

**Trogossitidae, Lophocateridae, Peltidae and Thymalidae (Coleoptera: Cleroidea) of Poland: distribution, biology and conservation**

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**ABSTRACT.** Distributional data for 10 species of Peltidae, Lophocateridae, Trogossitidae and Thymalidae recorded from Poland are summarised, and numerous unpublished records are reported. Data on feeding and habitat preferences are analysed. *Calitys scabra* and *Temnoscheila caerulea* are probably extinct in Poland. *Grynocharis oblonga*, *Nemozoma elongatum* and *Tenebroides mauritanicus* are relatively common in Poland. *Nemozoma caucasicum* is currently spreading within Europe and several new records in Poland are reported. *Peltis ferruginea*, *P. grossa*, and *Thymalus limbatus* are restricted to natural forests in Poland, where they are sometimes abundant. We suggest adding *Peltis ferruginea* and *Thymalus limbatus* to the Polish Red List of Animals. The opinion that *Grynocharis oblonga* and *Tenebroides mauritanicus* are relicts of natural forests does not seem justified.

**KEY WORDS:** Bark-gnawing beetles, saproxylic species, faunistics, new records, distribution maps.

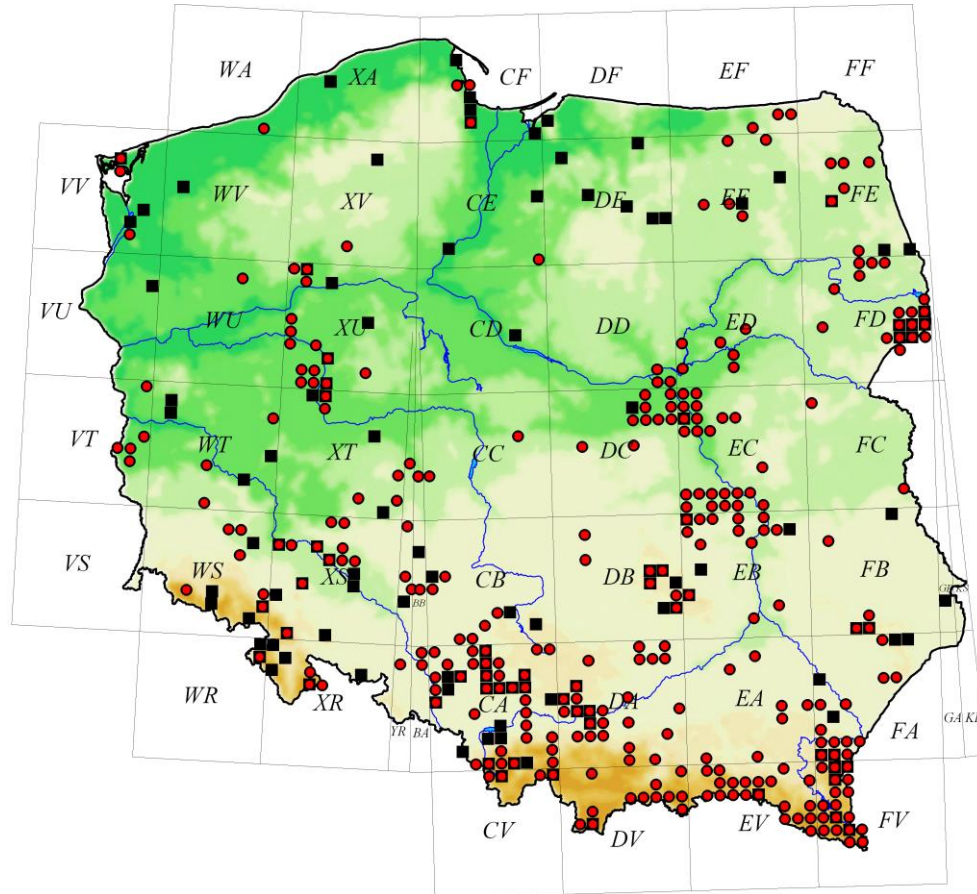
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## INTRODUCTION

Trogossitidae and related families of beetles belong to the most unstable and problematic family-level taxa within the superfamily Cleroidea. A recent study based on molecular data (GIMMEL et al. 2019) showed that Trogossitidae (sensu: BOUCHARD et al. 2011) should be divided into several families, including Trogossitidae, Lophocateridae, Peltidae and Thymalidae. Most of the species recorded in Poland are easily identifiable, but despite this, our knowledge of their distribution, biology and habitat preferences is still limited. Historical data on the species recorded in Poland are summarised in BOROWIEC (1983) and BURAKOWSKI et al. (1986). A key to the identification of species known from central Europe was published by KOLIBÁČ (1993) and again by KOLIBÁČ et al. (2005).

The present paper deals with 10 species and 8 genera that have hitherto been recorded in Poland. Only some species are commonly recorded. Several of the rare species occur in natural forests, where they are associated with large-sized deadwood and wood-inhabiting fungi. Two species – *Calitys scabra* (THUNBERG, 1784) and *Temnoscheila caerulea* (OLIVIER, 1790) – have not been observed in Poland for over 100 years. *Lophocateres pusillus* (KLUG, 1833) is known from a single, accidental introduction to Poland.

In this paper, we have gathered unpublished data on ca. 3500 specimens collected in over 200 UTM squares (10 x 10 km) from institutional and private collections (Fig. 1). We have summarised data on the occurrence and habitat preferences in Poland of each species.



**Fig. 1.** Published records of Trogossitidae, Lophocateridae, Peltidae, and Thymalidae in Poland (black squares) and findings reported in the present paper (red circles).

## MATERIALS AND METHODS

In the review of species, the division of Poland into regions is adopted after BURAKOWSKI et al. (1973). Records within a region are ordered alphabetically, and a 10 x 10 km UTM square is given for each record. Distribution maps were created with Gnomon 3.2 software. When only an approximate locality is known, e.g. the localities denoted as “Przemysł vic.” in the collection of T. TRELLA, the UTM square is marked with an asterisk (\*).

Published records presented on the maps (Fig. 1–2, 4, 7–11, 13) are based on the following papers: RENDSCHMIDT (1841), KELCH (1846), ZEBE (1852), ROGER (1856), ROTTENBERG (1864, 1868), JABŁOŃSKI (1869), REITTER (1870), WACHTL (1870), LETZNER (1871), VIERTL (1872), KOTULA (1873), NOWICKI (1873), LENTZ (1879), FEIN & HAASE (1881), STOBIECKI (1883), ŁOMNICKI (1886), LETZNER (1888), SCHUMANN (1904), ALBIEN (1905), LGOCKI (1908), GERHARDT (1910), RIEHN (1912), TENENBAUM (1913), WANKA (1915), DORN (1919), SZULCZEWSKI (1922), NOWOTNY & POLENTZ (1933), RUSZKOWSKI (1933), SCHMIDT (1935), KUNTZE (1936), SCHMIDT (1938), STEFEK (1939), KLEINE (1940), POLENTZ (1942), SKURATOWICZ & URBAŃSKI (1953), JANICKI et al. (1959), HORION (1960), PAWŁOWSKI (1967, 1968), SENICZAK (1968), CAPECKI (1969), GIDASZEWSKI (1974), BAŁAZY & MICHALSKI (1977), BERCIO & FOLWACZNY (1979), PRĄDZYŃSKA (1988), KUBISZ & SZWAŁKO (1991), PAWŁOWSKI et al. (1994), GRZYWOCZ & SZOLTYS (1996), MAZUR et al. (1996), BURAKOWSKI (1997), KONWERSKI (1997), SZAFRANIEC (1997), SZAFRANIEC & SZOLTYS (1997), SZAFRANIEC et al. (1999), BOROWSKI (2001), BYK (2001), MOKRZYCKI (2001, 2002), RUTKIEWICZ (2001), RUTA & MELKE (2002), MELKE & GRZYWOCZ (2003), BYK & BYK (2004), BYK et al. (2006), GUTOWSKI et al. (2006), HILSZCZAŃSKI (2006), TYKARSKI (2006), BOROWIEC (2007), BYK (2007), RUTA (2007), MIŁKOWSKI & WOJAS (2008), MOKRZYCKI et al. (2008), BUCHHOLZ & BIDAS (2012), PLEWA et al. (2014), OLBRYCHT et al. (2015), PAPIS & MOKRZYCKI (2015), HOLLY (2016), RUTA et al. (2016), MIŁKOWSKI (2017), BUCHHOLZ & MELKE (2018), TATUR-DYTKOWSKI (2018).

**Collectors:** AB – Antoni BARTOSZYŃSKI; ABO – Adam BOHDAN; AEBG – Andrzej GRUSZKA, Ewa GRUSZKA and Barbara GRUSZKA; AJ – Andrzej JANKOWICZ; AK – Adam KISIEL; AL – Andrzej LASOŃ; ALU – Albert LÜLLWITZ; AM – Andrzej MELKE; AMA – A. MACIEJEWSKI; AR – Adolf RIEDEL; AS – Andrzej SZEPTYCKI; BB – Bolesław BURAKOWSKI; BG – Barbara GRUSZKA; BK – Bolesław KOTULA; BP – Bohdan PISARSKI; DI – Dariusz IWAN; DK – Daniel KUBISZ; EB – Edward BARANIAK; EG – Ewa GRUSZKA; EK – Eugeniusz KIERYCH; EM – Edward MAZUR; EW – Eustachy WRÓBLEWSKI; FF – Franciszek FEJFER; FK – Franz KIRSCH; GP – Georg POLENTZ; HN – Hans NOWOTNY; HS – Henryk SZOLTYS; JG – Janusz GRZYWOCZ; JKM – Jan Kajetan MŁYNARSKI; JŁ – Jerzy ŁUGOWOJ; JM – Jacek MAROŃ; JMA – Józef MAKÓLSKI; JMG – Jerzy M. GUTOWSKI; JP – Jerzy PAWŁOWSKI; JPA – J. PAJĄK; JPO – J. PODOSKI; JR – Jerzy RAZOWSKI; JS – Jan SIEKIERSKI; JTD – Jan TATUR-DYTKOWSKI; KB – K. BIELEWICZ; KK – Kurt KUNTZE; KL – Krzysztof LUBECKI; KLE – Karl LETZNER; KP – K. PTAK; KS – Karol STEFEK; KSU – Krzysztof SUĆKO; KT – K. TERLECKI; KZ – Katarzyna ŻUK; LB – Lech BOROWIEC; LBU – Lech BUCHHOLZ; MB – Marek BARTOSIK; MBM – Maciej MROCZKOWSKI; MKS – Monika KUCHARSKA-ŚWIERSZCZ; MB – Mariusz BOĆKOWSKI; MM – Marek MIŁKOWSKI; MR – Michał RYBIŃSKI; MW – Marek WANAT; PCH – Piotr CHACHUŁA; PF – P. FRANK; PH – P.

HEYMES; PJ – Paweł JAŁOSZYŃSKI; PK – Piotr KOŚCIÓLEK, PT – Przemysław TROJAN; RB – Ryszard BIELAWSKI; RBO – R. BOREK; RD – Roland DOBOSZ; RK – Roman KRÓLIK; RP – Radosław PLEWA; RR – Rafał RUTA; RS – Richard SCHOLZ; SA – Stanisław ADAMCZEWSKI; SAS – Stefan A. STOBIECKI; SK – Szymon KONWERSKI; SKA – Stanisław KADYI; SN – Szymon NOWAKOWSKI; SP – Stanisław POPEK; SSZ – Stanisław SZAFRANIEC; ST – Szymon TENENBAUM; STO – Sergiusz TOLL; TB – Tadeusz BZIUK; TH – Tomasz HUFLEJT; TK – Tomasz KOŚCIELNY; TM – Tomasz MAJEWSKI; TN – Tomasz NABIAŁKOWSKI; TO – Tomasz OLBRYCHT; TT – Tadeusz TRELLA; WB – W. BEDNAREK; WD – Władysław DOLIŃSKI; WE – Witold EICHLER; WK – Wilhelm KOLBE; WKU – Wojciech KUBASIK; WM – Wojciech MAĆZYŃSKI; ZS – Zygmunt ŚLIWIŃSKI; ZSC – Zbigniew SCHNAIDER; ZSP – Zygmunt SIERPIŃSKI; ZW – Z. WIERZBICKI.

**Depositories (if different from the finder's collection):** [AL] – coll. A. LASOŃ, Białystok; [AM] – coll. A. MELKE, Kalisz; [HS] – coll. H. SZOŁTYS, Brynek; [ISEA] – Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Kraków; [JG] – coll. J. GRZYWOCZ, Ruda Śląska; [JMG] – coll. J.M. GUTOWSKI, Białowieża; [KR] – coll. K. RUDZIŃSKI, Złocieniec; [MIZ] – Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw; [MM] – coll. M. MILKOWSKI, Radom; [MNHW] – Museum of Natural History, Wrocław University, Wrocław; [PJ] – coll. P. JAŁOSZYŃSKI, Poznań; [PNPM] – collection of the Pieniny National Park museum; [RK] – coll. R. KRÓLIK, Kluczbork; [RP] – coll. R. PLEWA, Sękocin Stary, [RR] – coll. R. RUTA, Wrocław; [SDEI] – Senckenberg Deutsches Entomologische Institut; [SK] – coll. Sz. KONWERSKI, Poznań; [TO] – T. OLBRYCHT, Rzeszów; [USMB] – Upper Silesian Museum, Bytom.

The original spelling of localities is given in square brackets.

**Abbreviations used in the text:** ad – near, coll. – collection; comp. – forest compartment (“oddział leśny”); cult. – reared; ex. (exx.) – specimen (specimens); det. – identified (by); for. distr. – forest district (“nadleśnictwo”); for. div. – forest division (“leśnictwo”); Is. – island; leg. – collected (by); LP – Landscape Park; Mt. (Mts.) – mountain (mountains); NP – National Park; obs. – observation; res. – nature reserve; SAC – Natura 2000, Special Area of Conservation; vic. – vicinity.

## SPECIES OVERVIEW

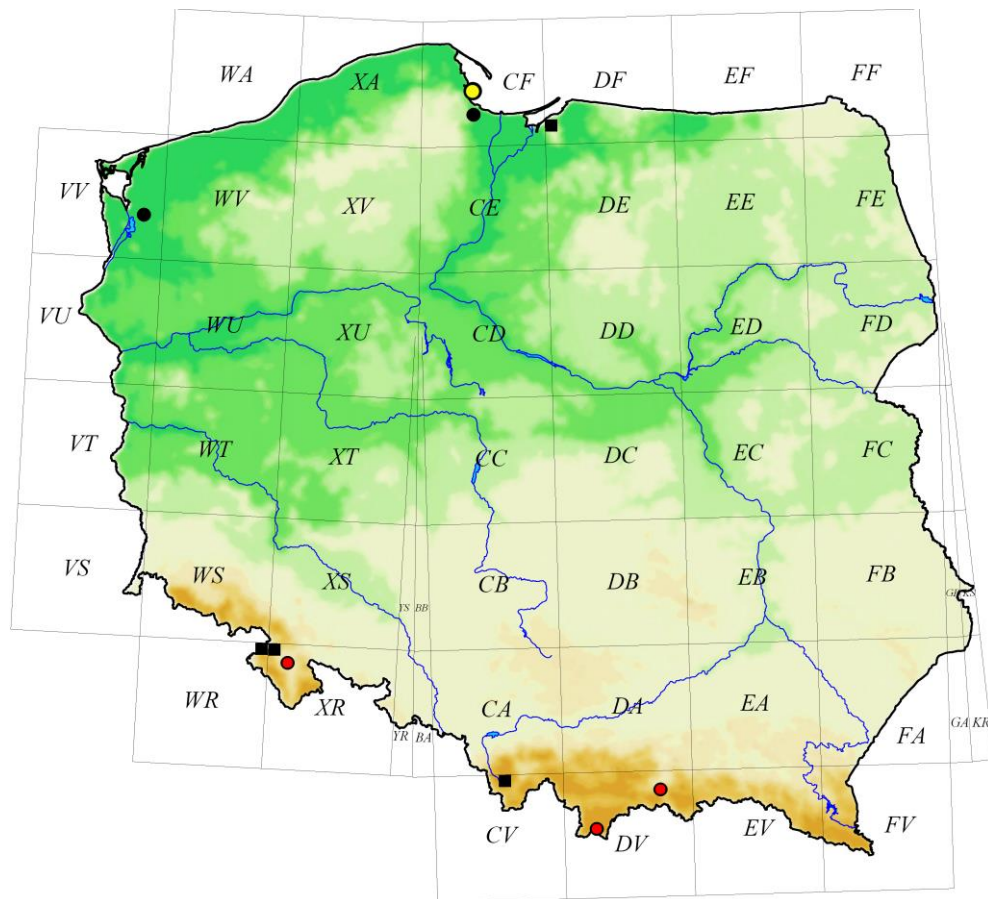
### Family: Trogossitidae

*Calitys scabra* (THUNBERG, 1784)

**Material examined. Eastern Sudeten Mts.:** Kłodzko (Glatz) (XR18), collecting date unknown – 1 ex., leg. KLE [SDEI]. **Western Beskid Mts.:** Rostoka Wielka (DV78), Radziejowa Mt., 16 VII 1898 – 1 ex., leg. SAS (published as “vicinity of Rytro” in ROSSA

2004). **Tatra Mts.:** Kuźnice (DV25), 2 VII, year unknown (end of 19<sup>th</sup> century) – 2 exx., leg. MR [ISEA]; “Tatry”, without precise locality, mid-19<sup>th</sup> century – 2 exx., leg. EW [ISEA].

**Distribution.** A widely distributed species, extending from western Europe and north Africa to the Russian Far East and North America. A boreal-montane species in Europe, nowadays extinct in many localities. In Poland known from 19<sup>th</sup> century findings but never found since (Fig. 2, 3). The species has not been recorded from the Tatra Mts. before. Regarding its occurrence in the Czech eastern Sudeten Mts. (MERTLIK 2011), further searches are necessary, as a rediscovery of the species is still possible.



**Fig. 2.** *Calitys scabra* (published records – black squares, old records reported in the present paper – red circles), *Temnoscheila caerulea* (published records – black circles) and *Lophocateres pusillus* (yellow circle) – distribution in Poland.



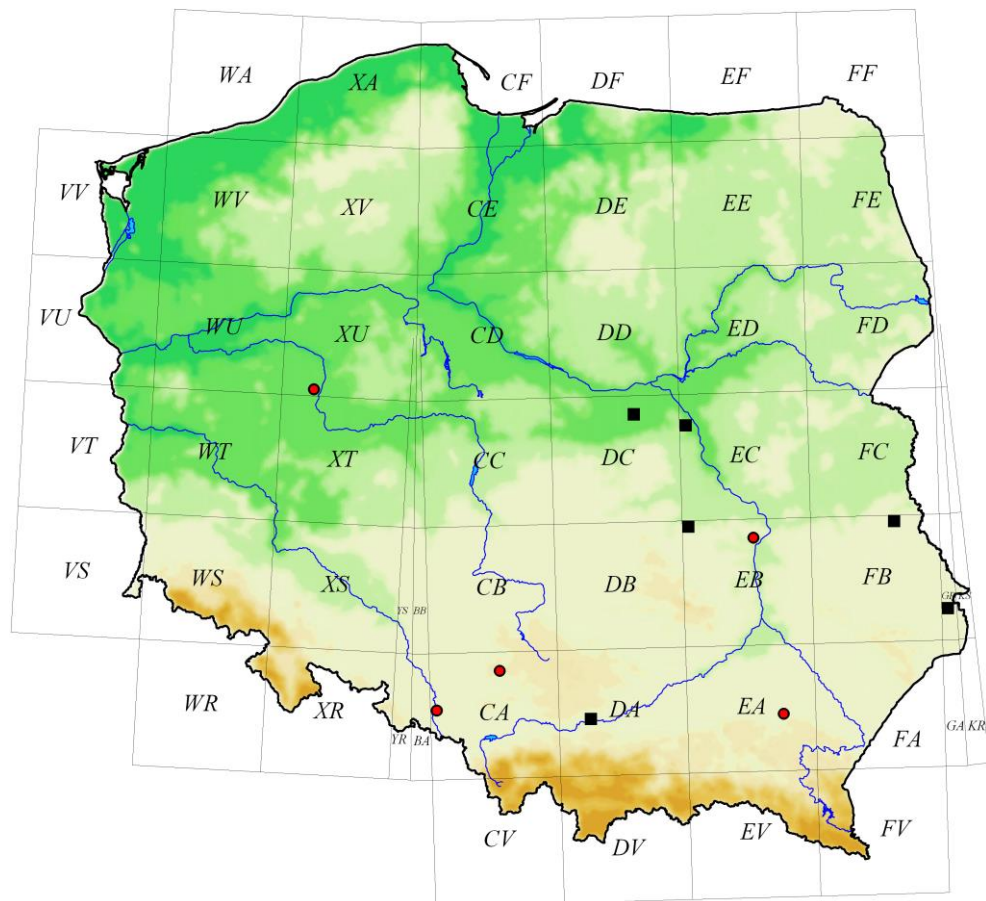
**Fig. 3.** *Calitys scabra* – a historical specimen collected near Kłodzko (= Glatz) by K. LETZNER, deposited in the Senckenberg Deutsches Entomologische Institut, Müncheberg; phot. R. RUTA.

**Biology.** Develops in old, rotting coniferous trees, like spruce, pine, larch and fir; larvae feed on fungi; adults are usually collected under bark and in rotting wood (KOLIBÁČ et al. 2005).

*Nemozoma caucasicum* MÉNÉTRIÉS, 1832

**Material examined. Wielkopolska-Kujawy Lowland:** Plewiska ad Poznań (XU20), 23 IX–30 X 2017 – 30 exx., 15 IV–10 V 2018 – 12 exx., on a stack of firewood (mostly ash branches, 15–30 cm in diameter), leg. SK. **Małopolska Upland:** SAC “Dolina Zwoleńki”, “Borowiec” res. (EB58), 1 V–25 V 2018 – 1 ex., IBL-2 window trap with a set of pheromones, edge of pine forest, leg. MM. **Upper Silesia:** Piekary Śląskie, Kozłowa Góra (CA58), 30 IX 2017 – 10 exx., in galleries of *Hylesinus varius* (FABR.) on a small piece of a *Fraxinus excelsior* L. branch lying on the ground, with numerous pupae, leg. HS, 28 X 2017 – 5 exx., under the bark of a dead branch of *Fraxinus excelsior*, in galleries of *Hylesinus* sp., leg. RK [JG]; “Łęczok” res. (CA05), 20 VI- 9 VII 2018 – 1 ex., leg. JM [HS] (IBL2 trap). **Sandomierz Lowland:** Rzeszów, Śródmieście, Jagiellońska Street (EA74), 26 III 2011 – 1 ex., basement in a tenement house, on firewood, leg. PK [TO], det. AM.

