (1949), \textit{P. subopacus} breeds on several species of spruce (probably \textit{P. abies} in Switzerland) in the mountains and in peat bogs.

C32) \textit{Scolytyus carpinii} (Ratzeburg, 1837)

Examined material. 1 ex., Genève, Onex, 16.VI.1974, leg. Besuchet C., MHNG; 1 ex., Genève, Frontenex, 1.VI.1980, leg. Besuchet C., MHNG; 1 ex., Mte San Giorgio TI, 7.VI.1982, leg. & coll. Scherler P., NMBE; 2 ex., Genève, B. de Jussy, 30.VI.1983, leg. Besuchet C., NMBE; 6 ex., Valais, Eich/Visp, 12.IX.1984, leg. Besuchet C., MHNG; 1 ex., Arzo TI, 30.VI.1988, leg. & coll. Scherler P., NMBE; 1 ex., Vaud, Bonvillars, La Cou dre, 6.VII.1988, leg. Steffen J., MHNG; 1 ex., Cragni TI, 30.VI.1990, leg. & coll. Scherler P., NMBE; 1 ex., Tessin, s/Capolago, 24.VI.1991, leg. & coll. Scherler P.
NMBE; 2 ex., Genève, Bois de Jussy, 21.VII.1991, leg. Besuchet C., MHNG; 14 ex., Hägendorf SO, 30.VI.–7. VII.1994, 7.–14.VII.1994, 14.–21.VII.1994 and 28.VII.–4.VIII.1994, leg. Flückiger P.; 3 ex., Rickenbach SO, 30.VI.–7.VII.1994, 6.–13.VII.1994, leg. Flückiger P.; 6 ex., Wangen bei Olten AG, 30.VI.–7.VII.1994, 7.–14. VII.1994, leg. Flückiger P.; 2 ex., Brissago TI, 28.IV.–5.V.1997, 10.–17.VI.1997, leg. Moretti M.; 1 ex., Locarno TI, 10.–17.VI.1997, leg. Moretti M.; 1 ex., Genève, Champel, 12.VII.1998, leg. Besuchet C., MHNG; 1 ex., Brugg AG, 28.VI.–5.VII.2004, leg. Wermeling B.; 1 ex., Pura TI, 29.VI.–6.VII.2004, leg. Moretti M.; 63 ex., Soazza GR, 6.–13.VII.2004, 13.–20.VII.2004, leg. Moretti M.; 3 ex., Tägerwilen TG, 14.IV.2016, 27.VI.2016, leg. & coll. Lüderbusch W., det. Bense U.

Published data. 1) Zürich (Sterlin 1898); Switzerland (Bovey 1987; Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species, closely related to S. intricus-tus but much rarer, is widespread in southern and central Europe. Polyphagous on various broadleaved species (mostly Carpinus spp. and Ostrya carpinifolia but also Corylus avellana, Fagus sylvatica and Quercus spp.), S. carpini is widely distributed in Switzerland but rarely found. The Swiss specimens for which ecological data are available were caught from Corylus betuloides and Corylus avellana.

C33) Scolytus ensifer Eichhoff, 1881

Examined material. 1 ex., Meride TI, 27.VI.1987, leg. & coll. Scherler P., NMBE.

Published data. 1 ex. Tessin, Meride, 27.VI.1987, leg. P. Scherler, NMBE (Germann 2009); Switzerland (Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species is considered Swiss on the basis of a single specimen found in southern Ticino more than 30 years ago. It is distributed throughout central Europe, from France to the Caucasus. Scolytus ensifer develops on different species of alder (Ulmus spp.), but also on Prunus spp. (Balachowsky 1949).

C34) Scolytus kirschii kirschii Skalitzky, 1876

Fig. 1E

Examined material. 3) 1 ex., Bâle, IX.1907, leg. & coll. Gaud A., MHNG; 1 ex., Suisse, Tessin, Lago di Muzzano, 24.VI.1988, leg. & det. Besuchet C., MHNG.

Published data. 1) Schweiz by Fankhäuser F. (Sterlin 1898); 1 ex. (female), Lago di Muzzano TI, 24.VI.1988, leg. & det. Besuchet C., MHNG (Germann 2010b); Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. Scolytus kirschii kirschii was first mentioned from Switzerland by Sterlin (1898), on the basis of a single specimen collected by Fankhäuser F., without a precise locality. However, the specimen was not found in the Swiss collections and Bovey (1987) considered it as doubtful. Nevertheless, a single female was caught the following year on an elm in Muzzano and is now deposited in the MHNGI collections, which confirms its native status (Germann 2010b). The specimen from “Bâle” belongs to a problematic collection that should not be taken into account. Developing on Ulmus minor mostly, but also in U. laevis and U. glabra, this species is rare in Switzerland, like most of other species developing on elm.

C35) Scolytus triarmatus (Eggers, 1912)

Published data. 1) ex., Bern, VI.1907, leg. Müller, coll. Hane, Bundesgymnasium Bludenz, Vorarlberg, Österreich (Brandstetter and Kapp 1998); 1) Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This species was announced as new for Switzerland by Brandstetter and Kapp (1998), on the basis of a single specimen labeled from Bern in 1907 by Müller A. J. and deposited in the collection of Hane K. in Austria. However, we were not able to examine this specimen and the information on the label is so incomplete that it is not possible to consider this species as native to Switzerland at this time. Scolytus triarmatus, a monophagous species developing on Ulmus glabra is present in central and east Europe and therefore has the potential to expand into Switzerland.

C36) Cyclorhipidion bodoanum (Reitter, 1913)

Examined material. 3 ex., Genève, Charrot, VI.– VII.1994, leg. Besuchet C., MHNG; 1 ex., Genève, Avully, VII.–VIII.1994, leg. Besuchet C., MHNG; 4 ex., Genève, Louvière, VII.–VIII.1994, leg. Besuchet C., MHNG; 3 ex., Vaud, Duillier, VII.–VIII.1994, leg. Besuchet C., MHNG; 3 ex., Bâle, B. de Versoix, II.–VII.1995, leg. Besuchet C., MHNG; 2 ex., Pura TI, 23.–30.IV.2013, 18.–25.VI.2013, Moretti M.; 112 ex., Rapperswil-Jona SG, 7.V.2015, 28.V.2015, 18.VI.2015, 7.VII.2015, 27.VII.2015, 20.VIII.2015, leg. Huber B., det. Büche B; 8 ex., Oberentfelden AG, 28.IV.–5.VIII.2015, leg. Moser S., det. Bense U.; 11 ex., Villigen AG, 28.IV.–5.VIII.2015, leg. Moser S., det. Bense U.; 34 ex., Wittnau AG, 28.IV.–19.VIII.2015, leg. Moser S., det. Bense U.; 1 ex., Balm bei Günsberg SO, 10.IV.–2.VIII.2018, leg. & coll. Chittaro Y.; 1 ex., Orvin BE, 18.VII.–14.VIII.2018, leg. Juillerat L., coll. Sanchez A.; 1 ex., Delémont JU, 21.VI.–11.VIII.2018, leg. Wermeille E., coll. Sanchez A.; 1 ex., St-Gingolph VS, 31.V.–14.VI.2019, leg. & coll. Chittaro Y.

Published data. “Schweiz, bei Genf [Genève], MHNG”, Pfeffer pers. comm. (under Xyleborus peregrinus Eggers 1944) (Köhler 1992), Switzerland (under Xy-leborus punctulatus Kurentzov) (Wittenberg 2006); Switzerland (Germann 2010a; Kirkendall and Faccoli 2010; Knížek 2011a; Alonso-Zarazaga et al. 2017).

Comment. This invasive species, native to South Asia and now present in North America and Europe (especially in Belgium, Germany, France, Italy and the Netherlands), is considered as established in Switzerland.
on the basis of some occurrences in the north and west of the country. It develops on different species of Fagaceae (Kirkendall and Faccoli 2010). The quick expansion of *C. bodoaum* in Europe allows for the possibility of a similar expansion for *Cyclorrhaphion fukiense* (Eggers, 1941), a species native to south-east Asia, which is already present only about 100 km from the Swiss border (Dodelin B. pers. comm.) and will likely spread to Switzerland as well.

**C37) Heteroborips cryptographus** (Ratzburg, 1837)  
Fig. IF

**Examined material.** 2 ex., Yvonand, 1944, V.1972, col. Sermet A., MZL; 162 ex., Genève, Chaney, 22.VI.1974, 2.VII.1974, 7.VII.1974, 27.VII.1974, VIII.1974, I.X.1974, I.1975, 13.VIII.1975, leg. Besuchet, coll. Bovey P., MHNG, MZL; 5 ex., Genève, B. de Jussy, 30.VI.1983, leg. Besuchet C., coll. Bovey P., MZL.