**Distribution.** Species described from the Caucasus; recorded in Crimea, Germany, Austria, Poland, Slovakia and France (KOLIBAČ 2007, PANKOW 2010, BRUSTEL & ROGÉ 2011). Records from some European countries during the past dozen or so years may be interpreted as an ongoing expansion. However, the oldest French specimen was collected in 1927 (BRUSTEL & ROGÉ 2011). Recently recorded in the Mazovian Lowland (HILSZCZAŃSKI 2006) as new for the Polish fauna. Also recorded in the Małopolska Upland and the Kraków-Częstochowa Upland (MIŁKOWSKI & WOJAS 2008), Lublin Upland (PLEWA et al. 2014) and other localities in the Mazovian Lowland (TATUR-DYTKOWSKI 2018). The species is new for the Wielkopolska-Kujawy Lowland, Upper Silesia and the Sandomierz Lowland (Fig. 4).



**Fig. 4.** *Nemozoma caucasicum* (published records – black squares, records reported in the present paper – red circles) – distribution in Poland.



**Biology.** According to observations from southern Russia, larvae develop in galleries of *Hylesinus fraxini* (PANZER, 1779) on ash, galleries of *Scolytus mali* (BECHSTEIN, 1805) on pear and in galleries of *Pteleobius vittatus* (FABRICIUS, 1792) on elm. The species has recently been recorded in central Poland on ash infested by *Hylesinus crenatus* (FABRICIUS, 1787) (Fig. 5). The beetles were found penetrating *H. crenatus* mother galleries in search of bark beetles (Fig. 6). A *N. caucasicum* imago was observed consuming a female of *H. crenatus* captured in its own gallery (TATUR-DYTKOWSKI 2018). Adult beetles emerge from the end of April or the beginning of May (KOLIBÁČ et al. 2005). According to recent observations, adults are active both in the bark and on its surface, where they actively search for bark beetles. Imagines prefer thick bark with cracks. They are active both in daylight and after dusk until midnight (TATUR-DYTKOWSKI 2018).



**Fig. 5.** Habitat of *Nemozoma caucasicum* – ash-alder carr (*Fraxino-Alnetum*), “Las Natoliński” nature reserve in Warsaw; phot. J. TATUR-DYTKOWSKI.



**Fig. 6.** Adults of *Nemozoma caucasicum* in larval galleries of *Hylesinus crenatus* (FABRICIUS, 1787) under the bark of *Fraxinus excelsior* L., “Las Natoliński” nature reserve in Warsaw; phot. J. TATUR-DYTKOWSKI.

*Nemozoma elongatum* (LINNAEUS, 1761)

**Material examined. Pomeranian Lake District:** Kujan vic. (XV41), near Karolewo forester’s lodge, 14 VIII 1999 – 2 exx., under the bark of a *Picea abies* (L.) H. KARST. branch, leg. RR. **Masurian Lake District:** Pisz Forest (“Puszcza Piska”), Snopki vic. ad Pisz, comp. 241 (EE44), pine forest, 28 V–17 VI 2013 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Pisz Forest, Snopki vic. ad Pisz, comp. 248 (EE44), pine forest, 9 VI–1 VII 2009 – 2 exx., in an IBL-2bis barrier trap, leg. JMG; Romincka Forest (“Puszcza Romincka”), Jurkiszki (EF81), 3 VII 2014 – 1 ex., leg. RP; Sosnowo vic., Sztabin (FE35), 24 V 2003 – 2 exx., on a stump of *Picea abies*, leg. MW. **Wielkopolska-Kujawy Lowland:** Puszczykowo vic. ad Poznań (WT97), pine forest, 6 V 1995 – 2 exx., under the bark of *Pinus sylvestris* L., in galleries of Scolytinae, leg. PJ. **Mazovian Lowland:** Borszyce ad Mszczonów (DC65), 7 IV 2005 – 2 exx., in a rotten limb of *Tilia* sp., leg. JTD; Cegłów ad

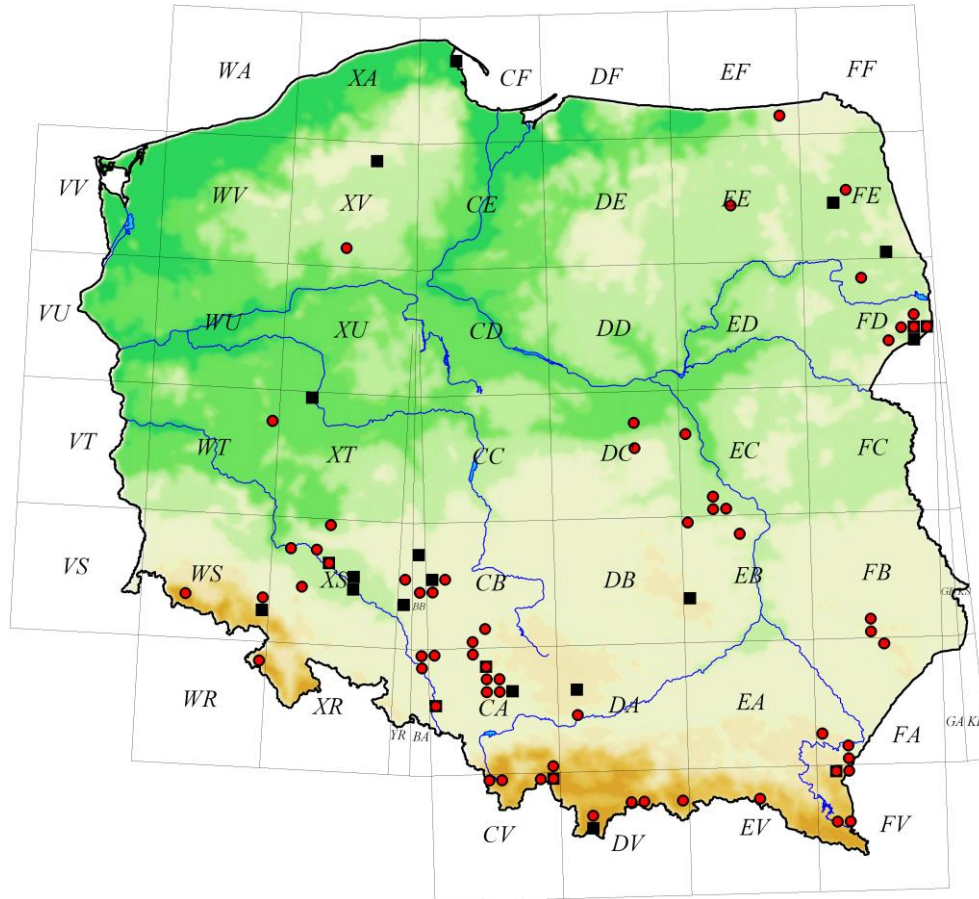
Błonie (DC67), 16 IV 2015 – 2 larvae, from branches of *Tilia cordata* MILL. lying on the ground, reared 4 VI 2015, leg. RP; Kozienice Forest (“Puszcza Kozienicka”), Augustów (EC30), 24 II 2001 – 1 ex., from a branch of *Picea abies* collected on 17 II 2001, leg. MM; Kozienice Forest, Dąbrowa Kozłowska (EC20), 6 V 2000 – 1 ex., from a branch of *Quercus* sp. collected on the ground, leg. MM; Kozienice Forest, Januszno (EC30), 26 XII 2002 – 1 ex., from a branch of *Tilia cordata*, leg. MM, 17 I 2003 – 2 exx., from a branch of *T. cordata*, leg. MM; Kozienice Forest, Przejazd vic. (EC30), 3 IV 2004 – 1 ex., under the bark of *Abies alba* MILL., leg. MM; Kozienice Forest, Stara Brzoza (EC21), 2 IV 2006 – 3 exx., *Tilia cordata*, reared 1–15 XII 2006, leg. RP; Kozienice Forest, “Załamane” res. (EC20), 8 III 2007 – 1 ex., from a branch of *Abies alba* collected on 18 II 2007, leg. et cult. MM; Żabieniec ad Piaseczno (near a forest nursery) (EC06), 2 X 2013 – 4 exx., *Tilia cordata*, reared until 1 IV 2014, leg. RP. **Podlasie:** Olmonty ad Białystok (FD48), 21 IV 2000 – 1 ex., in flight in mixed broadleaved forest, leg. AL. **Białowieża Primeval Forest:** Białowieża NP, comp. 253D (FD84), Narewka river valley, 18–24 VI 1997 – 1 ex., 16–22 VI 1999 – 1 ex., in IBL-2bis barrier traps, leg. JMG; Białowieża NP, comp. 282B (FD85), Narewka river valley, 27 V–2 VI 1998 – 1 ex., 19–25 V 1999 – 1 ex., 3–9 V 2000 – 1 ex., in IBL-2bis barrier traps, leg. JMG; Białowieża NP, comp. 288C/318A (FD94), mixed broadleaved forest, 4 VII 1989 – 1 ex., in a turpentine baited IBL-2bis barrier trap, 2 VII 1993 – 1 ex., 1 VI 2006 – 1 ex., 24 V 2007 – 1 ex., in an unbaited barrier trap, 27 V 2006 – 1 ex., in a Moericke yellow pan trap installed at a height of 1 m, leg. JMG; Białowieża NP, comp. 368E (FD94), Narewka river valley, 2–8 VI 1999 – 3 exx., 17–23 V 2000 – 1 ex., in IBL-2bis barrier traps, leg. JMG; Białowieża NP/for. distr. Białowieża, Droga Browska, comp. 374D/403B (FD94), 11–25 VII 1996 – 1 ex., 13–19 V 1997 – 1 ex., 27 V–2 VI 1998 – 1 ex., 10–16 VI 1998 – 2 exx., 8–14 VII 1998 – 1 ex., in unbaited IBL2-bis barrier traps, leg. JMG; Białowieża NP/for. distr. Białowieża, Droga Browska, comp. 375B/375D (FD94), 7–13 V 1997 – 1 ex., 14–19 V 1997 – 1 ex., 20–27 V 1997 – 2 exx., 2–8 VII 1997 – 1 ex., 30 V–6 VI 1999 – 1 ex., 17–23 V 2000 – 1 ex., in IBL-2bis barrier traps, leg. JMG; for. distr. Białowieża, ad Teremiski, Dębina settlement vic., comp. 338A (FD84), oak-hornbeam forest, 22 V–9 VI 2014 – 1 ex., in a funnel trap installed in the tree crown, leg. JMG; for. distr. Białowieża, ad Teremiski, comp. 424C (FD84), *Tilio-Carpinetum* oak-hornbeam forest, 25 V 2015 – 2 exx., in an IBL-2bis barrier trap, leg. JMG; for. distr. Hajnówka, “Głęboki Kąt” res., comp. 439A (FD74), 16 V 1989 – 4 dead exx., reared from a broken spruce *Picea abies* 20 cm in diameter, collected on 31 VII 1986, also inhabited by *Ips typographus* (L.), *Polygraphus poligraphus* (L.) and *Acanthocinus griseus* (FABR.), leg. et cult. JMG; Olchówka, comp. 42 (FD85), 20 II 2016 – 1 ex., reared from a branch of *Picea abies*, leg. JŁ [AL]; Witowo, railway station (FD63), 13 V 1993 – 1 ex., leg. MW. **Lower Silesia:** Słup (XS17) [Schlaupe Kr. N.] – 1 ex., leg. GP [MNHW]; Sobótka (XS24), 29 V 1949 – 1 ex., ex coll. AEBG [MNHW]; Świebodzice (WS93), 16 IX 1962 – 1 larva,

leg. BB [MIZ]; Wrocław (XS46) [Breslau], ex coll. GP [MNHW]; Wrocław-Wilkszyn, Las Mokrzański (XS37), 25 VI 2006 – 1 ex., leg. MW. **Trzebnica Hills:** Trzebnica (XS49), 30 IV 1976 – 1 ex., leg. JŁ [USMB]. **Upper Silesia:** Blachówka (CA48), VI 2016 – 2 exx., ex cult from bark of *Picea abies*, leg. HS; Brynek (CA39), 10 IV 1993 – 1 ex., 26 II 1994 – 6 exx., 4 XII 1999 – 2 exx., 26 I 2002 – 1 ex., II 2002 – 1 ex., reared, VII 2002 – 2 exx., reared, leg. HS; Bytom (CA57), 4 IX 1931 – 2 exx., leg. FK [USMB]; Bytom, Dąbrowa Miejska [Beuthen O. S. Stadtwald] (CA48), 1 IX 1931 – 1 ex., leg. HN, ex coll. GP [MNHW], 10 IX 1931 – 1 ex., 20 IX 1931 – 1 ex., 24 IX 1931 – 2 exx., leg. HN [USMB]; Cieszowa (CB41) – 2 V 1984, leg. HS [JG]; Jasienie ad Kluczbork (CB04), 8 V 1995 – 1 ex., in flight, 23 X 2004 – 1 ex., under the bark of a dead branch of *Picea abies*, leg. RK; 3 km SW of Jasienie ad Kluczbork (CB04), 4 XI 2013 – 1 ex., from a thin trunk of *Picea abies*, ex cult. 1–15 I 2014, leg. RK; Katowice-Ligota (CA56), I 2011 – 1 ex., ex cult, leg. TB [HS]; “Łęczczok” res. (CA05), 18 VII 2016 – 1 ex., leg. JM [HS]; Mikołów-Mokre, Fiołkowa Góra (CA46), 12 V 2011 – 1 ex., leg. JG; for. distr. Kluczbork, for. div. Bąków, comp. 234 (CB04), 9 III 1991 – 1 ex., under the bark of *P. abies*, in galleries of *Pityophthorus* sp., leg. RK; for. distr. Kluczbork, for. div. Zameczek, comp. 137 (BB94), 9 V 1999 – 1 ex., under the bark of *Abies alba*, in galleries of *Cryphalus piceae* (RATZ.), leg. RK; for. distr. Kluczbork, for. div. Zofiówka (CB15), 17 V 1991 – 1 ex., in an *Ips typographus* pheromone-baited trap, leg. RK; Góra św. Anny LP (BA99), 1 V 2002 – 1 ex., leg. JG; Góra św. Anny LP, Czarnocin (CA09), 26 V 2005 – 43 exx., leg. JG; Ruda Śląska, Las Alina (CA47), 19–23 V 2006 – about 200 exx., in an *Ips typographus* pheromone-baited trap, leg. JG; Ruda Śląska-Kochłowice (CA56), V 2005 – 1 ex., cult. TB [JG]; Ruda Śląska, Lasy Makoszowskie (CA47), 7 VI 1996 – 1 ex., leg. JG; SAC Łęg Zdzieszowicki (BA98), 16 VI 2013 – 1 ex., from a branch of *Tilia cordata*, reared 1 VII–30 XI 2013, leg. RK; Tworóg (CB30), 22 VI 1992 – 1 ex., leg. HS; Zawisć ad Kluczbork (YS05), 2 II 2008 – 1 ex., under the bark of a fallen trunk of *Picea abies*, leg. RK. **Kraków-Wieluń Upland:** Kraków-Las Wolski (DA14), 22 V, year unknown (end of 19<sup>th</sup> century) – 4 exx., leg. MR [ISEA]. **Małopolska Upland:** Radom-Las Kapturski (EB09), 22 II 2003 – 1 ex., in the bark of a *Tilia cordata* branch, leg. MM; SAC “Dolina Zwoleńki”, Barycz Stara (EB48), 8 III 2015 – 1 ex., from a branch of a broadleaved tree collected on 28 II 2015, leg. et cult. MM. **Roztocze:** Florianka [Florjanka] (FB40) – 1 ex coll. FF [MIZ]; Kosobudy (FB41), VI 1941 – 1 ex., *Picea abies*, in galleries of Scolytinae, ex coll. FF [MIZ]; Roztocze NP, “Nart” strict protection area (FB40), 13 IV 1985 – 1 ex., leg. DK [ISEA]; Nowiny (FA59) – 2 exx., ex coll. FF [MIZ]. **Western Sudeten Mts.:** Karkonosze, Szklarska Poręba Średnia (WS33), 16–24 VII 1995 – 1 ex., leg. LB [RR]. **Eastern Sudeten Mts.:** Góry Orlickie, ad Duszniki Zdrój (WR98), 21 X 2012 – 1 ex., reared from a branch of *Picea abies* (imago: 24 II 2013), leg. AL. **Western Beskid Mts.:** Babia Góra NP, comp. 17A (CV99), VII 2006 – 2 exx., leg. SSZ [AL]; Silesian Beskids, Barania Góra, Czarna

Wisielka stream valley (CV59), 18 VIII 1996 – 1 ex., under the bark of *Picea abies*, leg. RK; Krynica-Kopciowa (DV97), 8 VI 1983, 31 VIII 1984 – 3 exx., leg. DK [ISEA]; Babia Góra massif, Kolisty Groń (CV89), 7 VII 1995 – 1 ex., leg. JG; Wisła Głębce [Głębce] (CV49), 19 VIII 1962 – 3 larvae (imagines: 13 IX 1962), leg. BB; Zawoja-Mosorne (CA90), 5 V 1996 – 1 ex., 5 VII 1996 – 1 ex., leg. JG; Zawoja-Stonów (CA90), V 1996 – 1 ex., leg. RBO [JG]. **Eastern Beskid Mts.:** Bekid Niski, for. distr. Dukla, for. div. Piotruś, Piotruś Mt., comp. 40, (EV57), 25 VII 2018 – 1 ex., IBL-2 barrier trap with wine, leg. TO; Przemyśl vic. (FA21\*) – 4 exx., leg. TT [ISEA]; for. distr. Bircza: Sierakośce for. div., comp. 8a (FA20), 2 V–1 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. TN [HS]; for. distr. Bircza: Sierakośce for. div., comp. 39a (FV29), 20 V–22 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. TN [HS]; Turnica for. div., comp. 161c, Suchy Obycz mountain range (FV19), 14 VI–16 VII 2015 – 4 exx., IBL-2 barrier trap, suspended between the boughs of a wind-thrown beech (fallen timber), in the Carpathian beech forest with admixed Norway maple – *Acer platanoides* L., leg. TN [KR]; Turnica for. div., comp. 180a (FV19), 1–26 VI 2016 – 1 ex., IBL-2 barrier trap, leg. TN [HS]; for. distr. Kańczuga, for. div. Pruchnik, comp. 138c (FA02), 20 V–21 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. AM [HS]; “Turnica” res. (FV19), 1 VI 2016 – 1 ex., leg. AM [HS]. **Nowy Targ Basin:** Zakopane, Harenda (DV26), 28 VI 1998 – 1 ex., in flight, leg. RR. **Pieniny Mts.:** Durbaszka (DV67), 900 m a.s.l., 8 V 2015 – 1 ex., in flight, edge of a coniferous forest, leg. AL; Pieniny (DV57), 22 VIII 1958 – 3 exx. [USMB]. **Bieszczady Mts.** Otryt Mt. (FV15), 14 VIII 2013 – a dozen or so specimens under the bark of spruces *Picea abies* infested by bark beetles, leg. AM; Otryt Mt., eastern part (FV25), 16 VIII 2013 – 4 exx., on a stack of *Picea abies* wood, leg. AM.

**Distribution.** Occurs in north Africa, Europe and the Middle East. Known from the whole of Poland, although it is not a common species. It has recently been recorded in the Białowieża Forest, the Biebrza NP and the Bory Tucholskie forest (GUTOWSKI et al. 2006), fir forests in southern Poland (STARZYK et al. 2008) and north-eastern Poland (HILSZCZAŃSKI et al. 2016). New records from the western Sudeten Mts., eastern Sudeten Mts., Nowy Targ Basin, the Pieniny and Bieszczady Mts. (Fig. 7).

**Biology.** Larvae and adults feed on the eggs of bark beetles, larvae of wood-boring beetles and other insects. Beetles can be found under the bark of broadleaved and coniferous trees (KOLIBÁČ et al. 2005, this study) throughout the year. They were also observed on vegetation and in flight from the end of April until the end of July. According to the data in Table 1, spruce *Picea abies* is the preferred tree species overall (54% of records), and lime *Tilia cordata* is the preferred deciduous tree species (25% of records). It is plausible that *Nemozoma elongatum* is predatory on the scolytine *Ernoporus tiliae* (PANZER, 1793) (MM, unpublished).



**Fig. 7.** *Nemosoma elongatum* (published records – black squares, records reported in the present paper – red circles) – distribution in Poland.

*Temnoscheila caerulea* (OLIVIER, 1790)

**Material examined.** Specimens from Poland are missing from the collections examined.

**Distribution.** The species is widely distributed in the Mediterranean region, ranging northwards as far as Germany (Bavaria), Poland and Sweden. In Sweden it is known from Gotska Sandön Island (LUNDBERG 1981). There are only two historical records from N Poland (Fig. 2): from the Gdańsk area over 200 years ago (KUGELANN 1794) and from Goleniów (KLEINE 1940).

**Table 1.** Occurrence of particular beetle species on trees; based on original data. Abbreviations: *Nc* – *Nemozoma caucasicum*, *Ne* – *N. elongatum*, *Tm* – *Tenebroides mauritanicus*, *Go* – *Grynocharis oblonga*, *Pf* – *Peltis ferruginea*, *Pg* – *P. grossa*, *Tl* – *Thymalus limbatus*,  $N_s$  – total number of species.

Tree genus/species	Beetle species							$N_s$
	<i>Nc</i>	<i>Ne</i>	<i>Tm</i>	<i>Go</i>	<i>Pf</i>	<i>Pg</i>	<i>Tl</i>	
<i>Abies alba</i>	–	3	1	2	25	29	5	<b>6</b>
<i>Acer</i> sp.	–	–	2	1	–	–	1	<b>3</b>
<i>Aesculus hippocastanum</i>	–	–	2	2	–	–	–	<b>2</b>
<i>Alnus</i> sp.	–	–	4	1	1	3	–	<b>4</b>
<i>Betula</i> sp.	–	–	2	1	2	7	–	<b>4</b>
<i>Carpinus betulus</i>	–	–	–	1	–	–	–	<b>1</b>
<i>Juglans regia</i>	–	–	–	1	–	–	–	<b>1</b>
<i>Fagus sylvatica</i>	–	–	2	4	3	–	3	<b>4</b>
<i>Fraxinus excelsior</i>	2	–	1	1	–	–	–	<b>3</b>
<i>Malus</i> sp.	–	–	–	2	–	–	–	<b>1</b>
<i>Quercus</i> sp.	–	1	21	16	3	–	2	<b>5</b>
<i>Padus avium</i>	–	–	–	1	–	–	–	<b>1</b>
<i>Philadelphus</i> sp.	–	–	–	1	–	–	–	<b>1</b>
<i>Picea abies</i>	–	15	–	1	28	3	2	<b>5</b>
<i>Pinus</i> sp.	–	1	–	5	5	1	–	<b>4</b>
<i>Platanus orientalis</i>	–	–	–	1	–	–	–	<b>1</b>
<i>Populus</i> sp.	–	–	17	12	1	1	–	<b>4</b>
<i>Prunus</i> sp.	–	–	–	3	–	–	–	<b>1</b>
<i>Pyrus</i> sp.	–	–	–	1	–	–	–	<b>1</b>
<i>Robinia pseudoacacia</i>	–	–	–	1	–	–	–	<b>1</b>
<i>Salix</i> sp.	–	–	1	13	2	v	–	<b>3</b>
<i>Tilia</i> sp.	–	8	–	2	2	3	–	<b>4</b>
<i>Ulmus</i> sp.	–	–	6	–	–	–	–	<b>1</b>
total number of tree taxa:	1	5	11	22	10	7	5	23
total number of records:	2	28	59	73	72	47	13	290

**Biology.** Feeds on larvae of Cerambycidae and Buprestidae; usually collected under the bark of dying coniferous trees (JANSSON 1925, BURAKOWSKI et al. 1986). In the Mediterranean region (Greece), found together with larvae of *Morimus funereus* MULSANT, 1863 on fir (JTD, unpublished).

*Tenebroides mauritanicus* (LINNAEUS, 1758)

**Material examined. Baltic Coast:** Gdynia (CF34), 19 VIII 1938 – 1 ex., 11 VIII 1939 – 1 ex., leg. AB [MIZ]. **Pomeranian Lake District:** Szczecin [Stettin] (VV71) – 1 ex., ex coll. Mus. Stettin (Städtisches Naturwissenschaftliches Museum Stettin) [MIZ]. **Wielkopolska-Kujawy Lowland:** Antonin ad Ostrów Wlkp. (XT91), V 1999–VI 2003 a dozen or so specimens under the bark of an old oak *Quercus robur* L. growing near a grocery store, leg. AM; Biedrusko vic., military training area (XU32), 24 III 2000 – 1 ex., under the bark of a rotting trunk of *Betula* sp., leg. SK; Dąbrówka ad Poznań (XU10), 28 XII 2015 – 4 exx., under the bark of dead *Alnus glutinosa* (L.) GAERTN. trees, the edge of an alder forest in an old manor park, leg. SK; Gądków (VT99), 30 VII 1980 – 1 ex., leg. KL [ISEA]; Gołaszyn vic. ad Oborniki, military training area (XU23), 9 IV 2000 – 1 ex., under the bark of a log, bank of an oxbow lake by the River Warta, leg. SK; Gołuchów ad Pleszew (YT04), 9 V 2001 – 1 ex., under the bark of an old oak tree *Quercus robur*, leg. AM; Grabice vic. ad Luboszyce (VT74), 28 VIII 2011 – 1 ex., under the bark of an old, dying *Quercus robur*, leg. SK; Lewków ad Ostrów Wlkp., Kwiatkowska Street (XT93), 28 IV 2007 – 1 ex. and 5 VII 2009 – 1 ex. in feeding galleries of larvae of *Cerambyx cerdo* LINNAEUS, 1758 on oak *Quercus robur*, leg. AM; Łęczyca (CC76) – 2 exx., ex coll. AB [MIZ]; Piła (XU19), 15 V 1998 – 1 ex., leg. RR [ISEA]; Piła-Górne (XU19), 26 III 1997 – 1 ex., under the bark of a dead *Ulmus* sp., leg. RR; Piła-Kalina (XU18), 4 V 2001 – 3 exx., under the bark of a fallen oak *Quercus* sp., leg. RR; Rogalin (XT38), 3 VI 1975 – 1 ex., leg. JŁ [USMB], 20 VI 1998 – 1 ex., under the bark of oaks *Quercus* sp., 10 II 2002 – 1 ex., leg. PJ, 29 VI 2006 – 4 exx., on *Quercus* sp., leg. SK, riparian forest by the River Warta, 1 VI 2014 – 1 ex., leg. JMG; Rogalin (XT39), 16 VI 1975 – 2 exx., leg. MB [ISEA]; Nowa Sól [Neu Saltz] (WT43), 1 VI 1907 – 3 exx., ex coll. Schreiber [MIZ]; 5 km NE of Skoroszów ad Milicz (XS59), 8 VII 2016 – 1 ex., from dead branches of *Fagus sylvatica* L., reared 20 VIII–6 IX 2016, leg. RK; Wyspa Krajkowska ad Krajkowo (XT38), 29 IV 2008 – 1 ex., in a rotten trunk near the River Warta, leg. SK. **Mazovian Lowland:** Buchnik (DD90), 10 III 1968 – 4 exx., leg. BB [MIZ]; Dziekanów Polski (DD80), 24 III 1968 – 1 ex., under the bark of *Populus nigra* L., leg. BB [MIZ]; Jabłonna near Warszawa (DD90), 21–31 XII 1950 – 9 exx., leg. BB [MIZ]; Łochów (ED42), 20 VIII 1986 – 1 ex., leg. TM [ISEA]; Kozienice Forest, Brzóza, cemetery (EC21), 24 II 1997 – 1 ex., under the bark of a dead *Aesculus hippocastanum* L., leg. MM; Kozienice Forest, Januszno (EC30), 18 VII 2004 – 1 ex., under the bark of *Populus* sp., leg. MM; Kozienice Forest, “Jedlnia” res. vic. (EB29), 16 XII 2012 – 2 exx., under the bark of *Quercus* sp. damaged by fire, growing on a balk, leg. MM; Kozienice Forest, Kolonia Bąkowiec (EC40), 27 XII 2015 – 1 ex., under the bark of a dead *Populus tremula* L., leg. MM; Kozienice Forest, for. div. Cztery Kopce (EC31), 15 IV 2005 – 1 ex., under the bark of *Quercus* sp., leg. MM; Kozienice Forest, Molendy (EC40) – 2 exx., from a dead *Betula pendula* ROTH trunk, felled on 11 X 2007, leg. et cult.



MM; Kozienice Forest, "Ponty Dęby" res. (EC20), 11 XI 2014 – 1 ex., under the bark of a dead *Quercus* sp., 6 I 2018 – 1 ex., in the bark of a rotten *Abies alba*, leg. MM; Nowy Dwór Mazowiecki, Las Dębinka (DD80), 18 XI 2010 – 1 ex., under the bark of an old *Quercus robur*, leg. JTD; Obory (EC16), 2 XI 1946 (EC16) – 2 exx., moist alder forest in a swampy area, leg. JMA [MIZ], 14 XII 1947 – 2 exx., leg. RB [MIZ]; Otwock Wielki (EC16), 2 IV 1948 – 2 exx., leg. JPO [MIZ]; Pawłowice vic. Stężyca (EC41), 13 VIII 2009 – 1 ex., under the bark of a dead *Ulmus* sp., leg. MM; Piaseczno (EC06/EC07), 5 VII 1908 – 3 exx., ex coll. ST [MIZ]; Pomiechówek near Warszawa (DD81) – 1 ex., ex coll. AB [MIZ]; Puławy vic. (EB69), 9 VII 1950 – 3 exx., leg. BB [MIZ]; Serock (ED01), 6 II 1953 – 5 exx., leg. RB [MIZ]; Stężyca vic. Dęblin (EC51), 19 XII 2015 – 1 ex., in crevices of the wood of an old *Populus nigra*, riparian forest by the River Wisła (Vistula), leg. MM; Warszawa, 6 X 1917 – 2 exx., ex coll. ST [MIZ], 15 IV 1921 – 1 ex., in a flat, ex coll. ST [MIZ], 23 X 1949 – 3 exx., leg. SA [MIZ]; Warszawa-Bielany [Bielany] (DC99), 18 IX 1888 – 2 exx., 25 V 1889 – 1 ex., 14 VI 1895 – 3 exx., 1 VI 1897 – 1 ex., 3 VI 1897 – 1 ex., 12 VI 1897 – 1 ex., leg. WM [USMB], 22 I 1950 – 6 exx., leg. ZW, 9 XII 1952 – 1 ex., 20 XII 1953 – 3 exx., under the bark of an oak *Quercus* sp., 26 IX 1954 – 2 exx., 4 II 1959 – 1 larva (imago: 12 VI 1959), 13 VIII 1962 – 1 larva in a pupal chamber, 23 IV 1970 – 1 larva (pupa: 2 VII 1970), leg. BB [MIZ], 13 V 1953 – 1 ex., 8 VII 1948 – 1 ex., leg. JPO [MIZ], 21 II 1950–23 I 1953 – 2 exx., leg. RB [MIZ]; Warszawa-Bielany [Ruda Podleśna ad Warszawa Bielany] (DC99), 24 VII 1930 – 1 ex., under the bark of a poplar or willow, leg. BB [MIZ]; Warszawa, Bielany-Modlin (DD80\*), 1 XI 1946 – 4 exx., by a road, under the bark of a poplar *Populus* sp., leg. JMA [MIZ]; Warszawa-Czerniaków [Warszawa, Czerniaków] (EC08) – 2 exx., JMA [MIZ]; Warszawa, Las Młociński (DC99), 24 III 2016 – 3 exx., under the bark of *Alnus glutinosa*, leg. JTD, 1 ex., under the bark of *Acer platanoides* gnawed by a beaver, leg. JTD; Warszawa, "Las Bielański" res. (DC99), 22 III 2008 – 1 ex., under the bark of *Q. robur*, leg. JTD; Warszawa, "Las Natoliński" res. (EC07), 20 V 2019 – 1 ex., on a fallen, almost barkless elm *Ulmus* sp., overgrown with fungi (after dusk), leg. JTD; Warszawa, "Las Kabacki" res. (EC07), 23 IV 2010 – 4 exx., under the bark of *Quercus robur*, 9 IV 2012 – 1 ex., under the bark of *Quercus robur*, leg. JTD; Szumin (ED33), 12 XI 1990 – 1 ex., 24 VI 1991 – 1 ex., leg. TM [HS]; Warszawa-Miedzeszyn (EC18), 11 VI 1956 – 1 ex., on a poplar trunk *Populus* sp., leg. BB [MIZ]; Warszawa-Młociny [Młociny] (DC99), 18 X 1947 – 2 exx., 28 XI 1952 – 1 ex., under the bark of *Aesculus hippocastanum*, leg. BB [MIZ]; Warszawa-Młociny [Młociny vic. Warszawa] (DC99), 8 XII 1948 – 3 exx., 28 XI 1952 – 2 exx., leg. RB [MIZ]; Warszawa, Nowogrodzka 48 (EC08), 27 VI–28 VIII 1950 – 7 exx., leg. SA [MIZ]; Warszawa-Radość [Radość ad Warszawa] (EC18), 30 V 1955 – 1 ex., in a packet of cottage cheese, leg. EK [MIZ]; Warszawa-Saska Kępa [Saska Kępa] (EC08), 5 XII 1948 – 3 exx., leg. JMA [MIZ]; Warszawa-Wawer [Wólka Żerzeńska ad Warszawa] (EC08), 10 IV 1939 – 1 ex., ex coll.

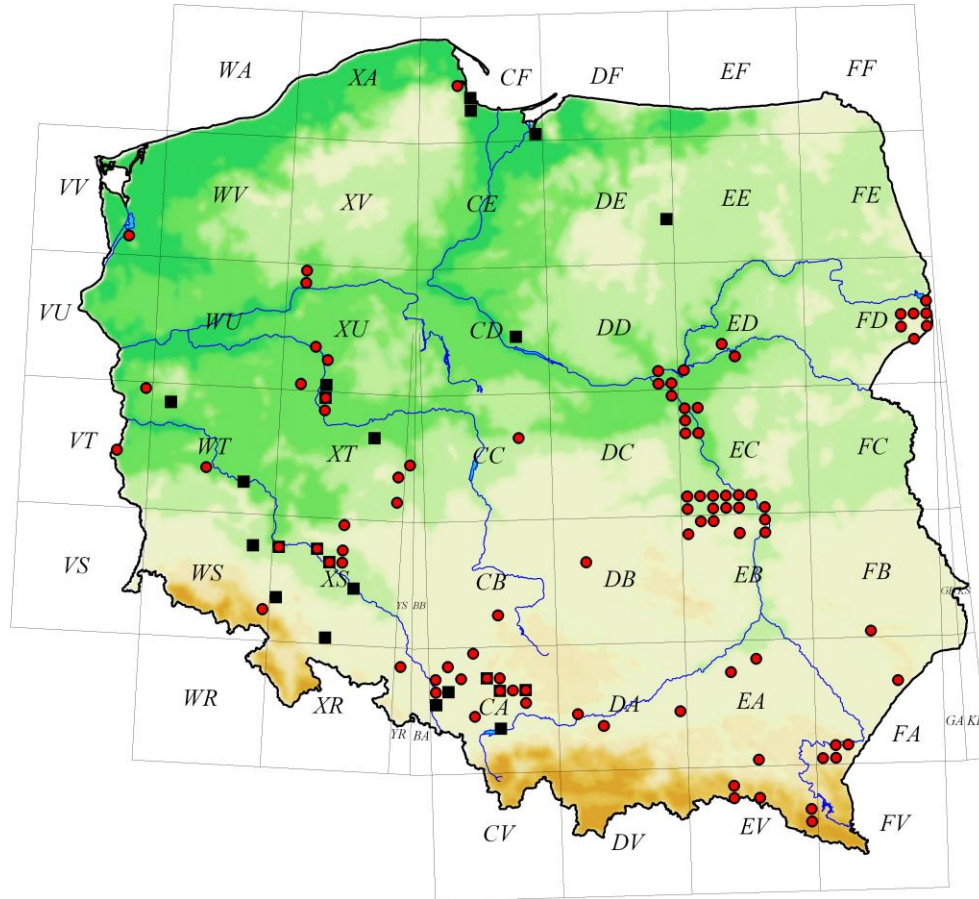
ST [MIZ], 1 XII 1957 – 2 exx., in rotten poplar wood *Populus* sp., leg. BB [MIZ]; Zegrze, during a flood of the River Narew (ED01), 14 III 1948 – 2 exx., leg. RB [MIZ]; Zegrze (ED01), 14 III 1948 – 1 ex., leg. ADAMSKI (?) [MIZ]. **Białowieża Primeval Forest:** Białowieża NP, Hwoźna river valley [former for. distr. Browsk] (FD95), 20 III 1952 – 4 exx., leg. BB [MIZ]; Białowieża NP [former for. distr. Browsk], comp. 192 (FD95), 23 IV 1968 – 1 larva (pupa 17 VII 1968), leg. BB [MIZ]; Białowieża NP, comp. 224 (FD95), 3 VI 1954 – 1 ex., leg. BB [MIZ]; Białowieża NP, comp. 288C/318A (FD94), mixed coniferous forest, 11 V 2011 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Białowieża, Palace Park (“Park Pałacowy”) (FD94), 8 XI 2003 – 1 ex., leg. MM [JMG]; Guszczewina vic., comp. 62B (FD85), 21 III 2013 – 1 ex., reared from a small branch of *Quercus* sp., leg. JŁ [AL]; Hajnówka vic., comp. 412 (FD74), 22 IV 2006 – 1 ex., alder forest, on a bracket fungus, leg. AL; for. distr. Browsk, comp. 15B (FD96), 28 III 2014 – 1 ex., under the bark of a dead trunk of *Populus tremula*, 1–15 VIII 2014 – 1 ex., reared from a rotting trunk of *Populus tremula*, leg. RK; for. distr. Browsk, comp. 63B (FD95), 25 IV 2013 – 1 ex., leg. JŁ [RK]; Białowieża NP, comp. 282B (FD85), 25 VII–8 VIII 1996 – 1 ex., in an IBL-2bis barrier trap, leg. JMG [ISEA]; for. distr. Hajnówka, Nowosady vic., (FD75), 15 X 2010 – 1 ex., under the bark of *Quercus robur* (of 90 cm diameter), leg. ABO, det. et coll. JMG; Białowieża-Krzyże vic. (FD94), 18 V 2017 – 1 ex., on the trunk of an oak *Quercus* sp. overgrown with fungi (at night), leg. JTD; Białowieża-Krzyże vic. (FD94), 11 III 2014 – 1 ex., from a piece of thick (4–5 cm) oak bark collected on 12 X 2013, leg. et cult. JTD; comp. 523C (FD83), 28 IV 2009 – 1 ex., under the bark of *Populus tremula*, leg. JTD. **Lower Silesia:** Malczyce (XS07) [Maltisch] – 5 exx., ex coll. GP [MNHW]; Szewce vic. Wrocław (XS37), 12 XI 1978 – 2 exx., ex coll. AEBG [MNHW]; Wałbrzych (WS92), 1950 – 1 ex., leg. SKA [ISEA]; Wrocław-Osobowice (XS37), 14 VII 1984 – 1 ex., ex coll. AEBG [MNHW]; Wrocław-Rędzin (XS37), 2 VI 1991 – 5 exx., leg. LB [RR]; Wrocław-Świniary (XS37), 27 IV 1991 – 6 exx., 1 V 1996 – 1 ex., leg. LB [RR], 5 V 1991 – 1 ex., leg. MW; Wrocław-Wojnów (XS56), 18 IV 1993 – 4 exx., 15 V 1997 – 3 exx., leg. LB [RR], 22 IV 2003 – 1 ex., leg. AG, ex coll. AEBG [MNHW], 8 IV 2006 – 1 ex., under the bark of an old oak *Quercus* sp., leg. RR, 7 II 2009 – 1 ex., leg. RR, 1 V 2011 – 1 ex., leg. RK; Wrocław-Zakrzów (XS46), 15 IX 1991 – 2 exx., leg. LB [RR]; Wrocław, near the zoo, by the River Odra (XS46), 12 VII 1989 – 1 ex., dead in a spider’s web on an oak *Quercus robur*, leg. RK. **Trzebnica Hills:** Borowa Oleśnicka (XS57), 9 IV 1972 – 2 exx., 24 III 1973 – 1 ex., 17 VI 1978 – 1 ex., 8 X 1984 – 1 ex., ex coll. AEBG [MNHW], 25 V 1991 – 1 ex., 7 VI 1991 – 1 ex., under the bark of *Quercus robur*, leg. RK; Głogówek (YR08), 21 VIII 2005 – 2 exx., leg. JG. **Upper Silesia:** Baranowice (CA34), 10 V 2009 – 1 ex., 25 V 2014 – 1 ex., leg. TB & JG; Brzezinka [Sil. Birkenau, Oberschlesien] (CA27), 15 XI 1935 – 1 ex., leg. KK, ex coll. GP [MNHW]; Brynek (CA39), 8 VIII 1930 – 1 ex., leg. HN [USMB]; Bytom (CA57), 23 VI 1925 – 1 ex., in peanuts, leg. HN [USMB]; Chelmek

(CA75), 13 IV 1879, 1 VII 1880, 10 IV 1881 – 12 exx., leg. SAS [ISEA]; Jaworzno (CA76), 8 VII 1910 – 1 ex., leg. SAS [ISEA], 12 IV 1925 – 1 ex., leg. KS [USMB]; Konopiska (CB52), 14 VI 1998 – 2 exx., leg. TK [JG]; Korzonek (CA07), 13 VI 1998 – 1 ex., leg. JG; Las Murckowski (CA56), 12 VII 2010 – 1 ex., at light, 7 VII 2014 – 1 ex., leg. JG; Łęczczok (CA06), 6 VII 2006 – 1 ex., leg. JG; Murcki (CA66), 21 V 1930 – 1 ex., leg. HN [USMB]; Ruda Śląska-Wirek (CA47), 5 I 1993 – 1 ex., in a larder, 3 I 1998 – 1 ex., 6 VIII 2015 – 1 ex., at light, leg. JG; Ruda Śląska-Wirek, near Szpitalna Street (CA47), 2 IV 1991 – 1 ex., dead in flour, leg. JG [RK]; Rudziniec Gliwicki (CA18), VI 1994 – 1 ex., 29 VIII 1998 – 1 ex., leg. JG. **Kraków-Wieluń Upland:** Kraków (DA14), 10–27 VIII 1917, VIII 1923 – 6 exx., leg. SP [ISEA], 7 VIII 1920 – 1 ex., VII 1923 – 1 ex., ex coll. EM [MIZ], 26 VI 1947 – 1 ex., in a flat, 14 VI 1948 – 1 ex., in a flat [USMB]; Kraków-Tyniec (DA14), 24 V 1972 – 1 ex., leg. AS [ISEA]; Kraków-Wola Justowska (DA14), 30 IV 1878 – 1 ex., leg. SAS [ISEA]; Wieliczka (DA33) – 1 ex., leg. EM [MIZ]. **Małopolska Upland:** Jedlanka vic. Jedlińsk (EC00), 5 VI 1998 – 1 ex., under loose bark of *Ulmus* sp. growing on a roadside, leg. MM; Jedlińsk vic. Radom (EC00), 20 III 2005 – 1 ex., under the bark of *Populus* sp., 26 XI 2017 – 2 exx., under the bark of *Populus* sp. overgrown with *Pleurotus ostreatus* (JACQ.) P. KUMM. on the bank of the River Radomka, leg. MM; Przedbórz, park (DB26), 27 VI 2012 – 1 ex., under the bark of *Ulmus* sp., leg. MM; Radom-Firlej (EB19), 2 XI 2014 – 1 ex., under the bark of *Acer* sp. near the River Mleczna, 3 XII 2017 – 1 ex., under the bark of *Populus* sp. overgrown with *Pleurotus ostreatus* on bank of the River Mleczna, 18 III 2018 – 1 ex., in bark of a dead *Ulmus laevis* PALL. on a roadside, with numerous galleries of *Scolytus* sp., leg. MM; Radom-Huta Józefowska (EB19), 29 I 2015 – 1 ex., in crevices of the bark of an old *Populus* sp., leg. MM; Radom-Józefów (EB19), 16 VI 2005 – 1 ex., under the bark of *Populus* sp., leg. MM; Radom-Nowa Wola Gołębiowska (EB19), 30 VII 2004 – 1 ex., under the bark of *Populus* sp., leg. MM; Ruda Wielka vic. Wierzbica (EB08), 12 III 2017 – 1 ex., under the bark of a dead *Populus* sp., by the pond, leg. MM; SAC “Dolina Zwoleńki”, Zielonka Nowa (EB48), 14 III 2014 – 1 ex., under the bark of a dead *Alnus glutinosa* on a bank of the River Zwoleńka, leg. MM; SAC “Dolina Zwoleńki”, Zielonka Nowa vic. (EB48), 10 VI 2018 – 1 ex., under the bark of a dead *Salix fragilis* L. on a bank of the River Zwoleńka, leg. JMG; Stromiecka Forest (“Puszcza Stromiecka”), Dobieszyn (EC11), 8 XII 2018 – 2 exx., under the bark of a dead *Alnus glutinosa* in an alder carr, leg. MM; Zwoleń, Partyzantów Street (EB48), 3 I 2015 – 1 ex., under the bark of *Populus* sp., leg. MM; Żdźary vic. Błotnica Stara (EC01), 27 I 2018 – 2 exx., under the bark of a dead *Ulmus* sp., riparian forest in the Tymianka river valley, leg. MM. **Lublin Upland:** Kazimierz Dolny [Kazimierz n/W.], 13 V 1949 – 1 ex., (EB68), leg. AR [MIZ]; ad Puławy, Wólka Gołębska vic. (EC60), riparian forest by the River Wisła (Vistula), 11 II 2017 – 1 larva and 1 adult under the bark of dead, standing poplars *Populus alba* L. of 30 and 35 cm diameter, leg. JMG; Puławy, Park