**Published data.** 1) Chiasso by Fontana P. (Fontana 1947); Chaney, 1974 by Besuchet C. (Bovey 1987); Switzerland (Germann 2010a; Knížek 2011a; Alonso-Zarazaga et al. 2017).

**Comment.** *Heteroborips cryptographus* is widely distributed in Europe but always rare. In Switzerland, the species was only found a few times in the 1970s and 1980s, always under bark or on branches of aspen (*Populus tremula*), which corresponds to the ecology of this species described in the literature (*P. tremula, P. nigra, P. alba*).

**C38) Xyleborinus attenuatus** (Blandford, 1894)

**Examined material.** 3 ex., Thurg., Kesswil, 27.VII.1986, leg. Besuchet C., MHNG; 1 ex., Frauenfeld, Ochsenfurt, 12.III.1989, leg. & coll. Brägger H.; 1 ex., Rickenbach/ SO, Hügert, 6.–13.III.1995, leg. WSL; 1 ex., Rickenbach/SO, Wissuhbelallmend, 6.–13.III.1995, leg. WSL; 33 ex., Lostorf, 6.–13.III.1995, 6.–13.IV.1995, 6.–13.IX.1995, 6.–13.X.1995, leg. WSL; 10 ex., Messen, 6.–13.III.2001, 6.–13.IV.2001, 6.–13.III.2004, leg. WSL; 7 ex., Sarnenstorf, 6.–13.III.2004, leg. WSL; 3 ex., Habsburg AG, 6.–13.III.2001, 6.–13.III.2004, leg. WSL; 1 ex., Breil/Brigels GR, 30.III.–18.IV.2015, leg. Chittaro Y., coll. Sanchez A.; 1 ex., Vergelletto TI, 7.IV.2014, leg. & coll. Chittaro Y.

**Published data.** 2) 1993 ex., Naturschutzgebiet Wildenstein (BL), 2000, leg. Walter T. (Walter et al. 2003); Switzerland (Wittenberg 2006; Germann 2010a; Kirkendall and Faccoli 2010; Knížek 2011a; Alon-so-Zarazaga et al. 2017).

**Comment.** This species native to eastern Asia and colonizing Europe is considered indigenous to Switzerland on the basis of only a few specimens. The specimens from Kesswil were captured on *Fagus sylvatica*, while the individuals from Olten were captured using traps. The records from Wildenstein published by Walter et al. (2003) were eventually shown to belong to *X. saxesenii*. This species was not mentioned by Bovey (1987).

**C39) Xyleborus eurygraphus** (Ratzburg, 1837)

**Examined material.** 6 ex., Irschel, [IX.1933], leg. Lautner J., det. Bovey P.; 1 ex., Crêt du Locle, 30.III.1946, leg. Anonymous, MHNG.

**Published data.** 6 ex., Zürich-Irschel, IX.1933, col. Lautner J., NMB (Bovey 1987); Switzerland (Germann 2010a, Knížek 2011a, Alonso-Zarazaga et al. 2017).

**Comment.** This species occurs from Spain to the Caucasus and North Africa but is always rare in Central Europe (more common in southeastern Europe) (Schedl 1966). *Xyleborus eurygraphus*, which develops on different species of pine (*Pinus* spp.), is considered native to Switzerland on the basis of some specimens captured in the north of the country in the 1930s and 1940s. It has therefore not been found for more than 70 years in Switzerland. The specimens from Irschel, supposedly deposited in the NMB, were not found in these collections.

**C40) Xyleborus pfeilii** (Ratzburg, 1837)

**Examined material.** 1 ex., Roulave, VIII.1991, leg. Besuchet C., MHNG.

**Published data.** 1) Unterwalden (Stierlin 1898); 2) Switzerland (Bovey 1987; Germann 2010a; Kirkendall and Faccoli 2010; Knížek 2011a; Alonso-Zarazaga et al. 2017).

**Comment.** *Xyleborus pfeilii* is an exotic species from east Asia, now also distributed in Eastern Europe. Always rare, this species was only found once in Switzerland. It was, rather surprisingly, discovered in a beer trap placed in an oak tree (*Quercus* spp.), although the species is known to breed on alder (*Alnus spp.*, *A. glutinosa* and aspen (*Populus tremula*). Since 1991, it has not been found in Switzerland.