Czartoryskich (EB69), 9 XII 2017 – 6 exx., overwintering under the bark of a broken *Acer platanoides*, leg. JMG. **Roztocze:** Roztocze NP, “Czerkies” strict protection area (FB40), 8 VI 1988 – 1 ex., leg. LB [RR]; Roztocze NP., “Nart” res. (FB40), 3 VII 1997 – 1 ex. in beechwood *Fagus sylvatica*, leg. AM. **Sandomierz Lowland:** Horyniec Zdrój [Horyniec] (FA66), 20 V 1888 – 1 ex., leg. SAS [ISEA]; Malinie, historic park, (EA37), 24 IV–28 VII 2016 – 1 ex., reared from a fallen *Fraxinus excelsior* branch, leg. MKS [TO]; for. distr. Nowa Dęba, for. div. Lipie, comp. 145 (EA58), 11 V 2011 – 1 ex., mixed coniferous forest, on a stack of pine wood, leg. TH [MM]; Tarnów Młyn (DA94), 17 XII 1956 – 1 ex., leg. WB [MIZ]. **Eastern Beskid Mts.:** Bircza (FA00), Panieński Czub Mt., 4–22 V 1879 – 4 exx., leg. BK [ISEA]; Hołubla (FA11), 25–31 V 1884, 15 VI 1884 – 3 exx., leg. BK [ISEA]; Krosno (EA50), III 1950 – 1 ex., in a cellar, leg. AG [USMB]; Łętownia (FA21), Kaczmarowa Mt., 28 IV 1879 – 2 exx., leg. BK [ISEA]; Magura NP: Hałbowska Pass (EV38), 10 V–10 VI 2014 – 1 ex., in an IBL-5 barrier trap suspended from a fir snag, leg. AM; ad Ciechania (EV37), 10 V–10 VI 2014 – 1 ex., in an IBL-5 barrier trap hanging from a beech tree trunk, leg. AM; Olszany (FA11), 7 VI 1884 – 1 ex., leg. BK [ISEA]; Przemyśl (FA21), VII 1935 – 2 exx., leg. SP [ISEA]; Przemyśl vic. (FA21\*), 24 exx., leg. TT [ISEA]; Splawa Mt. (FA10), 7 VI 1884 – 3 exx., leg. BK [ISEA]; Beskid Niski, for. distr. Rymanów, for. div. Lipowiec, comp. 155, (EV57), 23 VII 2012 – 1 ex, under the bark of *Fagus sylvatica*, 1 ex., leg. TO. **Bieszczady Mts.:** Bystre ad Baligród (EV96), 28 XII 2015 – 1 ex. in a flat, leg. AM; Jabłonki ad Cisna (EV95), 23 VII 2015 – 1 ex. at light, leg. AM et TO.

**Distribution.** This species occurs in Europe and north Africa in nature, and is cosmopolitan under synanthropic conditions, e.g. in grain stores. There are some doubts regarding its taxonomic status. According to KOLIBÁČ 2013, it occurs in two forms: a synanthropic one and a free-living (forest) one, known in older papers as *Tenebroides fuscus* (GOEZE, 1777). BURAKOWSKI et al. (1986) described the forest form as very rare, even a relict of primeval forests. One can infer from the data gathered in the present paper that the forest form is common in the Polish lowlands, where it prefers forests in river valleys and avoids submontane and montane areas. The species has recently been recorded in Wrocław (BOROWIEC 2007) co-occurring with *Camponotus truncatus* (SPINOLA, 1808) ants; also recorded in Upper Silesia by GRZYWOCZ & SZOŁTYS (1996) and MELKE & GRZYWOCZ (2003). New records from the Trzebnica Hills, Lublin Upland, Roztocze, Sandomierz Lowland and Bieszczady Mts. (Fig. 8).

**Biology.** The species occurs right across the country with the exception of submontane and montane areas. The forest form is recorded in areas where old, dying or dead trees are present. It is observed in riverine forests, roadside avenues and parks. The beetles occur under the bark of numerous deciduous trees, especially oaks (BURAKOWSKI et al. 1986),



**Fig. 8.** *Tenebroides mauritanicus* (published records – black squares, records reported in the present paper – red circles) – distribution in Poland.

and occasionally coniferous ones, e.g. firs. This is confirmed by the data in the present paper – the species prefers oaks (36% of records) and various species of poplars (29% of records). Even dead and barkless trees are inhabited. Adults overwinter under bark, in its crevices, or in abandoned galleries of other insects. The beetles are encountered throughout the year, although they are also seen away from the host trees from the end of April until the beginning of August; adults are also attracted to artificial light sources.

Pupation was observed in July. Beetles of the forest form are predators on trees (KOLIBÁČ et al. 2005), whereas beetles of the synanthropic form are pests of stored products and are only occasionally predatory.

**Family: Lophocateridae**

*Grynocharis oblonga* (LINNAEUS, 1758)

**Material examined. Pomeranian Lake District:** Drawieński NP, Półwysep Dębowy (WU68), 8 VI 2000 – 1 ex., under the bark of a dying pine *Pinus* sp., obs. RR; Koszalin (WA70) [Pommern, Coeslin] – 4 exx., leg. ALU [MIZ]; Piła-Gładyszewo vic. (XU19), 8 VI 1997 – 1 ex., in the rotten wood of an old willow tree *Salix* sp., 1 IV 1999 – 3 exx., in the rotten trunk of a poplar, leg. RR; Rokitnica (CF41) [Müggenhahl, Danzig] – 1 ex., ex coll. PF [MIZ]; Zawada vic. (XU09), 18 III 2000 – 1 ex., under the bark of an old poplar *Populus* sp., leg. RR. **Masurian Lake District:** Brodnica (CE90), 6 VIII 1960 – 1 pupa (imago: 10 VIII 1960), leg. et cult. BB [MIZ]; Goldap (EF81), 13 VI 1953 – 1 ex., leg. ZSP [RP], 28 III 1955 – 1 ex., in white rot on a willow *Salix* sp., leg. BB [MIZ]; Pisz Forest, Pogobie Średnie vic., “Szast” reference forest (EE53), pine forest, 19 V–10 VI 2015 – 2 exx., in IBL-2bis barrier traps, leg. JMG; Sztynort (EE49), 9 VIII 1958 – 1 larva (imago: 24 VII 1959), leg. et cult. BB [MIZ]; “Mazury” res. (EE79), 8 IX 2018 – 1 dead ex., under the bark of an old, dead oak *Quercus* sp., leg. MM. **Wielkopolska-Kujawy Lowland:** “Buczyna Szprotawska” res. (WT40), 19 V 2007 – 1 ex., obs. RR & KZ; Czarniejewo ad Gniezno (XU61), manor park, 12 XI 2013 – 2 exx., leg. JMG; “Dębowiec” res. near Gubin (VT95), 25 VI 2011 – 1 ex., obs. SK; Goraj ad Czarnków (XU05), 26 V 2007 – 1 ex., on an old beech *Fagus sylvatica* close to a road leading to the technical school, leg. RR; Kalisz-Chmielnik (CC03), 28 V 1982 – 1 ex. in a hollow of a walnut *Juglans regia* L. in an orchard, leg. AM [ISEA]; 5 VI 2004 – 1 ex., under the bark of an old apple tree *Malus* sp., leg. AM; Kalisz, city park (BC93), 19 IV 2001 – 1 ex., on the barkless lesion of an oak *Quercus robur*, leg. AM; Kalisz-Szczypiorno (BC93), 12 V 1997 – 1 ex., in an oak tree hollow *Quercus* sp., leg. AM; Luboszyce vic. (VT84), 28 VIII 2011 – 1 ex., under the bark of an old *Quercus robur*, the edge of a meadow, leg. SK; Lusowo (XU11), 3 V 1998 – 2 exx., under the bark of *Salix* sp., 1 V 1999 – 1 ex., under the bark of *Salix* sp., 27 III 2004 – 1 ex., under the bark of *Salix* sp., 12 IV 2004 – 1 ex., under the bark of *Populus* sp., N bank of Lake Lusowskie, leg. SK; Łęczyca (CC76) – 3 exx., ex coll. AB [MIZ]; Obrzycko vic. ad Zielonagóra (XU04), 19 VI 1997 – 1 ex., in rot on a *Quercus* sp., bank of the River Warta, leg. SK; Olszyna ad Ostrzeszów (YS09), 20 V 2010 – 3 exx., on *Padus avium* MILL. blossoms, leg. AM; Poznań, park Cytadela (XU30), 23 VIII 1998 – 1 ex., under the bark of *Robinia pseudoacacia* L., 22 II 1999 – 1 ex., under the bark of *Populus* sp., leg. SK; Poznań, ad Lake Maltańskie (XU30), 14 VI 2004 – 2 exx., sticky trap on pine *Pinus sylvestris*, leg. SK; Puszczykowo ad Poznań (WT97), 7 V 1994 – 1 ex., under the bark of a young pine *Pinus* sp., leg. PJ; Radojewo vic., military training area (XU21), 25 IX 1998 – 1 ex., under the bark of a decaying *Betula* sp., on the bank of Lake Glinowieckie, leg. SK; Rogalin (XT39), 16 VI 1975 – 2 exx., leg. MB [ISEA]; Rogalin vic. (XT38), pine forest on moraine, 10 II 2001 – 2 exx., under the bark of a pine *Pinus* sp., leg. PJ, 11 II 2001 – 1 ex., leg. SK; Ruda Miłicka (XT61), 14 V 1983 – 1 ex., leg. LB [RR]; Sycyn ad

Szamotuły (XU03), 3 V 2004 – 1 ex., leg. SK. **Mazovian Lowland:** Brok nad Bugiem (ED54), 24 VI 1990 – 1 ex., leg. DK [ISEA]; Brwinów (DC87), 21 V 1953 – 3 exx., 17 V 1954 – 1 ex., leg. AR [MIZ]; Celestynów near Warszawa (EC26), 28 V 1950–4 V 1952 – 4 exx., leg. BB [MIZ]; Chylice (EC06), 5 V 1910 – 1 ex., ex coll. ST [MIZ]; Grodzisk Mazowiecki – Piaskowa (DC77), 16 V 1971 – 1 ex., under a dry fungus on a cherry tree *Prunus* sp., leg. BB [MIZ]; Grodzisk Mazowiecki (DC77), 3 V 1934 – 1 ex., ex coll. ST [MIZ]; Jabłonna (DD90), 1 XI 1955 – 1 larva (dead imago: 10 XI 1956), leg. BB [MIZ]; Jedlnia (EC20), 5–8 VI 1995 – 1 ex., leg. HS; Kacice (ED03), 24 III 1955 – 2 exx., in a rotting poplar *Populus* sp. at a height of 13.5 m, leg. BB [MIZ]; Kędzierak (EC37), 31 X 1954 – 1 ex., leg. BB [MIZ]; Leszno (DC78), 27 IV 1952 – 1 ex., under the bark of a willow *Salix* sp., leg. BB [MIZ]; Lipce (DC25), 20 XI 1955 – 1 ex., in the wood of a beech *Fagus sylvatica* overgrown with fungi, leg. BB [MIZ]; Łomianki (DC99), 6 V 1956 – 1 ex., under the bark of a willow, leg. BB [MIZ]; Magdalenka (DC97), 21 XI 1954 – 1 ex., under the bark of an oak *Quercus* sp., leg. BB [MIZ]; Natolin (EC07), 14 VI 1893 – 1 ex., leg. WM [USMB]; Otwock [Jabłoń] (EC17), 1 VII 1901 – 1 ex., leg. WM [USMB]; Otwock-Świder [Świder] (EC17), 4 VII 1903 – 1 ex., leg. WM [USMB]; Otwock-Świder [Świder n. Wisłą] (EC17), 6 IV 1952–25 VI 1952 – 3 exx., leg. BB [MIZ]; Podkowa Leśna (DC87), 10 VI 1955 – 1 ex., leg. JPO [MIZ]; Pomiechówek (DD81) – 1 ex., ex coll. AB [MIZ]; Kampinos Forest (“Puszcza Kampinoska”), Dąbrowa (DC79), 18 I 1953 – 1 ex., in rot on a cherry tree *Prunus* sp., leg. BB [MIZ]; Kampinos Forest, Dziekanów Leśny (DD90), 7 IV 1963 – 1 larva (imago: 3 V 1966), leg. et cult. BB [MIZ]; Kampinos Forest, Ławy near Pruszków (DC79), 18 I 1959 – 2 exx., beetles in copula, in rot on a lime tree *Tilia* sp., leg. BB [MIZ]; Kozienice Forest, “Jedlnia” res. (EB29), 15 VI 2011 – 1 ex., on the trunk of an old, dead *Quercus* sp., leg. MM; Kozienice Forest, Pionki vic. (EC30), 27 V 2017 – 1 ex., on the trunk of a rotting *Quercus* sp., leg. MM; Kozienice Forest, Siczki (EB29), 15 IV 1994 – 1 ex., under the bark of *Populus tremula* at the edge of the forest, 16 IV 2011 – 2 exx., on a trunk of a dead *Quercus* sp., leg. MM; Raszyn (DC97), 16 VI 1895 – 1 ex., leg. WM [USMB]; Siennica (EC47) – 1 ex., ex coll. AB [MIZ]; Stary Otwock (EC17), 13 VI 1928 – 1 ex., under the bark of an oak *Quercus* sp., ex coll. ST [MIZ]; Urle (ED41), 11 VI 1902 – 1 ex., leg. WM [USMB]; Warszawa (EC08), 19 IV 1911 – 1 ex., leg. WM [USMB]; Warszawa-Anin (EC18), 27–30 IV 1949 – 1 ex., leg. WD [MIZ]; Warszawa-Białołęka [Piekiełko] (DC99) – 1 ex., ex coll. ST [MIZ]; Warszawa-Bielany [Bielany] (DC99), 18 VI 1888 – 1 ex., 4 VII 1888 – 2 exx., 5 V 1889 – 1 ex., 1 VI 1889, 5 VI 1889 – 1 ex., 4 V 1894 – 2 exx., 27 VI 1898 – 1 ex., leg. WM [USMB], 18 IV 1953 – 1 ex., leg. AMA, ex coll. WE [MIZ], 24 V 1951–26 XII 1963 – 10 exx., leg. BB [MIZ]; Warszawa-Grochów (EC08), 27 VII 1933 – 1 ex., on a willow *Salix* sp., leg. BB [MIZ]; Warszawa, “Las Kabacki” res. (EC07), 1 III 2017 – 1 ex., under the bark of a hornbeam *Carpinus betulus* L. overgrown with fungi, leg. JTD; Warszawa, “Las Kabacki” res.

(EC07), IV 2018 – 2 exx., on a dead *Pinus sylvestris* overgrown with fungi (after dusk), leg. JTD; Warszawa, “Las Natoliński” res. (EC07), 30 V 2017 – 1 ex., on a dead oak *Quercus* sp. (after dusk), leg. JTD; Warszawa-Łazienki [Łazienki] (EC08), 28 IV 1918 – 1 ex., ex coll. ST, 22 IV 1930 – 1 ex., ex coll. ST [MIZ]; Warszawa-Młociny (DC99), 13 I 1952 – 4 exx., leg. BB [MIZ]; Warszawa-Morysin [Morysinek] (EC07), 5 XII 1954–19 VI 1955 – 6 exx., 7 VIII 1955 – 1 ex., from a pupa collected in white rot on a willow *Salix* sp. (imago: 25 VIII 1955), leg. BB [MIZ]; Warszawa-Natolin (EC07), 25 VI 2016 – 1 ex., leg. JTD; Warszawa, Zoological Garden (EC08), 1 VII 1940 – 1 ex., leg. BB [MIZ]; Warszawa, Młociny Park (DC99), 25 X 1953 – 1 ex., a larva in white rot on a lime tree *Tilia* sp. (imago: 23 IX 1954), leg. BB [MIZ]; Warszawa-Pyry (EC07), 20 IV 1948 – 1 ex., leg. BB, 8 IV 1951 – 1 ex., leg. BB [MIZ]; Warszawa-Saska Kępa [Saska Kępa] (EC08), 20 VI 1893 – 1 ex., 31 V 1901 – 1 ex., leg. WM [USMB], 7 V 1957 – 1 ex., poplar *Populus* sp., leg. JPO [MIZ]; Warszawa-Służew [Służew] (EC08), 17 V 1888 – 1 ex., leg. WM [USMB]; Warszawa-Ursynów [Pyry] (EC07), 3 V 1933 – 1 ex., ex coll. ST [MIZ]; Warszawa-Wawer [Wólka Żerzeńska ad Warszawa] (EC08), 1 XII 1957 – 1 ex., in the trunk of a poplar *Populus* sp., leg. BB [MIZ]; Warszawa-Wilanów [Zawady nad Wisłą] (EC07), 15 V 1955 – 2 exx., in copula, under the bark of a rotting poplar *Populus* sp., leg. BB [MIZ]; Warszawa-Włochy [Salomea] (DC98), 12 V 1931 – 1 ex., ex coll. ST [MIZ]; Zaryte (EC63) – 2 exx., ex coll. ST [MIZ]; Zegrze (ED01), 27 IV 1935 – 1 ex., ex coll. ST [MIZ]; Zielonka (EC19) – 1 ex., ex coll. ST [MIZ]; Zielonka ad Warszawa (EC19), 28 IV 1957 – 1 ex., leg. BB [MIZ]. **Podlasie:** Jeńki (FD27), 9 V 2013 – 1 ex., leg. AL; Mordy vic. Siedlce (FC08), 22 VI 1991 – 1 ex., leg. DK [ISEA]; Knyszyn Forest, “Las Cieliczański” res. (FD59), oak-hornbeam forest, 14 IV 2010 – 3 exx., under the bark of a broken *Acer platanoides*, ca. 100 cm in diameter, leg. JMG; Wyszonki-Błonie (FD14), 2 V 2003 – 1 ex., on a wooden pole, at night, leg. AL. **Białowieża Primeval Forest:** Białowieża NP, ad Gruszki, comp. 105B (FD95), burned site, 11–17 V 2017 – 1 ex., 22 V–5 VI 2017 – 1 ex., in a black, baited funnel trap, leg. JMG; Białowieża NP, comp. 288C/318A (FD94), mixed coniferous forest, *Calamagrostio-Piceetum*, 17 VI 1998 – 1 ex., 2 VI 2005 – 1 ex., 10 V 2007 – 1 ex., in IBL-2bis barrier traps, leg. JMG; Białowieża NP/for. distr. Białowieża, Droga Browska, comp. 375B/375D (FD94), 13–19 V 1997 – 1 ex., 27 V–2 VI 1998 – 2 exx., 3–9 V 2000 – 1 ex., in IBL-2bis barrier traps, leg. JMG; Białowieża, Browska Street, 27 V 2012 – 2 exx., in the rotting hollow of a *Quercus robur*, leg. JTD; Białowieża, Palace Park (FD94), 27 III 1949 – 1 ex., leg. ZW [MIZ], 20 V 1982 – 1 ex., 8 V 1993 – 1 ex., 18 V 1993 – 2 exx., leg. MW; Białowieża (FD94), 9 V 1993 – 1 ex., leg. MW; for. distr. Browsk, comp. 15D (FD96), 27 III, 2014 – 1 ex., leg. JŁ [AL]; for. distr. Browsk, comp. 75 (FD75), 9 XII 2008 – 1 ex., leg. JŁ [AL]; for. distr. Browsk, comp. 121C (FD85), 23 IV 2008 – 1 ex., in a dead, thick *Populus tremula*, leg. JŁ [RK]. **Lower Silesia:** Chojnów (WS68), 28 XI 1950 – 1 ex., reared from a white bracket fungus,