**C41) Xylosandrus crassiusculus** (Motschulsky, 1866)

**Examined material.** 1 ex., Pura TI, 16.–23.IV.2013, leg. WSL; 1 ex., Caslano TI, 12.VI.2019, leg. WSL, col. A. Sanchez.

**Comment.** This species, originally distributed in Asia, was introduced many times in the world and was first discovered in Europe in Italy in 2003 (Penacchio et al. 2003) and later in France in 2014 (source OEPP, Organisation européenne et méditerranéenne pour la protection des plantes). *Xylosandrus crassiusculus* is a polyphagous species developing in many deciduous tree species. Even if it is considered as pest species that could cause serious damages in broadleaved forests (particularly in chestnut trees), only two specimens were found in Switzerland since the first occurrence in 2013.

**C42) Trypodendron laeve** Eggers, 1939

**Examined material.** 7 ex., Grisons, Zernez, Ova Spin, 4.VIII.1974, leg. Besuchet C., MHNG.

**Published data.** 7 ex., Zernez, Ova Spini GR, 4.VIII.1974, 1900 m ü. NN, leg. Besuchet C., MHNG (Germann 2010b); Switzerland (Knížek 2011a; Alon-so-Zarazaga et al. 2017).
**Comment.** Native to southern China, Japan and Korea (Lukášová et al. 2012), *T. laeve*, which develops on different species of pine, is now also distributed in eastern, central and northern Europe. The status of this species is still unclear in Europe, with some authors considering it indigenous while others consider it an alien (Kirkendall and Faccoli 2010; Lukášová et al. 2012). In Switzerland, only seven individuals were caught on a pine trunk (*Pinus mugo*) in eastern Graubünden in the 1970s and it has not been found since then. Surprisingly, the specimens were captured in August, which does not correspond with the early phenology reported in the literature (Lukášová and Holuša 2014; Olenici et al. 2018). Even if it is here assumed that *T. laeve* is established in Switzerland, additional catches, with pheromone traps baited for *T. lineatum*, would be welcome to confirm this assumption. *Trypodendron laeve* flies slightly earlier in the summer than *T. lineatum* but can also be found in late summer (second generation).

**Discussion**

This commented list on the Swiss Scolytinae and Platypodinae is in keeping with other syntheses on various beetle families published in the past years (Marggi and Luka 2001; Carron 2005; Carron 2008; Luka et al. 2009; Germann 2010a; Chittaro and Blanc 2012; Reibnitz et al. 2013; Monnerat et al. 2015b; Breitenmoser et al. 2016; Chittaro and Sanchez 2016, 2019a, b; Cosandey et al. 2013; Monnerat et al. 2015a; Breitenmoser et al. 2016; Chittaro and Sanchez 2016, 2019a, b; Cosandey et al. 2017; Sanchez and Chittaro 2018). It thus contributes to improve the overall understanding of Swiss fauna. Thanks to the distribution maps based on the collected data (available on the info fauna – CSCF cartographic server, www.cscf.ch), this work provides a thorough faunistic overview on the current understanding of the species of Scolytinae and Platypodinae.

Scolytinae are represented by 112 species in Switzerland, while Platypodinae are represented by only one species. Compared to the previous national lists (Bovey 1987; Germann 2010a), several species have been removed while others are added to the list of native species. Certain species (e.g. *Orthotomicus erosus*, *Phloeostirubes cristatus*) removed from the lists belong to problematic collections for which we now have enough elements to not consider them (Monnerat et al. 2015a) as belonging the Swiss fauna. Other species (e.g. *Coccotrypes dactyliperda*, *Pagiocterus frontalis*) are not retained for Switzerland because their presence result of accidental importations without proof of permanent establishment of the species, a common phenomenon in the subfamily Scolytinae. Concerning the additional species (e.g. *Pityophthorus buyssoni buyssoni*, *Taphrocterus sicalus*), most of them were collected before the publications of Bovey (1987) and Germann (2010a) but were not mentioned. The Scolytinae are represented by a very large number of specimens in the museum collections and it is therefore not surprising that some rare and cryptic species have gone unnoticed. Other species (*Ips duplicatus*, *Xylolosdrus crassiusculus*) were not present in Switzerland when these papers were published.