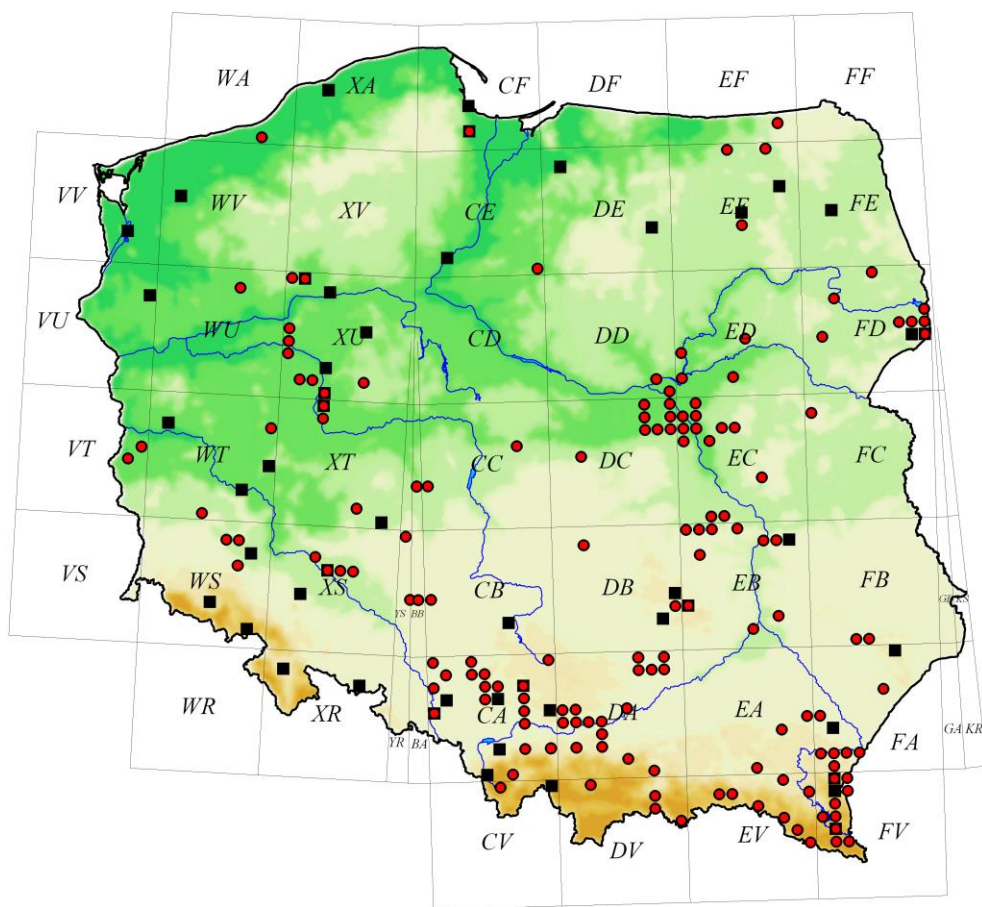


leg. BB [MIZ]; Dunino [Dohnau, Kr. Liegnitz] (WS76), IV 1895 – 1 ex., leg. RS [MNHW], IV 1925 – 2 exx., ex coll. WK [MNHW]; Piszka ad Oleśnica (XS66), 15 VI 1978 – 1 ex., ex coll. AEBG [MNHW]; Wrocław (XS46), 18 IV 1988 – 1 ex., leg. BG, ex coll. AEBG [MNHW]; Wrocław [Breslau] (XS46), V 1925 – 1 ex., 20 VI 1930 – 2 exx., VI 1930 – 4 exx., ex coll. GP [MNHW]; Wrocław-Opatowice (XS46), 4 VI 1988 – 1 ex., leg. BG, ex coll. AEBG [MNHW]; Wrocław-Świniary (XS37), 1 V 1996 – 1 ex., leg. LB [RR]; Wrocław-Wojnów (XS56), 8 IV 2006 – 1 ex., under the bark of an old oak, leg. RR; Zimna Woda (WS78) [Kaltw.] – 1 ex., ex coll. WK [MNHW]. **Upper Silesia:** Brynek (CA39), 17 V 1992 – 1 ex., leg. JG; Brynek (CA39), 20 V 1990 – 1 ex., 5 V 1992 – 2 exx., 17 V 1992 – 1 ex., 3 V 1993 – 6 exx., 13 IV 2008 – 2 exx., 24 III 2012 – 1 ex., leg. HS; Bytom, Las Segiet (CA38/48), 17 V 1997 – 1 ex., 2 IV 2011 – 1 ex., leg. JG; Bytom (CA57), 8 XII 1944 – 1 ex., leg. FK [USMB]; Chelmek (CA75), 21 IV 1878 – 1 ex., 28 IV 1882 – 1 ex., leg. SAS [ISEA]; Góra św. Anny LP, Czarnocin (CA09), 26 V 2005 – 1 ex., leg. JG; Dąbrowa Górnicza (CA77), 22 VI 1938 – 1 ex., leg. KS [USMB]; Jaworzno-Szczakowa (CA76), 26 V 1911 – 1 ex., leg. SP [ISEA]; for. distr. Kluczbork, for. div. Zameczek, comp. 142 (BB94), 19 III 2001 – 1 ex., under the bark of *Fagus sylvatica*, leg. RK; Korzonek (CA07), 9 VI 2013 – 1 ex., leg. JG; Lasowice Małe ad Kluczbork (CB04), 11 V 1993 – 1 ex., in a spider's web on *Quercus robur*, leg. RK; Łęczczok (CA05), 23 VI 2011 – 1 ex., leg. JG; “Łęczczok” res. ad Racibórz (CA05), 24 IX 2015 – 1 ex., under the bark of an old trunk of *Quercus robur*, leg. RK; Mikołów-Chudów (CA46), 24 VI 2005 – 1 ex., leg. JG; Mikołów-Paniowy (CA46), 3–10 VI 1996 – 5 exx., 14 V 1997 – 5 exx., leg. JG; Połomia (CA39), 28 III 2004 – 1 ex., leg. HS; Ruda Śląska, Lasy Bielszowskie (CA47), 27 IX 2015 – 1 ex., leg. JG; Rudziniec Gliwicki (CA18), 8 V 1994 – 1 ex., leg. JG; “Segiet” res. (CA48), 2 V 2008 – 1 ex., 5 IV 2009 – 2 exx., leg. HS; Święciny vic. Kluczbork 1 km E (YS14), 23 IV 2005 – 1 ex., in an old fruiting body of *Fomes* sp. on *Fagus sylvatica*, leg. RK; Tarnowice St. (CA48), 6 VI 2000 – 1 ex., leg. JG; Tuły vic. Kluczbork, (BB94), 16 IV 1998 – 1 ex., in rot on *Quercus robur*, leg. RK; Wilkowice (CA48), 6 VI 1996 – 1 ex., leg. JG. **Kraków-Wieluń Upland:** Czatkowice (DA05), 30 VIII 1915 – 1 ex., leg. SAS [ISEA]; Kraków (DA24) – 2 exx., ex coll. EM [MIZ]; Kraków-Dębny (DA14), 1–8 V, year unknown (late 19<sup>th</sup> century) – 4 exx., leg. MR [ISEA]; Kraków, Botanical Garden (DA24), 30 IV 1936 – 1 ex., 10–13 VI 1936 – 4 exx., 4 VI 1937 – 4 exx., 19 VI 1939 – 3 exx., leg. SP [ISEA]; Kraków-Prądnik (DA24) – 1 ex., ex coll. EM [MIZ]; Kraków-Wola Justowska (DA14), 13 VI 1880 – 1 ex., leg. SAS [ISEA]; Kraków-Zesławice (DA34), 26 IV 1994 – 1 ex., leg. DK [ISEA]; Modlnica (DA15), 10–24 V 1907 – 1 ex., leg. SAS [ISEA]; Przegonia Duchowna (DA04), 29–31 V 1906 – 1 ex., leg. SAS [ISEA]; Rudawa (DA05), 7 VI 1897 – 1 ex., leg. SAS [ISEA]; Zawiercie-Karlin [Karlin pow. Olkusz] (CA99), 24 IV 1952 – 1 ex., leg. MBM [MIZ]. **Małopolska Upland:** Busko-Zdrój, Park Zdrojowy (DA88), 6 V 2018 – 1 ex. on a sticky trap on the trunk of *Aesculus* sp., leg. JMG; Busko-

Zdrój (DA89), 28 VI 1956 – 1 larva, leg. et cult. BB [MIZ]; Krzyżanowice vic. Pińczów (DA68), 13 IV 1954 – 1 ex., in the trunk of a willow *Salix* sp., leg. BB [MIZ]; Paciorkowa Wola Stara (EB49), 1 XII 2018 – 1 ex., under the bark of a fallen *Alnus glutinosa* – alder carr on the bank of the River Zwolenka, leg. MM; “Polana Polichno” res. (DA69), 11 VII 1996 – 1 ex., leg. HS; Radom-Józefów (EB19), 16 VI 2005 – 1 ex., under the bark of *Populus* sp., leg. MM, 14 III 2017 – 1 ex., under the bark of a dead pine, dune near the River Mleczna, leg. MM; Radom-Koniówka (EB19), 29 III 1994 – 1 ex., under the bark of a rotten *Populus* sp., leg. MM; Radom-Las Kapturski (EB09), 28 I 1997 – 1 ex., under the bark of a dead *Quercus* sp., leg. MM; Radom-Młynek Janiszewski, Warszawska Street (EB19), 25 VI 1994 – 1 ex., under the bark of *Salix* sp. infected by *Laetiporus sulphureus* (BULL.) MURRILL, leg. MM; Radom-Nowa Wola Gołębiowska (EB19), 19 V 2001 – 1 ex., under the bark of *Salix* sp., Pacynka river valley, leg. MM; Radom-Woźniki (EB09), 22 III 1995 – 1 ex., under the bark of a dead *Picea abies* in a manor park, leg. MM; Sandomierz, 19 V 1956 (EB51) – 1 ex., leg. BB, 20 V 1956 – 1 ex., in rot at the base of the trunk, leg. BB [MIZ]; SAC “Pakosław” (EB17), 30 V 2015 – 1 ex., on a bracket fungus on *Aesculum hippocastanum* in a manor park, leg. MM; Włodzimierzów (DB28), 14 VIII 1958 – 1 ex., leg. ZS [USMB]. **Świętokrzyskie Mts.:** Góry Świętokrzyskie, Łysa Góra (EB03), 3 VI 1956 – 1 ex., in a bracket fungus on a trunk of *Abies alba*, leg. BB [MIZ]; Świętokrzyski NP, Góra Chelmowa (EB03) ad Serwis, 25 VII 2010 – 1 ex., leg. JMG; Świętokrzyski NP, Łysica (DB93), 20 VI 2001 – 1 ex., leg. EG, ex coll. AEBG [MNHW]. **Lublin Upland:** Celejów (EB78), 22 V 1956 – 1 ex., in the trunk of an Italian poplar *Populus nigra* “italica”, leg. BB [MIZ]; Kazimierz Dolny (EB68), 3 V 1923 – 1 ex., ex coll. ST [MIZ], 8 IV 1939 – 1 ex., leg. AB [MIZ], 27 V 1955 – 1 ex., leg. BB [MIZ], 27 V 1955 – 1 larva, in white rot on a willow *Salix* sp. (adult: 29 IX 1956), leg. et cult. BB [MIZ], 5 V 1989 – 1 ex., leg. JS [AL]; Zaklików (EB72), 1939 – 1 ex., BN [MIZ]. **Roztocze:** Florianka [Florjanka Lubel.] (FB40), 10 III 1914 – 4 exx., det. ex coll. FF [MIZ]; Roztocze NP, “Bukowa Góra” strict protection area (FB30), 9 VI 1988 – 6 exx., 8 VI 1989 – 4 exx., leg. LB [RR]; Roztocze NP, “Czerkies” strict protection area (FB40), 8 VI 1988 – 3 exx., leg. LB [RR], – 1 ex., leg. DI, ex coll. AEBG [MNHW]; Roztocze NP, “Nart” strict protection area (FB40), 23 III 1986 – 1 ex., leg. DK [ISEA]; Zwierzyniec (FB40) – 2 exx., det. ex coll. FF [MIZ]; Zwierzyniec wieś (FB30), 7 VI 1955 – 1 ex., dead imago in a pupal chamber, rotting wood in the hollow of a willow *Salix* sp., leg. BB [MIZ]; “Debry” res. ad Krasnobród (FB40), 9 V 2018 – 2 exx., on *Abies alba*, leg. KSU [JMG]. **Sandomierz Lowland:** “Jedlina” res. ad Lubaczów (FA56), 10 VI 2013 – 1 ex., leg. JMG; Medyka, historic park, (FA31), 2014 IV 13 – 3 exx., under the bark of *Platanus* sp., leg. TO; Metan (EB51), 29 VI 1955 – 1 ex., leg. SN [MIZ]; Niepołomice Forest (“Puszcza Niepołomicka”), Ispina (DA55), 2 VI 1991 – 1 ex., leg. RK. **Western Beskid Mts.:** Barania Góra (CV59), 2 VIII 1873 – 1 ex., leg. BK [ISEA]; Dziekanowice (DA32), 12 V 1898 – 1 ex., leg. SAS

[ISEA]; Jastrzębia (DA12), 6–7 V 1897 – 1 ex., leg. SAS [ISEA]; Kobiernice (CA72), 12 VI 1906 – 1 ex., leg. SAS [ISEA]; Łazany (DA33), 20 VI 1898 – 1 ex., leg. SAS [ISEA]; Makowica (DA51), 26 VII 1939 – 1 ex., leg. AB [MIZ]; Młodów (DV77), 30 VI 1897 – 1 ex., leg. SAS [ISEA]; Raba Wyżna (DV29), 16 VI 1902 – 1 ex., leg. SAS [ISEA]; Roztoka Wielka (DA78), 12 IV 1899 – 1 ex., leg. SAS [ISEA]; Rytro (DV78), 2 VII 1897 – 2 exx., leg. SAS [ISEA]; Tęgoborze (DA70), 25 IV 1892 – 1 ex., leg. SAS [ISEA]; Tomice (CA92), 12 V 1906 – 5 exx., leg. SAS [ISEA]; Wojkowa vic. Krynica (DV96), 28 V 1985 – 1 ex., leg. DK [ISEA]; Zaborze (CA74), 7–21 V 1901 – 2 exx., leg. SAS [ISEA]; Żywiec (CA60), 22 VI 1953 – 1 ex., leg. ZSC [RP]. **Eastern Beskid Mts.:** Barwinek (EV57), 23 III 1991 – 1 ex., leg. DK [ISEA]; for. distr. Bircza, Trójca for. div., comp. 46l (FV19), 12 VI–14 VII 2015 – 1 ex. in the IBL-5 barrier trap, suspended from a fir snag above the Jamninka stream, leg. TN [KR]; Brzuska ad Bircza (FA01), 30 VII 2013 – 1 ex., leg. RP; Hołubla (FA11), 31 V 1884 – 1 ex., leg. BK [ISEA]; Kamienna Laworta Mt. (FV17), 19 VI 1880 – 1 ex., leg. BK [ISEA]; “Kopystanka” res. vic. (FA10), VI 2016 – 1 ex., leg. TN [HS]; Krzemień Mt. (FV28) ad Krościenko, 6 VI 1881 – 1 ex., leg. BK [ISEA]; Krosno (EA50), IV–V 1947 – 2 exx., leg. SKA [ISEA], VII 1948 – 1 ex., V 1951 – 1 ex., ex coll. AEBG [MNHV]; Kuzmień Mt. (FV17), 19 VII 1884 – 1 ex., leg. BK [ISEA]; Kwaszenina vic. (FV16), VI 2011 – 1 ex., leg. RR; Magura NP: Hałbowska Pass (EV38), 10 V–10 VI 2014 – 1 ex., in an IBL-5 barrier trap suspended from a fir tree trunk, leg. AM; Nieznajowa (EV28), 10 V–10 VI 2014 – 1 ex., in an IBL-5 barrier trap on an ash tree *Fraxinus excelsior*, leg. AM; Markowa, garden, (EA94), 22 IV 1986 – 1 ex., 04 V – 1 ex., under the bark of *Malus* sp., leg. TO; Olszany (FA11), 24 IX 1962 – 1 ex., leg. BB [MIZ]; Paław (FV29), for. distr. Bircza, for div. Leszczyny, comp. 35, 21 VI 2015 – 1 ex., in an IBL-5 barrier trap on *Quercus robur*, leg. TO; Pogórze Przemyskie, Trójca vic. (FA10), 23 VI 2011 – 1 ex., leg. RR; Posada Rybotycka (FA10), 30 V 1958 – 1 ex., leg. BB [MIZ]; Prałkowce (FA21), 25 V 1958 – 1 ex., leg. BB [MIZ]; Przemysł vic. (FA21\*), 30 exx., leg. TT [ISEA]; Przemysł-Góra Zamkowa (FA21), 22 VI 1879 – 1 ex., leg. BK [ISEA]; Przemysł-Ostrów (FA21), 31 V 1879 – 4 exx., leg. BK [ISEA]; Przeworsk (FA04), 24 V 1958 – 1 ex., in the trunk of a willow *Salix* sp., leg. BB [MIZ]; Radoszyce (EV76), 28–30 V 1882 – 1 ex., leg. BK [ISEA]; Rzeszów, Zalesie (EA73), 25 V 2007 – 1 ex., forest (private), in *Laetiporus sulphureus* growing on *Prunus avium* L., 27 III 2011 – 2 exx., garden, under the bark of *Pyrus* sp., 22 IV 2018 – 1 ex., historic park, light trap, leg. TO; Splawa Mt. (FA10), 7 VI 1884 – 3 exx., 6 VII 1884 – 1 ex., leg. BK [ISEA]; Zagórz (EV98), 27 V 1970 – 1 ex., in the hollow of a jasmine *Philadelphus* sp., leg. BB [MIZ]; Zarszyn (EV79), 25 V 1923 – 4 exx., leg. SAS [ISEA]. **Bieszczady Mts.:** Cisna for. distr., Krzywe for. div., comp. 126c (EV94), 18 VI 2015 – 1 ex., obs. AM; Komańcza for. distr.: Maniów for. div., comp. 11c (EV85), 31 VII 2015 – 1 ex., obs. AM; Lutowska for. distr.: Dwernik for. div., comp. 14b (FV14), 1 VII–23 IX 2013 – 3 exx., obs. AM; Hulskie for.

div., comp. 73a and 81d (FV15), 15 V – 10 VI 2014 – 7 exx., obs. AM; Paniszczew for. div., comp. 81a (FV16), 15 V–10 VI 2014 – 1 ex.; comp. 116 (FV06), 29 V 2014 – 4 exx., obs. AM; Polana for. div.: comp. 114a (FV15), 20 V 2014 – 1 ex.; comp. 110d, 111c, and 111d (FV15), 15 V–10 VI 2014 – 6 exx., obs. AM; Sękowiec for. div., comp. 154A-b (FV15), 15 V–10 VI 2014 – 2 exx., leg. AM; Ustrzyki Górne (FV24), 6 VI 1958 – 1 larva (imago: 28 VII 1959), leg. et cult. BB [MIZ].



**Fig. 9.** *Grynocharis oblonga* (published records – black squares, records reported in the present paper – red circles) – distribution in Poland.

**Distribution.** Widely distributed in Europe. Common, with records from all over Poland. Recently recorded in the “Bieszczady” Natura 2000 site (OLBRYCHT et al. 2015), Gryżyński LP (RUTA et al. 2016) and Zdrojowy Park in Nałęczów (MILKOWSKI 2017). Newly recorded in Podlasie (Fig. 9).

**Biology.** Larvae and adults are fungivorous and develop in the rotting wood of trees with soft wood, mostly broadleaved (willow, poplar, occasionally oak, beech, alder and hornbeam) and coniferous (fir) trees (BURAKOWSKI et al. 1986, KOLIBÁČ et al. 2005, this study). According to the list in Table 1, this is the most ubiquitous species of the families under discussion here in the Polish fauna. It has been recorded on 20 genera of trees, preferring oaks (23% of records), willows (18%) and poplars (17%). Adults are collected both under the bark and on polypores throughout the year; they are active from mid-April until mid-July, and pupate in August.

*Lophocateres pusillus* (KLUG, 1833)

**Material examined. Baltic Coast:** Gdynia (CF44), 11 VII 1934 – 2 exx. leg. AB [ISEA].

**Distribution.** A cosmopolitan beetle, native to tropical and subtropical areas, introduced in other regions of the world. A few cases of introduction to Gdynia (Fig. 2) in the 1960s were noted by BURAKOWSKI et al. (1986). A specimen collected as long ago as 1934 indicates that it had been introduced much earlier, in the first years of operation of the port in Gdynia.

**Biology.** Larvae and adults inhabit stored products, like rice, maize and other grains.

**Family: Peltidae**

*Peltis ferruginea* (LINNAEUS, 1758)

**Material examined. Pomeranian Lake District:** Szczecin [Stettin] (VV71) – 1 ex., ex coll. PH [MIZ]. **Masurian Lake District:** Augustów Port, 30 III 1955 – 1 ex., in dry rot on a lime tree *Tilia* sp., by Lake Rospuda (FE27/FE37), leg. BB [MIZ]; “Mazury” res. (EE79), 8 IX 2018 – 1 ex., under the bark of a dead *Picea abies*, leg. MM; Biebrza NP (Middle basin), Czerwone Bagno ad Grzędy (FE24), 3 IX 2013 – 2 exx. under the bark of a fallen spruce *Picea abies*, leg. PJ; Augustów Forest, for. distr. Płaska, “Mały Borek” res. (FE57), 9 V 2013 – 1 ex., under the bark of a pine *Pinus* sp. snag, 45 cm in diameter, leg. JMG; Augustów Forest, “Starożyn” res. (FE57), 13 VI 1978 – 1 ex., leg. MW; Pisz Forest, Pogobie Średnie vic., comp. 41 (EE53), 18 V 2015 – 1 ex., 19 V–10 VI 2015 – 2 exx., in IBL-2bis barrier traps, leg. JMG; Pisz Forest, Pogobie Średnie vic., “Szast” reference forest, comp. 75 (EE53), 6–27 V 2013 – 3 exx., 18 V 2015 – 6 exx., 19 V–10 VI 2015 –