Members of the subfamily Scolytinae are known to be very effective at colonizing new areas and many can be invasive species (alien species) in Europe (Kirkendall and Faccoli 2010). Some have already settled in central Europe and now form populations in natural environments (e.g. *Cyclorhipidion bodoanum*, *Dryocoetes himalayensis*, *Xyleborinus attenuatus*, *Ips duplicatus*), while others are at the gateway to Switzerland and will very likely settle here in the next few years. *Xylotherinus politus* (Say, 1826), a North American species that develops in various broadleaved trees, is already established in France and Germany (Dodelin and Saurat 2017; Gebhardt and Doerfler 2018). *Cyclorhipidion fukiense*, a south-east Asian species also present in North America (Hoebke et al. 2018), is already established in France. Many specimens have indeed been caught close to the Swiss border near Geneva in the west of the country (Savoie and Isère, Dodelin 2018). *Ambrosiophilus atratus* (Eichhoff, 1875), an Asian invasive species extremely polyphagous, is present in Italy since 2007 (Faccoli 2008) and in France since 2018 (Dodelin B. pers. comm.). It is expected to be already also present in Switzerland. Because Scolytinae can cause significant damage to forests, specific research should be conducted throughout the country, and more specifically along border areas, to rapidly identify species that may settle in Switzerland. Pheromone traps could be useful in discovering these new species.

Some native bark beetle species may be inconspicuous and thus difficult to detect. *Scolytus koenigi* (Schevyrew, 1890), a very rare species that grows exclusively on small branches of maple trees (*Acer* spp.), may in fact be present in Switzerland. More widely distributed in the Mediterranean region, it is also present in Central Europe in the most thermophilic regions. In neighboring countries, it has been confirmed from France, Italy and Austria (Dodelin 2009; Sarikaya and Knížek 2013).

**Acknowledgments**

We are thankful to all the Swiss museum curators, who welcome us so often and so kindly within their institutions over the past few years as well as all the active coleopterists who enriched by their knowledge the understanding of the distribution of these species in Switzerland.

Special thanks to Boris Büche (Berlin, Germany), Benoît Dodelin (Lyon, France), Beat Forster (WSL, Switzerland), Barbara Huber (Thuisis, Switzerland), Martin Obrits (WSL, Switzerland), Fabien Soldati (Quillan, France), Beat Wermelinger (WSL, Switzerland), for their helpful advice on the mentioned species, and/or for the sharing of their observations and bibliographic references. Finally, we are grateful to Jessica Litman (MHN) for her meaningful comments on the manuscript and Michel Sartori (MZL) for providing us with the photographic equipment.

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Milos Knížek’s part was supported by the Ministry of Agriculture of the Czech Republic, institutional support MZE-RO0118.

References

Alonso-Zarazaga MA, Barrios H, Borovec R, Bouchard P, Caldara R, Colonnelli E, Gülténk I, Hlaváč P, Korotayev B, Lyal CH, Machado A, Meregalli M, Pierotti H, Ren L, Sánchez-Ruiz M, Sforzi A, Silveřberg H, Skuhrovce J, Trýza M, Veláquez de Castro AJ, Yunakov NN (2017) Cooperative Catalogue of Palaeartic Coleopter Curculionoidea. Monografias electrónicas de la Sociedad Entomológica Aragonesa 8: 1–729.

Baluchoysky A (1949) Coléoptères Scolytides. Faune de France 50. Librairie de la Faculté des Sciences, Paris, 320 pp.

Bovey P (1976) Sur une capture intéressante de *Pityophthorus carniolicus* Wichmann (Col. Scolytidae). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 49: 73–76.

Bovey P (1987) Coleoptera Scolytidae, Platypodidae. Insecta Helvetica, Catalogus. Fotorat, Zürich, 96 pp.

Brandstetter CM, Kapp A (1998) *Bovey* P (1987) *Coleoptera* *Scolytidae*, *Platypodidae*. In *Insecta Helvetica, Catalogus*. Fotorat, Zürich, 96 pp.

Breitenmoser S, Chittaro Y, Sanchez A (2016) Liste commentée des Oedemeridae (Coleoptera) de Suisse. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 89: 73–92.

Carron G (2005) Commentierte Checkliste der Dytiscidae und Noteridae (Coleoptera) der Schweiz. Mitteilungen der Schweizerischen Entomologischen Gesellschaft Basel 55(3): 93–114.

Carron G (2008) Checklist des coléoptères aquatiques de Suisse. Deuxième partie: Gyrinidae, Haliplidae, Paelobiidae, Sphaeriusidae. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 81: 53–60.

Chittaro Y, Blanc M (2012) Liste commentée des Cerophytiidae, Elateridae, Eucnemidae et Thresciidae (Coleoptera) de Suisse. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 85: 91–114.

Chittaro Y, Sanchez A (2016) Liste commentée des Tenebrionoidea (Coleoptera) de Suisse. Partie 1: Aderidae, Anthicidae, (Boridae), Melandryidae, Meloidae, Mycotepohagidae, Mycteridae, Prostomidae, Pyrochroidae, Pythidae, Ripiphoridae, Salpingidae, Tenebrionidae, Tetratomidae, Zopheridae. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 89: 183–235.

Chittaro Y, Sanchez A (2019a) Liste commentée des Cleroidea (Coleoptera) de Suisse. Alpine Entomology 3: 141–167. https://doi.org/10.3897/alpento.3.35994

Chittaro Y, Sanchez A (2019b) Liste commentée des Bostrichoidea et Derodontoidae de Suisse (Coleoptera: Bostrichiformia, Derodontiformia). Alpine Entomology 3: 175–205. https://doi.org/10.3897/alpento.3.38582

Cosandey V, Chittaro Y, Sanchez A (2017) Liste commentée des Scarabaeoidea (Coleoptera) de Suisse. Alpine Entomology 1: 57–90. https://doi.org/10.3897/alpento.1.21179

Clare GK, George EM (2016) Life cycle and mass-rearing of *Hylurgus ligniperda* using a novel egg-collection method. New Zealand Plant Protection 69: 143–152. https://doi.org/10.30843/nzpp.2016.69.5895

Dodelin B (2009) Nouvelles stations françaises de *Scolytus koenigi* Schewyrew, 1890 (Coleoptera Curculionidae Scolytinae). Bulletin Mensuel de la Société Linnéenne de Lyon 78: 87–92. https://doi.org/10.3406/linyin.2009.13718

Dodelin B (2014) Inventaire des coléoptères saproxyliques dans trois forêts du Morvan. Bulletin Mensuel de la Société Linnéenne de Lyon 83: 219–234. https://doi.org/10.3406/linyin.2014.13917

Dodelin B (2018) *Cyclophidion fukiense* installé en Europe. Entomodata. https://entomodata.wordpress.com/2018/04/24/cyclophidion-fukiense-installe-en-europe/

Dodelin B, Saurat R (2017) *Xylotherinus politus* a traverse l’Atlantique. Entomodata. https://entomodata.wordpress.com/2017/07/08/xylotherinus-politus-a-traverse-latlantique/

Faccioli M (2008) First record of *Xylotherus atratus* Eichhoff from Europe, with an illustrated key to the European Xylotherini (Coleoptera: Curculionidae: Scolytinae). Zootaxa 1772: 55–62. https://doi.org/10.11646/zootaxa.1772.1.2

Faccioli M, Battisti A (2011) On the occurrence of *Pityophthorus carneolicus* Wichmann (Coleoptera, Scolytidae) in Italy. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 74: 7–11.

Favre E (1890) Faune des Coléoptères du Valais et des régions limitrophes. Zürcher, Furrer, 448 pp.

Feit J, Kašák J, Májek T, Knížek M, Hoch G, Steyder G (2017) First observations on the breeding ecology of invasive *Dryocoetes himalayensis* Strohmeyer, 1908 (Coleoptera: Curculionidae: Scolytinae) in its introduced range in Europe. Journal of Forest Science 63(6): 290–292. https://doi.org/10.17221/3/2017-JFS

Fontana P (1947) Contribuzione alla fauna coleotterologica ticheun. Bollettino della Società Ticheun di Scienza Naturali 42: 16–94.

Gatti E (2011) I Coleotteri Scolitidi e Platipodidi della Sardegna (Coleoptera: Scolytidae, Platypodidae). Conservazione Habitat Invertebrati 5: 609–639.

Gebhardt H, Bense U (2016) Erstfund von *Dryocoetes himalayensis* Strohmeyer (Coleoptera, Curculionidae, Scolytinae) in Deutschland. Mitteilungen des Entomologischen Vereins Stuttgart 51: 69–73.

Gebhardt H, Doerfler I (2018). Erster Nachweis von *Xylotherinus politus* (Say 1826) (Coleoptera, Curculionidae, Scolytinae) in Deutschland. Mitteilungen des Entomologischen Vereins Stuttgart 53: 47–49.

Germann C (2014) Dritter Beitrag zur Rüsselkäfer-Fauna der Schweiz (Coleoptera, Curculionoidae). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 59: 13–29.