1 ex., in IBL-2bis barrier traps, leg. JMG; Pisz Forest, Pogobie Średnie vic., comp. 90 (EE53), 6–27 V 2013 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Pisz Forest, Pogobie Średnie vic., “Szast” reference forest, comp. 117 (EE53), 19 V–14 VI 2005 – 1 ex., 18 V 2015 – 3 exx., 19 V–10 VI 2015 – 4 exx., in IBL-2bis barrier traps, leg. JMG; Pisz Forest ad Ruciane Nida, Zgon vic., “Królewska Sosna” res. (EE24), 7 IV 2014 – 1 ex., leg. JMG; Pisz Forest, ad Pisz, Snopki vic., comp. 239 (EE44), pine forest, 23 IV–21 V 2013 – 2 exx., in an IBL-2bis barrier trap, leg. JMG; Pisz Forest, ad Pisz, Snopki vic., comp. 241 (EE44), pine forest, 6–27 V 2013 – 1 ex., 19 V–10 VI 2015 – 1 ex., in IBL-2bis barrier traps, leg. JMG; Pisz Forest, ad Pisz, Snopki vic., comp. 248 (EE44), pine forest, 23 IV–21 V 2013 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Pozezdrze ad Węgorzewo (EF60), 27 IV 2018 – 1 ex., leg. KSU. **Wielkopolska-Kujawy Lowland:** Nabloto ad Brody (VT83), 5 X 2011 – 1 ex., leg. SK; “Uroczysko Węglińskie” res. vic. Węgliny (VT74/84), 25 VI 2011 – 2 exx., under the bark of *Pinus* sp., leg. SK. **Mazovian Lowland:** Otwock [Jabłoń] (EC17), 1 VII 1901 – 1 ex., leg. WM [USMB]; Otwock-Świder [Świder] (EC17), 4 VII 1903 – 2 exx., leg. WM [USMB]; Kozienice, “Załamek” forest res. (EC20), 23 XII 2018 – 1 ex., under the bark of a rotten fir *Abies alba*; Warszawa, 9 VIII 1906 – 1 ex., ex coll. ST [MIZ]; Warszawa-Bielany [Bielany] (DC99), 2 V 1890 – 1 ex., 4 V 1894 – 1 ex., 14 VI 1895 – 1 ex., leg. WM [USMB]; Warszawa-Bielany [Bielany ad Warszawa] (DC99), 13 II 1955 – 1 ex., in a crevice of dry rot on a fallen *Alnus glutinosa*, leg. BB [MIZ]; Warszawa-Bielany [Ruda Podleśna ad Warszawa Bielany], (DC99), 24 VII 1930 – 1 ex., leg. BB [MIZ]; Warszawa-Lazienki [Łazienki] (EC08), 15 V 1910 – 1 ex., 28 IV 1918, ex coll. ST [MIZ]; Warszawa-Morysין [Morysinek ad Warszawa] (EC07), 11 IV 1955 – 1 ex., in red-brown dry rot on a large, living willow *Salix* sp., leg. BB [MIZ]; Warszawa-Natolin [Natolin] (EC07), 24 V 1930 – 1 ex., ex coll. ST [MIZ]; Warszawa-Ogród Saski [Saski Ogród] (EC08), 2 V 1891 – 1 ex., leg. WM [USMB]; Warszawa, Zoological Garden (EC09), 25 VIII 1940 – 1 ex., under the bark of a willow *Salix* sp., ex coll. ST [MIZ]; Warszawa Wawer [Wawer] (EC18), 16 VI 1900 – 2 exx., leg. WM [USMB]; Zegrze (ED01), 7 VI 1935 – 1 ex., ex coll. ST [MIZ]. **Podlasie:** “Krasne” res. ad Supraśl (FD59), 7 III 2018 – 1 ex., leg. KSU; Białystok (FD48\*), 26 III 1951 – 3 exx., leg. BB [MIZ]; Białystok-Jaroszówka (FD49), 30 VI 2018 – 3 exx., under the bark of a dead, fallen *Pinus sylvestris*, leg. JTD; Knyszyn Forest, “Krzemieńskie Góry” res. (FD69), 7 IV 2010 – 2 exx., leg. JMG & KSU, 21–27 IV 2011 – 1 ex., leg. AK, det. et coll. JMG; Knyszyn Forest, “Krzemieńskie Góry” res., comp. 167 (FD69), 26 V 2011 – 1 ex., under the bark of a spruce *Picea abies*, leg. JMG; Knyszyn Forest, Rybniki vic., “Krzemianka” res. (FE40), 20 VIII 2011 – 1 ex., leg. KT, det. et coll. JMG; Knyszyn Forest, ad Supraśl (FD59), 20 VII 1992 – 1 ex., leg. AL; Włodawa (FC71), 24 VII 1983 – 1 ex., leg. JPA [ISEA]; “Załamanek” res. (EC20), 23 XII 2018 – 1 ex., under the bark of a rotten fir *Abies alba*, leg. MM. **Białowieża Primeval Forest:** Białowieża NP, ad Gruszki, comp. 105B (FD95), burned site, 9 V 2016 – 3 exx.,

10–23 V 2016 – 2 exx., 16 VIII 2016 – 1 ex., in a Netocia trap, 9–21 V 2017 – 1 ex., in a black, baited funnel trap, 9 V 2016 – 1 ex., in a Moericke trap, 10–23 V 2016 – 1 ex., 4 VII 2016 – 1 ex., in a Netocia trap, leg. JMG; Białowieża NP, comp. 191A (FD95), 25 IX 2009 – 1 ex., leg. KSU; Białowieża NP [former for. distr. Browsk], comp. 192 (FD95), 11 VI 1965 – 2 exx., leg. BB [MIZ]; Białowieża NP, by the River Hwoźna [former for. distr. Browsk] (FD95), 20 III 1952 – 1 ex., leg. BB [MIZ]; Białowieża NP, comp. 223 (FD95), 28 V 1954 – 2 exx., leg. BB [MIZ]; Białowieża NP, comp. 224 (FD95), 3 VI 1954 – 1 ex., 5 VI 1954 – 4 exx., under the bark of a spruce *Picea abies*, leg. BB; Białowieża NP, comp. 253D (FD84), Narewka river valley, 7–13 V 1997 – 2 exx., 14–19 V 1997 – 2 exx., 27 V–2 VI 1998 – 1 ex., 19–25 V 1999 – 4 exx., 3–9 V 2000 – 1 ex., 17–23 V 2000 – 1 ex., in unbaited IBL-2bis barrier traps, leg. JMG; Białowieża NP, comp. 255 (FD95), 21 VII 1995 – 2 exx., leg. AL; Białowieża NP, comp. 282B (FD85), Narewka river valley, 7–13 V 1997 – 2 exx., 14–19 V 1997 – 4 exx., 27 V–2 VI 1998 – 1 ex., in unbaited IBL-2bis barrier traps, leg. JMG; Białowieża NP, comp. 288C (FD94), mixed coniferous forest, 1997 – 2 exx., leg. KSU; Białowieża NP, comp. 288C/318A (FD94), mixed coniferous forest, 26 VI 1989 – 1 ex., 15 V 1990 – 2 exx., 17 V 1991 – 1 ex., 31 V 1991 – 1 ex., 14 VI 1991 – 1 ex., 17 VI 1991 – 1 ex., 12 V 1992 – 1 ex., 26 V 1992 – 2 exx., 21 VI 1994 – 1 ex., 9 V 1995 – 1 ex., 23 V 1995 – 1 ex., 6 VI 1995 – 1 ex., 12 V 1999 – 1 ex., 10 V 2000 – 1 ex., 7 V 2002 – 4 exx., 14 V 2003 – 1 ex., 8 VI 2004 – 1 ex., 19 V 2005 – 1 ex., 4 V 2006 – 1 ex., 18 V 2006 – 4 exx., 1 VI 2006 – 1 ex., 26 IV 2007 – 4 exx., 10 V 2007 – 5 exx., 1 V 2008 – 2 exx., 15 V 2008 – 8 exx., 29 V 2008 – 1 ex., 30 IV 2009 – 5 exx., 12 V 2010 – 3 exx., 27 IV 2011 – 1 ex., 11 V 2011 – 8 exx., 25 V 2011 – 2 exx., 30 IV 2013 – 2 exx., 14 V 2013 – 11 exx., 29 IV 2014 – 5 exx., 13 V 2014 – 5 exx., 22 VII 2014 – 2 exx., 28 IV 2015 – 1 ex., in IBL-2bis barrier traps, mostly unbaited, in rare cases – turpentine baited, the first specimen was hand collected, leg. JMG; Białowieża NP, comp. 288C/318A (FD94), mixed coniferous forest, 7 V 1993 – 2 exx., 20 V 1998 – 1 ex., 11 V 2004 – 1 ex., 25 V 2004 – 1 ex., 12 V 2010 – 1 ex., 27 IV 2011 – 1 ex., 11 V 2011 – 1 ex., 9 V 2012 – 1 ex., 14 V 2013 – 1 ex., 13 V 2014 – 1 ex., in Moericke yellow pan traps installed at a height of 1 m, leg. JMG; Białowieża NP, comp. 314 (FD94), 19 IV 1967 – 2 larvae (imagines: 16 VI 1967), leg. BB [MIZ]; Białowieża NP, comp. 317C (FD94), mesic mixed deciduous forest, 27 V 1988 – 1 ex., leg. JMG; Białowieża NP, comp. 318 (FD94), 26 VII 1996 – 1 ex., mesic mixed coniferous forest, in rotting wood, leg. AL; Białowieża NP, comp. 318B (FD94), mixed coniferous forest *Calamagrostio-Piceetum*, 11 V 2004 – 2 exx., in an IBL-2bis barrier trap, leg. JMG; Białowieża NP, comp. 318B (FD94), mixed coniferous forest, 12 IX 2007, remains of an imago in the wood of a fallen, rotten spruce *Picea abies*, leg. KSU; Białowieża NP, comp. 340 (FD94), 1 V 1991 – 1 ex., leg. RK; Białowieża NP, comp. 341/342 (FD94), 2 VI 1954 – 2 exx., leg. BB [MIZ]; Białowieża NP, comp. 368E (FD94), Narewka river valley, 19–25 V 1999 – 4 exx., 3–9 V 2000 – 1 ex., 19–

25 VII 2001 – 2 exx., in IBL-2bis barrier traps, leg. JMG; Białowieża NP, comp. 369 (FD94), 17 IV 1967 – 1 ex., in the rotting wood of a spruce *Picea abies*, leg. BB [MIZ]; Białowieża NP, comp. 370D (FD94), oak-hornbeam forest, 12 VIII 1985 – 1 ex., leg. JMG; Białowieża NP, comp. 373 (FD94), 13 VI 1994 – 4 exx., alder forest, under a rotting log of *Betula* sp., leg. AL; Białowieża NP, comp. 374 (FD94), oak-hornbeam forest, 12 IX 2002 – 1 ex., rotting wood, leg. AL; Białowieża NP, comp. 374C (FD94), 2 X 2007 – 2 exx., under the bark of a fallen spruce *Picea abies* ca. 40 cm in diameter, leg. JMG; Białowieża NP, comp. 398G (FD94), 26 IX 1998 – 2 exx., leg. RD [USMB]; Białowieża NP, comp. 398 (FD94), 13 XI 1959 – 4 exx., under the bark of a dead spruce *Picea abies*, leg. BB [MIZ]; Białowieża NP, comp. 398/399 (FD94), 25–26 IX 1998 – 1 ex., leg. RK; Białowieża NP, comp. 399C (FD94), 2 V 1991 – 1 ex., leg. DK [ISEA]; Białowieża NP, comp. 399C (FD94), oak-hornbeam forest, 7 V 1993 – 1 ex., 24 V 1994 – 2 exx., leg. JMG; Białowieża NP, comp. 399 (FD94), oak-hornbeam forest, 9 V 1959 – 1 larva (imago: 6 VI 1959), leg. BB, 9 V 1959 – 2 larvae (imagines: 10 VII 1959), leg. BB [MIZ], 4 V 1961 – 1 ex., leg. SA [MIZ]; Białowieża NP, comp. 399 (FD94), 25 VII 1982 – 1 ex., 16 VI 1983 – 1 ex., 10 VI 1983 – 2 exx., leg. MW; Białowieża NP (FD94), 22 X 1949 – 1 ex., leg. JMA [MIZ], 25 V 1957 – 1 ex., coniferous forest, leg. BP, PT [MIZ], 30 V 2000 – 1 ex., leg. HS; Białowieża NP (FD95), 26 VI 1991 – 4 exx., leg. TM [HS]; Białowieża NP/for. distr. Białowieża, Droga Browska (FD94), comp. 374D/403B, 7–13 V 1997 – 2 exx., 14–19 V 1997 – 2 exx., 20–27 V 1997 – 2 exx., 5–11 V 1999 – 1 ex., 19–25 VII 2001 – 1 ex., in IBL-2bis barrier traps, leg. JMG; Białowieża NP/for. distr. Białowieża, Droga Browska (FD94), comp. 375B/375D, 7–13 V 1997 – 6 exx., 14–19 V 1997 – 3 exx., 5–11 V 1999 – 2 exx., 2–8 VI 1999 – 1 ex., 19–25 VII 2001 – 3 exx., in IBL-2bis barrier traps, leg. JMG; Białowieża NP/for. distr. Białowieża, Droga Browska (FD94), 9 V 1998 – 2 exx., in a pheromone trap, leg. MM, 18 VII 2000 – 3 exx., under the bark of a dying spruce *Picea abies*, leg. RR; Białowieża, Palace Park (FD94), 8 II 1982 – 1 ex., under the bark of *Pinus strobus* L., leg. JMG; Białowieża (FD94), 29 IX 1950 – 2 exx., 30 IX 1950 – 1 ex., 5 X 1950 – 1 ex., 19 III 1952 – 3 exx., 20 III 1952 – 11 exx., leg. BB [MIZ], 17 V 1957 – 3 exx., leg. BP [MIZ]; Białowieża (FD94), 11–14 VIII 1976 – 3 exx. leg. MB [ISEA]; Białowieża (FD94), 1 V 1989 – 1 ex., under the bark of *Quercus* sp., leg. RK; Białowieża vic. (FD94), 28 VIII 1998 – 1 ex., rotten trunk of *Betula* sp., leg. SK; Białowieża vic., “Żebra Żubra” walking trail (FD84), 7 IV 1995 – 2 exx., rotten log, leg. SK; Czerłonka (FD84), 6 VI 1988 – 1 ex., leg. HS; Grudki [Gródek] (FD93), 4 VIII 1982 – 3 exx., leg. MW; ad Hajnówka, comp. 356 (FD74), 29 VII 1955 – 2 exx., leg. BB [MIZ]; for. distr. Białowieża, comp. 224 (FD95), in a spruce, 16 V 1955 – 3 exx., leg. BB [MIZ]; for. distr. Białowieża, comp. 424C (FD84), 14 IX 1997 – 1 ex., leg. RD [USMB]; for. distr. Białowieża, ad Pogorzelce, comp. 424C (FD84), oak-hornbeam forest, 25 V 2015 – 1 ex., leg. JMG; for. distr. Białowieża, comp. 450-451 (FD84), 24 IV 1990 – 5 exx., leg. JG; for. distr. Białowieża, comp. 471 (FD84), 19



XI 1959 – larvae (imagines: 13 VI 1961), leg. BB [MIZ]; for. distr. Białowieża, comp. 493D (FD83), mixed coniferous forest, pole, 26 V 1988 – 1 ex., in a turpentine baited IBL-2bis barrier trap, leg. JMG; for. distr. Białowieża, comp. 494C (FD83), 24 V 2011 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; for. distr. Białowieża, ad Grudki (FD93), 8 VII 1988 – 3 exx., leg. JMG; for. distr. Białowieża, comp. 521B/D (FD83), mesic mixed coniferous forest, old-growth, 26 V 1988 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; for. distr. Białowieża, comp. 525 (FD83), 26 VI 1990 – 1 ex., leg. JG; for. distr. Białowieża, for. div. Grudki, comp. 526 (FD93), 12 V 2001 – 1 ex., under the bark of *Picea abies*, leg. MM; for. distr. Browsk, comp. 15B (FD96), 28 III 2014 – 1 ex., under the bark of a dead *Picea abies*, leg. RK; for. distr. Browsk, ad Narewka (FD85), 3 VI 1984 – 1 ex., leg. JMG; for. distr. Browsk, comp. 78A (FD85), 2 V 1996 – 1 ex., leg. JŁ [USMB]; for. distr. Hajnówka, comp. 519D (FD83), 26 VI 2005 – 1 ex., under the bark of *Populus tremula*, leg. RK; for. distr. Hajnówka, ad Topiło, comp. 629C (FD73), pine-spruce coniferous forest, 25 IX 2008 – 1 ex., in a fallen, rotten trunk of *Picea abies*, leg. JMG; for. distr. Hajnówka, comp. 629D (FD73), 7 VII 2008 – 1 ex., under the bark of *Pinus sylvestris*, leg. RK; Pogorzelce (FD84), 16 VI 1991 – 3 exx., leg. LB [RR]; “Starzyna” res. (FD72), 1 V 2002 – 2 exx., obs. RR; Stara Białowieża (FD85), 20 VI 2017 – 1 ex., on a spruce log, leg. JTD; comp. 491A (FD94), 18 V 2017 – 8 exx., on a spruce *Picea abies* overgrown with fungi (at night), leg. JTD; Białowieża Forest, 13 VII 1949 – 1 ex., leg. RB [MIZ]; Białowieża Forest (FD85), 19 VII 1995 – 5 exx., 20 VII 1995 – 6 exx., leg. RD [USMB]. **Lower Silesia:** Wrocław [Breslau] (XS46), 20 V 1929 – 1 ex., 30 VI (year unknown) – 1 ex., leg. GP [MNHW]; Wrocław-Świniary (XS37), 24 IV 1992 – 1 ex., leg. LB [RR], 5 V 2016 – 1 ex., obs. RR. **Upper Silesia:** Boruszowice, “Dęby Boruszowickie” res. (CA49), 19 VI 1993 – 1 ex., leg. JG; Brynek (CA39), 17 VIII 2002 – 1 ex., 13 V 2008 – 1 ex., 4 V 2009 – 3 exx., 25 V 2014 – 1 ex., 14 VII 2015 – 1 ex., leg. HS; Bukowo vic. Kluczbork (BB94), 26 V 1995 – 1 ex., leg. RK; Brzezinka (CA27), 19 X 1923 – 2 exx., leg. KK [USMB], – 1 ex., ex coll. WK [MNHW]; Chełmek (CA75), 2 V 1882 – 1 ex., leg. SAS [ISEA], 28 IV 1932 – 1 ex., leg. KB [USMB]; Dąbrowa Górnica (CA77), 10 V 1936 – 1 ex., leg. KS [USMB]; “Łęczok” res. (CA05), 18 V 2016 – 1 ex., leg. JM [HS]; Murcki (CA66), 6 VI 1928 – 2 exx., 21 V 1930 – 2 exx., leg. HN [USMB], 13 VI 1934 – 8 exx., leg. FK [USMB]; for. distr. Kluczbork, for. div. Tuły, comp. 96 (BB94), 19 IX 1999 – 1 ex., under the bark of *Picea abies*, leg. RK; Rudno ad Rudziniec (CA18), 31 VIII 1992 – 2 exx., from rotting wood of *Picea abies*, leg. RK; Rudziniec (CA18), 15 V 1993 – 1 ex., leg. HS; Tworóg (CB30), 11 VIII 2002 – 1 ex., 27 VI 2005 – 1 ex., leg. HS; Zaborze (CA47), 7–14 V 1901 – 6 exx., 15–30 VII 1903 – 1 ex., leg. SAS [ISEA]; Zawadzkie (CB20), 15 VIII 1981 – 1 ex., leg. HS; Zawiercie (CA89), 1912 (301) – 1 ex. [MIZ]. **Kraków-Wieluń Upland:** Czatkowice (DA05), 18 IX 1904 – 1 ex., leg. SAS [ISEA]; Głogoczów (DA23), 22 V 1897 – 5 exx., leg. SAS [ISEA]; Kraków (DA14) – 2 exx., ex coll. EM [MIZ], 26 IV 1918 – 1 ex., leg. SP

[ISEA]; Kraków-Dębny (DA14), 24 V, year unknown (end of 19<sup>th</sup> century) – 4 exx., leg. MR [ISEA]; Kraków, Botanical Garden (DA24), 20 V 1936 – 2 exx., leg. SP [ISEA]; Kraków-Płaszów (DA24), 2 VI 1912 – 1 ex., leg. SP [ISEA]; Kraków-Zwierzyniec (DA14), 1 V 1915 – 1 ex., leg. SAS [ISEA]; Ojców (DA16), 26 IV 1952 – 1 ex., leg. RB [MIZ]. **Małopolska Upland:** SAC “Łasy Suchedniowskie”, Świnia Góra vic. (DB75), 14 X 2015 – 1 ex., under the bark of *Abies alba* overgrown with sporocarps of *Fomitopsis pinicola* (Sw.) P. KARST., leg. JTD; “Świnia Góra” res. near Skarżysko-Kamienna (DB85), 19 IX 2010 – 3 exx., leg. JMG; Tunel near Miechów (DA28), VI 1985 – 1 ex., leg. JKM [ISEA]. **Lublin Upland:** Kazimierz Dolny [Kazimierz] (EB68), 3 V 1923 – 1 ex., ex coll. ST [MIZ]; Lublin-Majdanek [Majdanek, Lubel.] (FB17) – 2 exx., ex coll. FF [MIZ]; Puławy (EB69), IV 1907 – 1 ex., ex coll. ST [MIZ]. **Świętokrzyskie Mts.:** Cisowsko-Orłowski LP, “Zamczysko” res. (DB92), 20 V 1982 – 1 ex., leg. LB [RR]; “Chełmowa Góra” res., 3 km N of Nowa Słupia, (EB03), 18 IX 2000 – 1 ex., leg. RR, 19 IX 2010 – 2 exx., leg. RK; SAC “Ostoja Wierzejska”, Kielce vic. (DB74), 23 IX 2014 – 4 exx., under the bark of a fir tree *Abies alba*, leg. AM; Góry Świętokrzyskie, 15–29 V 1957 – 2 exx., leg. JPO [MIZ]; Góry Świętokrzyskie, Łysa Góra (EB03), 2 VI 1956 – 1 ex., under the bark of *Abies alba*, leg. BB, 15 IX 1968 – 1 ex., under the bark of *Abies alba*, leg. BB, 15 IX 1968 – 2 exx., under the bark of *A. alba*, leg. BB, 15 IX 1968 – 1 ex., rotten wood near a fir *Abies alba*, leg. BB [MIZ]; Góry Świętokrzyskie, Św. Katarzyna (DB93), 7 VII 1956 – 1 ex., leg. SN [MIZ], Świętokrzyskie Mts., Świętokrzyski NP, for. div. Podgórze, Uroczysko Przylaski (DB94), 26 X 1955 – 4 exx., under the bark of an oak *Quercus* sp., leg. BB [MIZ]; Świętokrzyskie Mts., Świętokrzyski NP, comp. C-1 (DB93), 8 VIII 1962 – 2 exx., leg. MBM [MIZ]; Huta Szklana vic. (EB03), 10 V 2002 – 3 exx., leg. RR; Św. Katarzyna (DB93), 13 VII 2014 – 6 exx., leg. JG; Świętokrzyski NP, Łysica (DB93), 20 VI 2001 – 1 ex., leg. AG, ex coll. AEBG [MNHV], 15 VIII 2007 – 1 ex., leg. MW; Świętokrzyski NP, Św. Krzyż (EB03), 21 V 1982 – 1 ex., leg. LB [RR], 6 IX 1994 – 1 ex., leg. HS; Świętokrzyski NP, Bartoszowiny vic. (EB03), 15 X 2018 – 1 ex., on the sporocarp of *Fomitopsis pinicola* on a dead *Abies alba*, obs. JTD. **Roztocze:** “Bukowa Góra” res. ad Zwierzyniec (FB30), 5–9 VI 1989 – 1 ex., leg. MW, 2 VII 1985 – 1 ex., leg. DK [ISEA]; “Debry” res. ad Krasnobród (FB40), 9 V 2018 – 1 ex., on *Abies alba*, leg. KSU; Grele (FB40), 14 VIII 1911 – 1 ex., ex coll. ST [MIZ]; Roztocze NP, “Nart” strict protection area [Nart] (FB40) – 4 exx., ex coll. FF [MIZ], 15 VII 1910 – 2 exx., ex coll. ST [MIZ]; Roztocze NP, “Czerkies” strict protection area (FB40), 8 VI 1988 – 3 exx., leg. DI, ex coll. AEBG [MNHV]; Roztocze NP, “Nart” strict protection area (FB40), 13 IV 1985 – 1 ex., 15 V 1987 – 1 ex., leg. DK [ISEA], 30 VI 1988 – 1 ex., under the bark of a dead *Abies alba*, leg. JMG. **Sandomierz Lowland:** Brusno (FA66), 13 VI 1880 – 2 exx., leg. BK [ISEA]. **Eastern Sudeten Mts.:** Góry Białskie, “Puszcza Śnieżnej Białki” res. (XR46), 31 VII 2002 – 3 exx., under the bark of a fallen *Picea abies*, leg. AL; Śnieżnik massif,