Germann C (2010a) Die Rüsselkäfer (Coleoptera, Curculionoidae) der Schweiz – Checkliste mit Verbreitungsangaben nach biogeografischen Regionen. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 83: 41–118.

Germann C (2010b) Vierter Beitrag zur Rüsselkäfer-Fauna der Schweiz: mit Meldungen von 20 Arten (Coleoptera, Curculionoidae). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 83: 17–35.

Gonseth Y, Wohlgemuth T, Sansonnens B, Buttler A (2001) Les régions biogéographiques de la Suisse – Explications et division standard. Cahier de l’environnement n° 137. Office fédéral de l’environnement, des forêts et du paysage, Berne, 48 pp.

Guillebeau F (1893) Révision des espèces du genre *Philoeothrus* Woll. et description d’un nouveau genre de Scolytidae. Annaireas de la Société entomologique de France 57: 57–64.

Handschin E (1963) Die Coleopteren des schweizerischen Nationalparks und seiner Umgebung. Ergebnisse der wissenschaftlichen Untersuchungen im schweizerischen Nationalpark. Band VIII. Lütin, Liestal, 302 pp.

https://entomodata.wordpress.com/2018/04/24/cyclophidion-fukiense-installe-en-europe/

https://doi.org/10.3406/linyin.2009.13718

https://doi.org/10.3406/linyin.2014.13917

https://entomodata.wordpress.com/2018/04/24/cyclophidion-fukiense-installe-en-europe/

https://doi.org/10.17221/3/2017-JFS

https://doi.org/10.11646/zootaxa.1772.1.2

https://doi.org/10.17221/3/2017-JFS

https://doi.org/10.17221/3/2017-JFS

https://doi.org/10.17221/3/2017-JFS

https://doi.org/10.17221/3/2017-JFS
Hirschheydt J (1992) Der Amerikanische Nutzholzborkenkäfer *Gnathotrichus materiarius* (Fitch) hat die Schweiz erreicht. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 65: 33–37. 
Hoebeke ER, Rabaglia RJ, Knížek M, Weaver JS (2018) First records of *Clytopyrum juxtiensi* (Eggers) (Coleoptera: Curculionidae: Scolytinae: Xyleborini), an ambrosia beetle native to Asia, in North America. Zootaxa 4394(2): 243–250. https://doi.org/10.11646/zootaxa.4394.2.7
Hugentobler H (1966) Beitrag zur Kenntnis der Käfer der Nordostschweiz. Naturwissenschaftliche Gesellschaft St. Gallen, 248 pp. 
Jordal BH, Knížek M (2007) Resurrection of Cryptogyps subcribrosus Eggers 1933 stat. n., and its close phylogenetic relationship to Neartic Cryptogyps (Coleoptera, Scolytinae). Zootaxa 1606: 41–50. https://doi.org/10.11646/zootaxa.1606.1.3
Juillerat P, Bäumler B, Gyga A, Jutzi M, Möhl A, Nyffeler R, Sager L, Santiago H, Eggenberg S (2017) Checklist 2017 der Gefäßpflanzenflora der Schweiz / de la flore vasculaire de la Suisse / della flora vascolare della Svizzera. Info Flora, 380 pp. https://doi.org/10.5167/uzh-165877
Kirkendall L, Faccoli M (2010) Bark beetles and pinhole borers (*Curculionidae, Scolytinae, Platypodinae*) alien to Europe. ZooKeys 56: 227–251. https://doi.org/10.3897/zookeys.56.529
Knížek M (2011a) Scolytinae (86–88). In: Lobl I, Smetana A (Eds) (2011) Catalogue of Palaearctic Coleoptera Vol. 7. Curculionoidea. Curculionidae I. Apollo Books, Stenstrup, 373 pp.
Knížek M (2011b) Faunistic records from the Czech Republic. Klapa lekiana 47: 1–12.
Köhler F (1992) Anmerkungen zur Käferfauna der Rheinprovinz VI. Bemerkenswerte Neu- und Wiederfunde (Ins., Col.). Mitteilungen der Arbeitsgemeinschaft Rheinischer Koleopterologen 2(4): 123–130.
Lobante JR, Takahashi CY (2012) *Dactylotrypes longicollis* (Wollaston) (Coleoptera: Curculionidae: Scolytinae): an exotic bark beetle new to California and North America. The Pan-Pacific Entomologist 88(2): 222–230. https://doi.org/10.3956/2012-18.1
Linder A (1953) 3. Beitrag zur Coleopteren-Fauna der Schweiz. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 26(1): 63–71.
Linder A (1968) 4. Beitrag zur Coleopteren-Fauna der Schweiz. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 41: 211–232.
Luka H, Nagel P, Feldmann B, Luka A, Gosneth Y (2009) Checkliste der Kurzflügelläfer der Schweiz (Coleoptera: Staphylinidae ohne Pselaphinae). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 88: 173–228.
Meier F, Engesser R, Forster B, Jansen E, Odermatt O (1995) Forstschutz-Überblick 1994. PBMD-Bulletin, WSL Birmensdorf, 27 pp. https://doi.org/10.17221/60/2014-JFS
Monnerat C, Chittaro Y, Sanchez A, Gosneth Y (2015a) Critères et procédure d’élaboration de listes taxonomiques nationales: le cas des Buprestidae, Cerambycidae, Lucanidae et Cetoniidae (Coleoptera) de Suisse. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 88: 155–172.
Monnerat C, Chittaro Y, Sanchez A, Gosneth Y (2015b) Liste commentée de Lucanidae, Cetoniidae, Buprestidae et Cerambycidae (Coleoptera) de Suisse. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 88: 173–228.