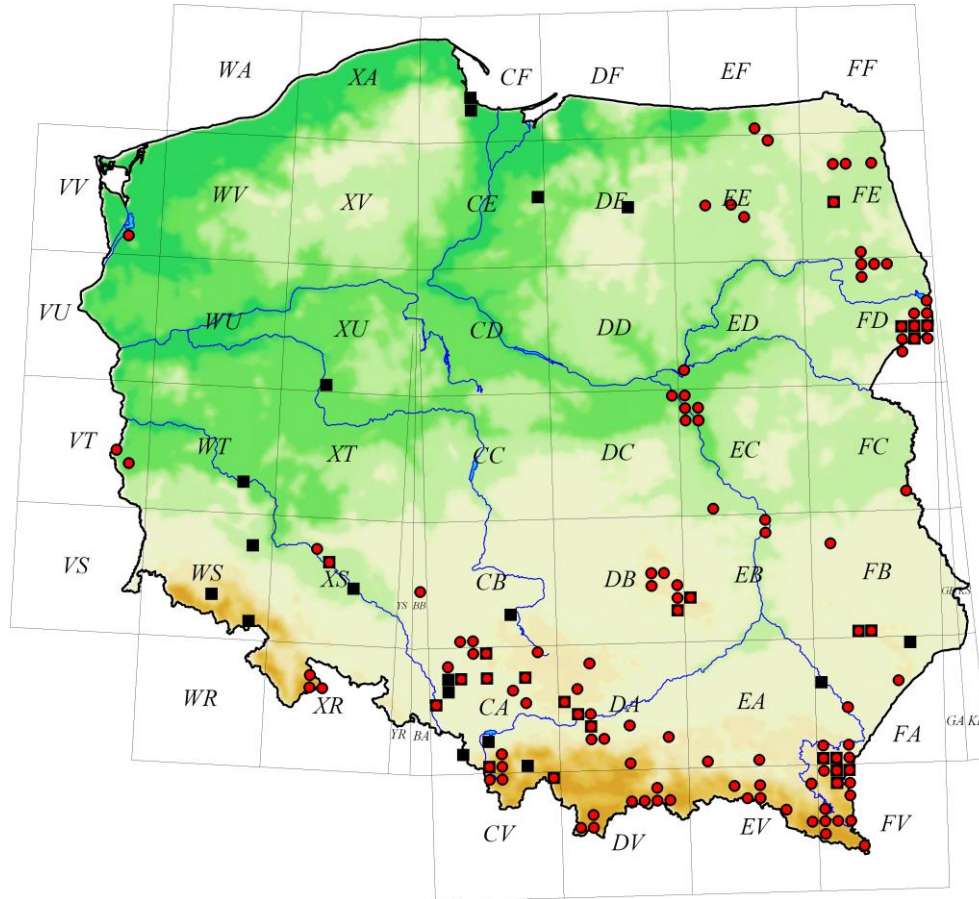
Kamienica valley (XR37), 6 VI 1989 – 1 ex., leg. AM [ISEA]; Śnieżnik massif, N of “Śnieżnik Kłodzki” res. (XR36), 17 IX 2014 – 1 ex., under the bark of a dead *Picea abies*, leg. RK. **Western Beskid Mts.:** Babia Góra NP, Czatożańska Primeval Forest (CV99), 23 VI 1998 – 1 ex., in a fir tree *Abies alba*, leg. AM; Babia Góra, Markowe Szczawiny (CV99), 17 IV 1966 – 1 ex., under the bark of a dead *Picea abies*, leg. BB [MIZ]; Babia Góra NP, under Sokolica Mt. (CV99), 1 X 2011 – 1 ex., under the bark of a dead *Picea abies*, leg. MM; Barania Góra (CV59), 2 VIII 1873, VII 1876 – 5 exx., leg. BK [ISEA]; Silesian Beskids, Szyndzielnia massif (CA51), 23 V 1994 – 1 ex., under the bark of *Picea abies*, leg. MM; Silesian Beskids, Równica mountain range, Ustroń Jaszowiec (CA40), 2014 IV 28 – 1 ex., leg. RK; Czarna Wisielka (CV59), 9 VIII 1956 – 1 ex., 21 VII 1964 – 1 larva (dead imago: 21 VII 1964), 2 V 1968 – 2 exx., leg. BB [MIZ]; Dolina Czarnej Wisielki (CV59), 1 V 2014 – 4 exx., leg. JG; Kłaj (DA53), 1904 – 22 exx. leg. MR [ISEA]; Mosorny Groń (CV99), 2 V 2018 – 1 ex., on a trunk of *Fagus sylvatica*, leg. JTD; Młodów (DV77), 14 VII 1899 – 44 exx., leg. SAS [ISEA]; Osieczany (DA22), 25 VI 1899 – 1 ex., leg. SAS [ISEA]; Paleśnica (DA82), 1987 – 1 ex., leg. JKM [ISEA]; Radziejowa Mt. (DV77), 15 VII 1899 – 2 exx., leg. SAS [ISEA]; Roztoka Mała (DV78), 25 V 1892 – 1 ex., leg. SAS [ISEA]; Roztoka Wielka (DV78) – 5 VII 1892 – 1 ex., 14 VIII 1892 – 3 exx., 9 VI 1896 – 5 exx., 22 VII 1899 – 2 exx., 26 V 1900 – 1 ex., 15 VII 1901 – 1 ex., 2 VI 1905 – 1 ex., leg. SAS [ISEA]; Rytro (DV78), 2 VII 1897 – 3 exx., leg. SAS [ISEA], 1 VIII 1929 – 2 exx., 10 VIII 1929 – 1 ex., ex coll. ST [MIZ]; Rytro, Roztoka (DV78), 14 VII 1949 – 1 ex., leg. MBM [MIZ]; Sieraków (DA32), 20 VI 1908 – 1 ex., leg. SAS [ISEA]; Skrzyczne Mt. (CA50), VIII 1884 – 2 exx., leg. BK [ISEA]; Tymbark (DA50), 3 V 1905 – 1 ex., leg. SAS [ISEA]; Wierchomla (DV87), 29 VI 1897 – 1 ex., leg. SAS [ISEA]; Wisła-Głębcze (CV49), 2 VII 1964 – 2 exx., on a piece of spruce *Picea abies* wood covered with mould, leg. BB [MIZ]; Zawoja-Czatoża (CV99), 7 VIII 1936 – 1 ex., 20 VIII 1937 – 2 exx., 17 VIII 1939 – 1 ex., leg. SP [ISEA]; Zawoja-Policzne (CV99), 19 VII 1938 – 3 exx., leg. SP [ISEA]. **Nowy Targ Basin:** Zakopane (DV26), 1872 – 1 ex., leg. BK [ISEA]. **Eastern Beskid Mts.:** Bircza (FA00), Panieński Czub Mt., 4–22 V 1879 – 6 exx., leg. BK [ISEA]; Brzuska ad Bircza (FA01), 30 VII 2013 – 1 ex., leg. RP; for. distr. Bircza: Arłamów for. div., comp. 137b (FV19), 3 V–2 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. TN [HS]; Borysławka for. div., Kanasin Mt., southern slopes, comp. 115a (FV19), 27 V–16 VI 2015 – 1 ex. in an IBL-2 barrier trap, suspended from a fir snag in Carpathian beech forest, leg. TN [KR]; Jamna for. div., the south-eastern slope of Mt. Jamna, comp. 141a (FV19), 26 V–16 VI 2015 – 1 ex., in an IBL-5 barrier trap suspended from a fir snag ca. 110 cm in diameter, beech forest with old firs (*Boros schneideri* (PANZER, 1796) and *Lacon lepidopterus* (PANZ.) were observed in the same area), leg. AM & TN [KR]; Jureczkowa for. div., Karaszyn Forest, comp. 194a (FV18), 1 V 2011 – 1 ex. under the bark of a fir tree *Abies alba*, obs. AM & R. Michalski; Łodzinka for. div., comp. 157a (FA10), 2 V–1 VI

2016 – 1 ex. in an IBL-2 barrier trap, leg. TN [HS]; Sierakońce for. div., comp. 8a and 22a (FA20), 5 V–3 VI 2016 – 6 exx. in an IBL-2 barrier trap, leg. TN [HS]; Trójca for. div., comp. 46l (FV19), 12 VI–14 VII 2015 – 1 ex. in an IBL-5 barrier trap, suspended from a fir snag above the Jamninka stream, leg. TN [KR]; Trzcianiec for. div.: comp. 223b (FV09), 2 V–1 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. TN [HS]; comp. 229a (FV09), 3 V–2 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. TN [HS]; comp. 230a (FV09), 3 V–2 VI 2016 – 2 exx. in an IBL-2 barrier trap, leg. TN [HS]; Turnica for. div., ad Suchy Obycz Mt., comp. 160b (FV19), 2 V 2011 – 1 ex., under the bark of a fir tree *Abies alba*, obs. AM; for. distr. Brzozów, Bykowce for. div., comp. 210c (EV98), 4 V–5 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. MB [HS]; Gorlice (EA10), 30 IV 1916 – 1 ex., leg. SAS [ISEA]; Jarosław (FA24), 11 V 1889 – 1 ex., leg. SAS [ISEA]; “Kalwaria Paławska” res. (FV29), 10 V 2018 – 2 exx., under the bark of *Abies alba*, leg. TO & KSU; Krosno (EA50), VI 1951 – 1 ex., ex coll. AEBG [MNHW], 13 VIII 1950 – 1 ex., leg. RB [MIZ]; Krzemień Mt. (FV28) ad Krościenko, 6 VI 1881 – 8 exx., leg. BK [ISEA]; Kwaszenina (FV19), 10 IX 2011 – 3 exx., leg. HS; Las Karaszyn (FV28), for. distr. Bircza, for. div. Jureczkowa, comp. 184, 27 IX 2011 – 3 exx., under the bark of *Abies alba*, leg. TO; Magura NP, Baranie (EV47), 27 V 1995 – 1 ex., leg. WKU; Magura NP, Hałbowska Pass (EV38), 10 V–10 VI 2014 – 1 ex., in an IBL-5 barrier trap suspended from a fir tree *Abies alba* trunk, leg. AM; Paclaw (FV29), forest (private), 5 VI 2016 – 1 ex. in an IBL-5 barrier trap on *Q. robur*, leg. TO; Piotruś ad Tylawa (EV58), for. distr. Dukla, for. div. Piotruś, comp. 32, 10 IX 2017 – 2 exx., under the bark of *Abies alba*, leg. TO; Pogórze Przemyskie, Trójca vic. (FA10), 23 VI 2011 – 1 ex., leg. RR; “Przełom Jasiołki” res. (EV57), 27 V 2016 – 1 ex., in an IBL-2 barrier trap on *Abies alba*, leg. TO; Przemysł vic. (FA21\*), 22 exx., leg. TT [ISEA]; Przemysł-Ostrów (FA21), 25 V 1879 – 4 exx., leg. BK [ISEA]; Radiów Wierch ad Bandrów Narodowy (FV27), for. distr. Ustrzyki Dolne, for. div. Brzegi, comp. 107, 29 IX 2012 – 2 exx., under the bark of *Abies alba*, leg. TO & AM; Radoszyce (EV76), for. distr. Komańcza, for. div. Radoszyce, comp. 150, 26 VII 2012 – 2 exx., under the bark of *Abies alba*, leg. TO; “Reberce” res. vic. (FA10), 1 V–1 VI 2016 – 2 exx. in an IBL-2 barrier trap, leg. TN [HS]; Splawa Mt. (FA10), 7 VI 1884 – 7 exx., leg. BK [ISEA]; Trójca (FA10), 2 V–1 VI 2016 – 1 ex. in an IBL-2 barrier trap, leg. TN [HS]; “Turnica” res. (FV19), 17 XI 2012 – 2 exx., under the bark of *Abies alba*, leg. TO, 1 V–1 VI 2016 – 4 exx. in an IBL-2 barrier trap, leg. TN [HS]. **Bieszczady Mts.:** Cisna for. distr.: Buk for. div., comp. 83 (FV05), 10 VI 2015 – 3 exx., obs. AM; Habkowce for. div. (EV95), 18 VI 2015 – 1 ex., leg. AM; Strzebowiska for. div., comp. 128b (FV04), 3 VII 2015 – 1 ex., under the bark of a fir snag *Abies alba* of 80 cm in diameter, obs. AM; Lutowska for. distr.: Hulskie for. div., comp. 80k (FV15), 15 V–10 VI 2014 – 5 exx., obs. AM; comp. 93a (FV05), 15 V–10 VI 2014 – 3 exx., obs. AM; Paniszczew for. div., comp. 118g (FV06), 24 V 2014 – 3 exx., under the bark and in the roots of a very old fir *Abies alba* with a diameter of more than 180

cm, obs. AM; Polanki for. div., comp. 110b (FV15), 15–31 V 2014 – 1 ex., leg. AM; Rosochate for. div., comp. 93c (FV25), 1 VII–23 IX 2013 – 2 exx., obs. AM; Stuposiany for. distr., Sokoliki for. div., comp. 266a (FV33), 17 V 2014 – 2 exx., obs. AM; Bieszczady ad Komańcza (EV76), 1 VI 1970 – 2 exx., *Abies alba* – *Pinus sylvestris* forest, leg. BB [MIZ]; for. distr. Tarnawa, for. div. Sokoliki, (FV33), 7 V 1968 – 2 exx., under the bark of a spruce *Picea abies*, leg. BB [MIZ]; Otryt, the slope of hill 889 (FV25), 6 VI 1970 – 1 ex., leg. BB [MIZ]; Smolnik on the River San (FV25), 17 VI 1958 – 1 ex., 14 VI 1958 – 1 ex., under the bark of a fallen lime tree *Tilia* sp., on a meadow, leg. BB [MIZ]. **Pieniny Mts.:** Kosarzyska vic. (DV57), 15 V 2017 – 6 exx., on *Fomitopsis pinicola* growing on a fir *Abies alba*, leg. PCH [AM]; Pieniny NP: Harczygrunt (DV57), 9 IV 2017 – 1 ex. on *Oligoporus caesius* (SCHRAD.: FR.) GILBERTSON & RYVARDEN on spruce in a fir-spruce forest, leg. PCH [PNPM]; Pieniny glade vic. (DV57), 11 V 2017 – 1 ex., on *Antrodia serialis* (FR.) DONK on spruce in old beech and fir trees, leg. PCH [AM]; Pieniny, Potok Hulina valley (DV67), 25 VII 1939 – 1 ex., ex coll. ST [MIZ]; Pieniny, Droga Pienińska (DV57), 17 VIII 1939 – 1 ex., under the bark of a beech *Fagus sylvatica*, ex coll. ST [MIZ]; Pieniny, Golica (DV57), 20 VIII 1939 – 1 ex., under the bark of a spruce *Picea abies*, ex coll. ST [MIZ]; Pieniny, Krasy (DV57), 14 VIII 1928 – 1 ex., under the bark of a spruce *Piceaabies*, ex coll. ST [MIZ]; Pieniny, Potok Pieniński (DV57) – 4 exx., leg. RB [MIZ]; Pieniny, Pustelnia Św. Kingi (DV57), 1 VI 1929 – 1 ex., ex coll. ST [MIZ]; Pieniny, Stolarzówka (DV57), 20 VII 1939 – 1 ex., under the bark of *Abies alba*, ex coll. ST [MIZ]; Potok Pieniński valley (DV57), 31 VII 1939 – 1 ex., ex coll. ST [MIZ]; Szczawnica (DV67), 17 VI 1942 – 1 ex., leg. JR [USMB]; Wielka valley (DV57), 10 VIII 2017 – 7 exx., on *Antrodia sinuosa* (FR.) P. KARST. growing on a spruce at the edge of a beech-fir forest, leg. PCH [AM]. **Tatra Mts.:** Ciemniak Mt (DV25), 1–3 VI 2003 – 1 ex., leg. EB [SK]; Kościeliska valley (DV15), 25 VII 1949 – 1 ex., leg. AR [MIZ]; Strążyska valley (DV25), 29 VII 1879 – 1 ex., leg. BK [ISEA]; Zakopane vic., Ścieżka nad Regłami (DV25), 3 V 2009 – over 10 exx., under the bark of a fallen spruce *Picea abies*, leg. JTD.

**Distribution.** A widely distributed, Holarctic species. Known from the whole of Poland, though rarely encountered. Most records are from the south and east of the country. More common in well-preserved forests rich in deadwood overgrown with fungi. Recently recorded by OLBRYCHT et al. (2015) in the “Bieszczady” Natura 2000 site co-occurring with *Rhysodes sulcatus* (FABRICIUS, 1787) and in the Roztocze region (PAPIS, MOKRZYCKI 2015). New for the Małopolska Upland and the Nowy Targ Basin (Fig. 10).

**Biology.** Larvae develop in the rotting wood of various trees, and occasionally in building timber (BURAKOWSKI et al. 1986, KOLIBÁČ et al. 2005). The data summarised in the present paper show that it prefers coniferous trees, like spruce (39% of records) and fir (35%). Adults can be seen throughout the year in places where beetles feed and conceal



**Fig. 10.** *Peltis ferruginea* (published records – black squares, records reported in the present paper – red circles) – distribution in Poland.

themselves – under bark, in decaying wood, in the crevices of trunks, hollows, etc. The beetles can be observed from April until mid-October, with their activity peaking between late April and late July.

*Peltis grossa* (LINNAEUS, 1758)

**Material examined. Masurian Lake District:** for. div. Boczki, Gołdap (EF91), 29 III 1955 – 11 exx., in a broken birch, dry, white-yellow rot, leg. BB [MIZ]; Pisz Forest, “Szast” reference forest ad Pogobie Średnie (EE53), 5 V 2011 – 1 ex., under the bark of a broken *Betula pendula* 25 cm in diameter, leg. JMG, pine forest, 6–27 V 2013 – 1 ex., 18

VI–10 VII 2013 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Pisz Forest, Snopki vic. ad Pisz (EE44), pine forest, 5 V 2011 – 2 exx., 6–27 V 2013 – 1 ex., 18 V–10 VI 2015 – 2 exx., in IBL-2bis barrier traps, leg. JMG. **Mazovian Lowland:** Otwock-Świder [Świder] (EC17), 4 VII 1903 – 2 exx., leg. WM [USMB]; Warszawa-Bielany [Bielany] (DC99), 23 V 1900 – 1 ex., leg. WM [USMB]. **Podlasie:** Knyszyn Forest, “Jesionowe Góry” res. (FE51), 27 IV 2010 – 1 ex., in a fallen *Betula pendula* trunk, leg. JMG; Knyszyn Forest, “Las Cieliczański” res. vic. Białystok, comp. 7 (FD59), 14 IV 2010, remains of an imago in a fallen, rotting birch *Betula* sp., leg. JMG. **Białowieża Primeval Forest:** Białowieża NP, ad Gruszki, comp. 105B (FD95), burned site, 9 V – 1 ex., 23 V – 1 ex., 6 VI 2016 – 2 exx., in Netocia traps installed at 1 m height on living pines, 22 V–5 VI 2017 – 1 ex., in a black, baited funnel trap, leg. JMG; Białowieża NP, comp. 111B (FD95), 5 V 2018 – 1 ex., under the bark of a dead *Picea abies*, leg. MM; Białowieża NP, comp. 163C/194A (FD95) – 1 ex., under the bark of an old, dead *Alnus glutinosa* 40 cm in diameter, leg. KSU; Białowieża NP, comp. 192 (FD95), 16 V 1965 – 1 ex., leg. BB [MIZ]; Białowieża NP, comp. 224 (FD95), 3 VI 1954 – 1 ex., 5 VI 1954 – 3 VI 1955 – 2 exx., leg. BB [MIZ]; Białowieża NP, comp. 253D (FD84), Narewka river valley, 20–27 V 1997 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Białowieża NP, comp. 288C/318A (FD94), mixed coniferous forest *Calamagrostio-Piceetum*, 19 VI 1997 – 1 ex., 3 VI 1998 – 1 ex., 10 V 2000 – 2 exx., 24 V 2000 – 2 exx., 21 VI 2000 – 1 ex., 29 V 2001 – 1 ex., 12 VI 2001 – 1 ex., 24 V 2002 – 4 exx., 4 VI 2002 – 1 ex., 14 V 2003 – 1 ex., 28 V 2003 – 2 exx., 8 VI 2004 – 4 exx., 22 VI 2004 – 1 ex., 2 VI 2005 – 1 ex., 18 V 2006 – 1 ex., 15 VI 2006 – 1 ex., 29 V 2008 – 1 ex., 12 VI 2008 – 1 ex., 26 VI 2008 – 1 ex., 30 IV 2009 – 1 ex., 14 V 2009 – 1 ex., 29 V 2009 – 1 ex., 11 V 2011 – 1 ex., 23 V 2012 – 1 ex., 14 V 2013 – 2 exx., 27 V 2014 – 1 ex., in IBL-2bis barrier traps, 29 VI 2006 – 1 ex., 24 V 2007 – 1 ex., in Moericke traps, 7 VI 2007 – 2 exx., in Netocia type traps, leg. JMG; Białowieża NP, comp. 314 (FD94), 19 XI 1967 – 1 ex., in the trunk of *Alnus glutinosa*, leg. BB [MIZ]; Białowieża NP, comp. 314 (FD94), 2 V 1993 – 1 ex., leg. TM [HS]; Białowieża NP, comp. 316 (FD94), 4 V 1964 – 1 ex., in the trunk of a spruce, leg. BB [MIZ]; Białowieża NP, comp. 318B (FD94), mixed coniferous forest, 12 IX 2007 – 3 exx. and feeding traces in a fallen, badly decayed (with fruiting bodies of *Fomitopsis pinicola* and *Fomes fomentarius* (L.)) *Betula pendula* 40 cm in diameter, remains of an imago in a snag of a rotten (white and brown rot, fruiting body of *Fomes fomentarius*) *Betula pendula* 30 cm in diameter, remains of an imago in a snag of a rotten (brown rot) *Betula pendula* 35 cm in diameter, leg. JMG; Białowieża NP, comp. 340 (FD94), 17 XI 1967 – 2 exx., in the trunk of a fallen lime tree *Tilia* sp., leg. BB [MIZ]; Białowieża NP, comp. 341/342 (FD94), 2 VI 1954 – 1 ex., leg. BB [MIZ]; Białowieża NP, comp. 341/371 (FD94), 30 V 1955 – 3 exx., rotten wood of a lime tree *Tilia* sp., 7 VI 1955 – 1 ex., dead adult, leg. BB [MIZ]; Białowieża NP, comp. 342 (FD94), 10 VI 1965 – 1 ex., leg. BB [MIZ]; Białowieża NP, comp. 368E (FD94),