Olenici N, Duduman ML, Isaia G, Knížek M, Vassian I (2018) Widespread Distribution of *Trypodendron laeve* in the Carpathian Mountains (Romania). Forests 9(6): 1–286. https://doi.org/10.3390/f9060286
Penacchio F, Roverisi PF, Francardi V, Gatti E (2003) *Xylosandrus crassiusculus* (Motschulsky) a bark beetle new to Europe (Coleoptera Scolytidae). Redia 86: 77–80.
Pfeffer A (1995) Zentral- und Westpalärtische Borken- und Kernkäfer (Coleoptera, Scolytidae, Platypodidae). Entomologica Basilien 17: 5–310.
Prudhomme JC (2016) Une étude locale de la biodiversité: inventaire des coléoptères du domaine de la fondation Pierre Vérots à Saint-Jean-de-Thurignex (Ain, France). 3. Les coléoptères saproxylophes. Bulletin Mensuel de la Société Linnéenne de Lyon 85: 23–58.

Reibnitz J, Graf R, Coray A (2013) Verzeichnis der Ciidae (Coleoptera) der Schweiz mit Angaben zur Nomenklatur und Ökologie. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 86: 63–88.
Rosset FC (1879) Contributions à la faune entomologique du Valais. I. Insectes rares capturés sur le Simpilon. Bulletin de la Musirhienne 9: 36–38.
Sanchez A, Chittaro Y (2018) Liste commentée des Histeridae et Sphaeretiidae de Suisse (Coleoptera, Histeroidea). Entomologische Blätter und Coleoptera 114: 335–352.
Sarikaya O, Knížek M (2013) *Scolythus koenigi* Schevyrev, 1890: A new record for Turkish Scolytinae (Coleoptera: Curculionidae) fauna. Journal of the Entomological Research Society 15: 95–99.
Schewi W (1966) Zur Verbreitung und Autökologie von *Xyleborus erythropus* Ratz. (Coleoptera, Scolytidae). Berichte des Naturwissenschaftlichen-Medizinischen Verein Innsbruck 54: 61–74.
Schott C, Callot HJ (1994) Trois coléoptères scolytides nouveaux pour la faune de France observés en Alsace (*Xyleborus peregrinus* Eichhoff, *Lymantor aceris*, *T. laeve*) et leurs relations systématiques. Bulletin de la Société entomologique de Mulhouse, juillet-septembre 1994: 67–70.
Schott C (2016) Catalogue et Atlas des Coleoptères d’Alsace. Supplément au Tome 6 Scolytidae. http://claude.schott.free.fr/MAJ_scolytids.html
Steyer G (2018) Wie weit verbreitet ist der Nordische Fichtenborkenkäfer (*Trypodendron laeve*) in Österreich? Forstschutz Aktuell (BFW) 65.
Sterilin G (1898) Fauna coleopterorum helvetica. Die Käfer-Fauna der Schweiz nach der analytischen Methode. II. Theil. Bolli & Böcherer, Schaffhausen, 662 pp.
Supplementary material 1

File S1.

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Data type: reference data

Explanation note: Publications for which data have been fully collected, but which are not explicitly quoted in the text.

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Link: https://doi.org/10.3897/alpento.4.50440.suppl1