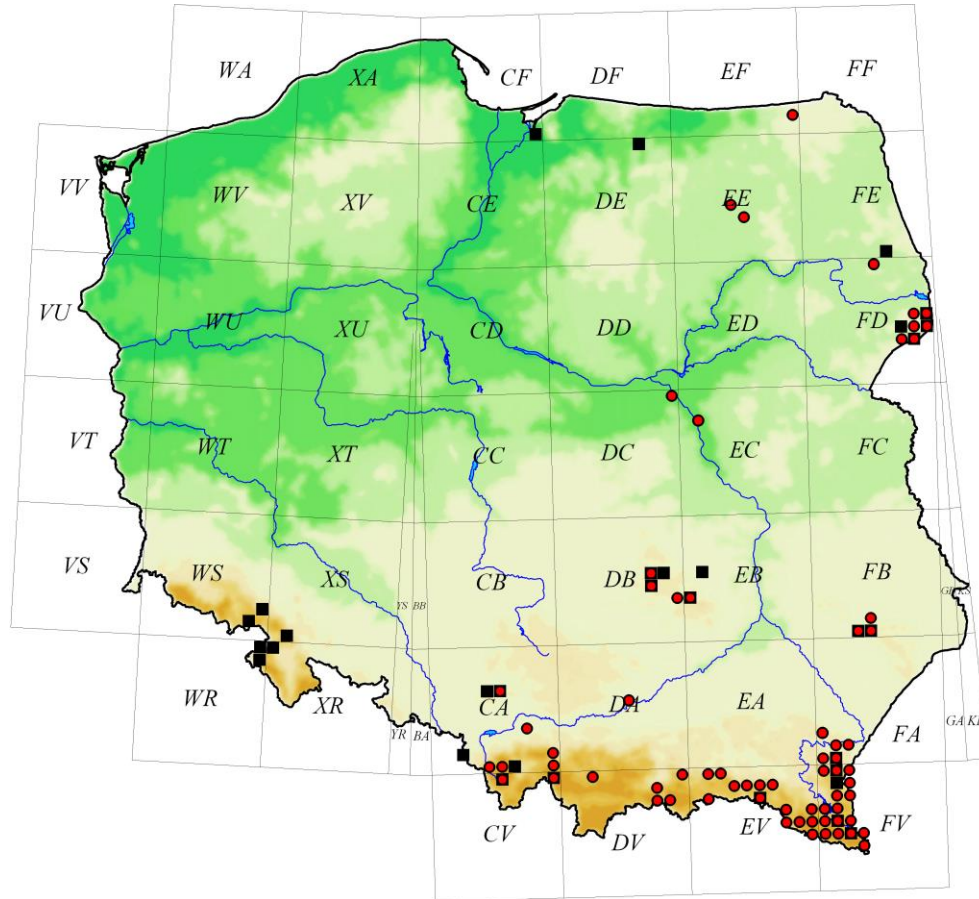
Narewka river valley, 17–23 V 2000 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Białowieża NP, comp. 369 (FD94), 19 VII 1998 – 1 ex., leg. MW; Białowieża NP, comp. 370D (FD94), oak-hornbeam forest, 12 VIII 1985 – 2 exx., leg. JMG; Białowieża NP, comp. 373 (FD94), 13 VI 1994 – 1 ex., in rotten wood, leg. AL; Białowieża NP, comp. 398 (FD94), 18 IV 1967 – 3 exx., trunk of a lime tree, leg. BB [MIZ]; Białowieża NP, comp. 399 (FD94) – 1 ex., oak-hornbeam forest [MIZ]; Białowieża NP, comp. 400 (FD94), 25 VII 1982 – 1 ex., leg. MW; Białowieża NP, 4 V 1961 – 1 ex., leg. SA [MIZ]; Białowieża (FD94), 2 IV 1951–19 III 1952 – 5 exx., leg. BB [MIZ]; Białowieża (FD94), 25 VII 1982 – 3 exx., leg. LB, ex coll. AEBG [MNHW]; Białowieża NP/for. distr. Białowieża, Droga Browska, comp. 375B/375D (FD94), 14–19 V 1997 – 1 ex., 20–27 V 1997 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Białowieża NP/for. distr. Białowieża, Droga Browska (FD94), 9 V 1998 – 1 ex., under the bark of a spruce *Picea abies*, leg. MM, 30 IV 2002 – 2 exx., leg. RR; Białowieża NP/for. distr. Białowieża, Droga Browska (FD84), 30 V 2014 – over 10 exx., on the trunk of a spruce *Picea abies* overgrown with fungi (at night), leg. JTD; Braszcza – bridge over the river (FD95), 20 V 2017 – 1 ex., in flight, leg. JTD; for. distr. Białowieża, comp. 523/547 (FD83), Podcerkwa wood depot, 4 VI 1954 – 1 ex., leg. BB [MIZ]; for. distr. Browsk, comp. 129D (FD95), 18 VII 1981 – 1 ex., leg. JŁ [USMB]; for. distr. Browsk [currently Białowieża NP], comp. 158A (FD95), 21 VI 1984 – 1 ex., leg. JŁ [USMB]; Nowe Masiewo vic., comp. 66D (FD95), 14 XI 2012 – 2 exx., under the bark of *Populus tremula*, leg. JŁ [AL]; Białowieża Forest (FD94), 1 V 1991 – 1 ex., leg. RK; Białowieża Forest (FD84), 26 VI 1991 – 1 ex., leg. TM [HS]; Białowieża Forest (FD85), 15 VII 1995 – 3 exx., leg. RD [USMB]; Białowieża Forest, 28 V 1981 – 1 ex., leg. AJ [HS]; Topiło vic., comp. 598 (FD73), 4 IV 2001 – 1 ex., in rotten wood, leg. AL. **Upper Silesia:** Katowice Panewniki (CA56), 26 X 1920 – 1 ex., leg. HN [USMB]. **Malopolska Upland:** “Świnia Góra” res. ad Skarżysko-Kamienna (DB75), 19 IX 2010, remains of an imago and feeding traces on a fallen, rotting *Abies alba* 60 cm in diameter, leg. JMG, 29 VII 2015 – 1 ex., leg. MW [PJ]. **Świętokrzyskie Mts.:** Huta Szklana (EB03), 10 V 2002 – 1 ex., leg. MW; Łysa Góra (EB03), 3 VI 1956 – 2 larvae on *Abies alba* (imagines: 10 XI 1956), leg. BB [MIZ]; SAC “Ostoja Wierzejska”, Kielce vic. (DB74), 22 IX 2014 – 2 exx., under the bark of a fir snag *Abies alba*, together with *Cucujus cinnaberinus* (SCOP.), leg. AM; Św. Katarzyna (DB93), 18 V 1957 – 1 ex., under the bark of *Abies alba*, leg. JPO [MIZ]; Świętokrzyski NP, Łysica (DB93), 20 VI 2001 – 1 ex., leg. AG, ex coll. AEBG [MNHW]; Świętokrzyski NP, Łysica massif (DB93), 7 VII 1995 – 3 exx., on a bracket fungus on a dead *Abies alba*, leg. MM; Świętokrzyski NP, “Święty Krzyż” res. (EB03), 15 VI 1979 – 1 ex., leg. MW, 14 VIII 1994 – 1 ex., reared from a pupa collected on the trunk of a rotting *Abies alba* collected on 12 VIII 1994, leg. et cult. MM; Świętokrzyski NP, Św. Katarzyna (DB93), 16 VII 2009 – 1 ex., under the bark of a dead *Abies alba*, leg. MM & LBU; Świętokrzyski NP, comp. C-1 (DB93), 8 VIII 1962 – 3 exx., leg. MBM [MIZ];



Świątokrzyski NP, Bartoszowiny vic. (EB03), 15 X 2018 – 1 ex., on fruiting *Fomitopsis pinicola* on a dead *Abies alba*, obs. JTD. **Roztocze:** “Bukowa Góra” strict protection area ad Zwierzyniec (FB30), 8 VI 1955 – 1 ex., under the bark of *Abies alba*, leg. BB [MIZ], 2 VII 1985 – 1 ex., leg. DK [ISEA], 5–9 VI 1989 – 4 exx., 29 VI 1990 – 2 exx., leg. MW; Roztocze NP, “Czerkies” strict protection area (FB40), 23 IX 1987 – 4 exx., 15 VI 1990 – 2 exx., leg. LB, 8 VI 1988 – 4 exx., leg. DI, ex coll. AEBG [MNHW], 10 VI 1989 – 1 ex., leg. MW; Roztocze NP, “Nart” strict protection area (FB40), 30 VI 198 – 1 ex., 15 V 1987 – 2 exx., leg. DK [ISEA], 30 VI 1988 – less than 10 exx., under the bark of dead *Abies alba* trees, leg. JMG; “Debry” res. ad Krasnobród (FB40), 9 V 2018 – 1 ex., on *Abies alba*, leg. KSU; Zwierzyniec (FB41), 3 VI 1987 – 2 exx., leg. LBU [HS], [JG]. **Sandomierz Lowland:** Ispina (DA55) ad Niepołomice, VI 1984 – 1 ex., leg. KP [ISEA]. **Western Beskid Mts.:** Barania Góra (CV59), 2 VIII 1873 – 8 exx., leg. BK [ISEA]; Chabówka (DV29), 12 IX 1898 – 1 ex., leg. SAS [ISEA]; Czantoria Mt. (CA40), VII 1876 – 8 exx., leg. BK [ISEA]; Młodów (DV77), 15 VII 1898 – 2 exx., 12 V 1899 – 4 exx., 14 VII 1899 – 2 exx. leg. SAS [ISEA]; Polanka Wielka (CA73), 12 IX 1901 – 1 ex., leg. SAS [ISEA]; Ptaszkowa (DV99), 17 VI 1892 – 1 ex., leg. SAS [ISEA]; Roztoka Wielka (DV78), 26 VI 1892 – 3 exx., 7–17 VII 1892 – 4 exx., 14 VIII 1892 – 6 exx., 16 V 1896 – 1 ex., 9–21 VI 1896 – 11 exx., 14 VII 1897 – 1 ex., 10–14 VII 1898 – 13 exx., 15–22 VII 1899 – 2 exx., 7–11 VIII 1899 – 4 exx., 24 V 1900 – 2 exx., 15 VII 1901 – 4 exx., 5 V 1918 – 1 ex., leg. SAS [ISEA]; Rytro (DV78), 2 VII 1897 – 5 exx., 19 VII 1898 – 1 ex., 19–20 VI 1919 – 2 exx. leg. SAS [ISEA]; Skrzyczne Mt. (CA50), VIII 1884 – 7 exx., leg. BK [ISEA]; distr. Sucha Beskidzka (CA91), 5 VII 1955 – 3 exx. [MIZ]; Zawoja (CA90), 14 VII 1948 – 5 exx., leg. JPO [MIZ]; Zawoja-Czatoża (CV99), 7 VIII 1936 – 2 exx., 20 VII 1937 – 1 ex., 5–15 VII 1938 – 7 exx., 17 VIII 1939 – 5 exx. leg. SP [ISEA]; Żegiestów (DV87), 15 VIII 1892 – 2 exx., leg. SAS [ISEA]. **Eastern Beskid Mts.:** Arłamów (FV19), for. distr. Bircza, for. div. Turnica, comp. 178, 7 VII 2012 – 1 ex., under the bark of *Abies alba*, leg. TO; Bircza (FA00), Panieński Czub Mt., 4–22 V 1879 – 15 exx., leg. BK [ISEA]; Barwinek (EV57), 6 VII 1987 – 1 ex., leg. DK [ISEA]; Beskid Niski, Barwinek ad Dukla (EV57), 23 VII 1988 – 2 exx., in rot on *Abies alba*, 8 VII 1992 – 1 ex., leg. RK; for. distr. Bircza, Trójca for. div., comp. 46l (FV19), 12 VI–14 VII 2015 – 1 ex., in an IBL-5 barrier trap, suspended from a fir above the Jamninka stream, leg. TN [KR]; Buczacz (FA02), 21 V–24 VI 2016 – 1 ex., in an IBL-2 barrier trap, leg. AM [HS]; Grąziowa (FV09), for. distr. Bircza, for. div. Krzywe, comp. 93, 14 VI 2012 – 3 exx., under the bark of *Abies alba*, leg. TO & AM; Jamna Dolna (FV19), 3 VI 2012 – 3 exx., old cemetery, under the bark of *Tilia cordata*, leg. TO & AM; “Kalwaria Paclawska” res. (FV 29), 10 V 2018 – 11 exx., under the bark of *Abies alba*, leg. TO & KSU; for. distr. Krasieczyn, Krzeczkowa for. div., comp. 230h (FA11), VI 2012 – 1 ex., leg. AM; Kupna for. div., comp. 213a (FA11), V 2012 – 2 exx., leg. AM; Olszany for. div., comp. 139A-b (FA11), V 2012 – 4 exx., leg. AM;

Krzemień Mt. (FV28) ad Krościenko, 6 VI 1881 – 1 ex., leg. BK [ISEA]; Kuzmień Mt. (FV17), 19 VII 1884 – 6 exx., leg. BK [ISEA]; Las Karaszyn (FV28), for. distr. Bircza, for. div. Jureczkowa, comp. 184, 10 IX 2011 – 1 ex, 27 IX 2011 – 2 exx., under the bark of *Abies alba*, leg. TO; Lipowica ad Krosno (EV58), 4 VI 1971 – 1 ex., ex coll. AEBG [MNHW]; Magura NP: Feszówka Mt. (EV38), 24 VI 2014 – 2 exx., under the bark of a fir snag *Abies alba* 50 cm in diameter, leg. AM; Folusz vic. (EV29), 30 VIII 2014 – 1 ex., a dead specimen under the bark of an old fir *Abies alba* 80 cm in diameter, leg. AM; Halbowska Pass (EV38), 10 V–10 VIII 2014 – 4 exx., in an IBL-5 barrier trap suspended from a fir tree trunk, leg. AM; Huta Krempska vic. (EV38), 17 VII 2014 – 1 ex., under the bark of a fir snag *Abies alba* 45 cm in diameter, leg. AM; Kornuty Mt. (EV29), 19 VIII 2014 – 1 ex., under the bark of a fir snag *Abies alba* ca. 70 cm in diameter, leg. AM; Krempna vic. (EV38), 10 V 2014 – 2 exx., under the bark of a fir snag *Abies alba* 50 cm in diameter, leg. AM; Magura Wątkowska Mt. (EV29), 8 VIII 2014 – 1 ex., under the bark of a fir snag *Abies alba* 40 cm in diameter, leg. AM; Pogórze Przemyskie, Trójca vic. (FA10), 23 VI 2011 – 1 ex., leg. RR; Przemyśl vic. (FA21\*), 17 exx., leg. TT [ISEA]; Puławy Górne (EV68), 28 I 2014 – 1 ex., for. distr. Rymanów, for. div. Pastwiska, comp. 54, under the bark of *Pinus sylvestris*, leg. TO; Splawa Mt. (FA10), 7 VI 1884 – 13 exx., leg. BK [ISEA]; Stebnik (FV27), 5 VI 1881 – 2 exx., leg. BK [ISEA]; Suchania Mt. (EV48), 7 VIII 2014 – 2 exx., under the bark of a fir snag *Abies alba* 45 cm in diameter, leg. AM; Suchy Obycz (EV19) ad Arłamów, 31 VIII 2017 – 2 exx., under the bark of *Abies alba*, leg. TO.

**Bieszczady Mts.:** Bereżki (FV24), 25 VII 1967 – 1 ex., leg. JP [ISEA]; Bieszczadzki NP.: Caryńskie (FV14), 14 IX 2014 – 1 ex, old cemetery, on the bark of *Abies alba*, leg. TO; Bystre ad Baligród: south-western slope of Michałowa Mt. (EV96), 4 I 2014 – 1 ex., leg. AM; Cisna for. distr.: Buk for. div., comp. 97 (FV05), 16 V 2015 – 3 exx., obs. AM; comp. 73b (FV15), 8 VI 2014 – 2 exx., leg. AM; Czarne ad Baligród (EV96), 5–10 VII 1955 – 1 ex., leg. STO [MIZ]; Dwidowa Mt., Partyja Mt. (EV96), 5–6 I 2014 – 4 exx., obs. AM; Dźwiniacz for. div., comp. 60b (FV24/FV34), 19 V 2014 – 12 exx., under the bark of old, dying birches *Betula* sp. in a moist forest, obs. AM; Habkowce for. div., a shelter on the slope of Hon Mt. (EV95), 28 V 2015 – 1 ex., obs. AM; Hoszów [Choszów] (EV17), 29 VI 1953 – 2 exx., leg. BB [MIZ]; Hulskie for. div. comp. 80k (FV15), 10 V–15 VI 2014 – 1 ex., obs. AM; comp. 73b (FV15), 8 VI 2014 – 2 exx., leg. AM; Jabłonki ad Baligród, Łysy Wierch Mt. (EV95), 6 I 2014 – 2 exx., obs. AM; Jawornik for. div., comp. 71b (FV15), 9 VI 2014 – 3 exx., under the bark of a fir tree *Abies alba* over 80 cm in diameter, obs. AM; Komańcza for. distr., Maniów for. div., comp. 33A-a (EV85), 9 VIII 2015 – 1 ex., obs. AM; Krzywe for. div., comp. 126 (EV94), 18 VI 2015 – 1 ex., obs. AM; Liszna for. div., comp. 148 (EV95), VI–VIII 2015 – 1 ex., leg. AM; comp. 166 (EV94), VI 2015 – 1 ex., obs. AM; Lutowska for. distr. Dwernik for. div., comp. 9c and 11i (FV15), 9–15 VII



**Fig. 11.** *Peltis grossa* (published records – black squares, records reported in the present paper – red circles) – distribution in Poland.

2013 – 3 exx., obs. AM; Łubne-Żenowate (EV95), 11 VII 1971 – 1 ex., leg. ZS [USMB]; Muczne for. div., comp. 40a and 56c (FV24), 15 V–10 VI 2014 – 4 exx., obs. AM; Okrąglik for. div., comp. 123 (FV04), VI 2015 – 6 exx., under the bark of old firs *Abies alba*, obs. AM; Paniszczew for. distr. comp. 85a (FV06), 26 V 2014 – 2 exx., obs. AM; comp. 118g (FV06), 24 V 2014 – 3 exx. under the bark and in the rot of a very old fir *Abies alba* with a diameter of more than 180 cm, leg. AM; Polana for. div. comp. 80B-a (FV16), 10 V–15 VI 2014 – 2 exx., obs. AM; comp. 108b (FV15), 31 V–15 VI 2014 – 2 exx., obs. AM; comp. 114a (FV15), 10 V–15 VI 2014 – 1 ex., leg. AM; Radoszyce for. div., comp.



**Fig. 12.** *Peltis grossa* – an adult and larval galleries in a birch log, Knyszyn Forest; phot. J.M. GUTOWSKI.

157d (EV76), 7 VI 2015 – 1 ex., leg. AM; comp. 222a (EV75), 9 VI 2015 – 1 ex. in a timber yard, obs. AM; Rosochate for. div., comp. 88a and 123A-b (FV25), 2–5 VII 2013 – 2 exx., obs. AM; comp. 96b, 96c, 97b (FV15), 7 VII–23 IX 2013 – 7 exx., obs. AM; Sękowiec for. div., comp. 144d and 154A-b (FV15), 1–15 VI 2014 – 4 exx., leg. AM; Smolnik for. div., comp. 45a (EV85), 14 VIII 2015 – 1 ex., obs. AM; Sokoliki for. div., comp. 266c and f (FV33), 17 V 2014 – 3 exx., obs. AM; Stuposiany (FV25), village, 17 VII 2013 – 1 ex., on firewood, leg TO; Stare Siolo for. div. comp. 97 (FV04), 3 VII 2015 – 1 ex., obs. AM; Strzebowiska for. div., comp. 128 (FV04), 3 VII 2015 – 1 ex., leg. AM; Stuposiany for. distr., Czereszanka for. div., comp. 2f, 10c, and 15a (FV25), 3–9 VII 2013 – 5 exx., obs. AM; Suche Rzeki vic., Jaworniki Mt. (FV15), 4–8 VI 2016 – 1 ex., in an IBL-2 barrier trap, leg. AM & R. GIL; Tworylczyk for. div., comp. 93a (FV05), 1–10 VI 2014, obs. AM; Ustrzyki Górne (FV24), 3 IV 1968 – 1 ex., log of *Alnus* sp. lying on the ground, leg. BB [MIZ], 19 VI 1977 – 3 exx., ex coll. AEBG [MNHW]; Widełki for. div., comp. 23a, 28a, 93g, (FV24), 7 VII–23 IX 2013 – more than 10 exx. under the bark of firs *Abies alba*, obs. AM; Zatwarnica vic., Dolina Hylaty (FV15), 8 VI

2013 – 1 ex., on a spruce log, leg. JTD; Żubracze for. div. (EV95), VII 2015 – 1 ex., leg. AM.

**Distribution.** Species inhabiting the whole of Europe, rarely observed in Poland. Known mainly from the east of the country and the Świętokrzyskie Mts. A relict of primeval forests. Recently recorded from the Świętokrzyskie Mts. and Suchedniów Plateau (Płaskowyż Suchedniowski) (BUCHHOLZ, BIDAS 2012), Białowieża Forest (PLEWA et al. 2015), Roztocze (PAPIS, MOKRZYCKI 2015) and Bieszczady Mts. (HOLLY 2016). Nowadays it occurs only in eastern Poland. Historical records from the Sudeten Mts. in western Poland have not been confirmed for many years. Newly recorded in the Mazovian Lowland and Małopolska Upland (Fig. 11).

**Biology.** Develops in soft, rotten wood overgrown with fungi. According to BOROWSKI (2006) it is monophagous on *Fomitopsis pinicola*. Associated with firs and spruces in montane forests but also with other species of trees, e.g. birches (Fig. 12) (BURAKOWSKI et al. 1986, KOLIBÁČ et al. 2005, this study). According to the present data (Tab. 1), it shows a strong preference for firs (63% of records). Adults can be observed throughout the year in feeding galleries and places of concealment – under bark and in deadwood of both snags and fallen trees, also in windthrows, tree stumps, and thick branches; the beetles are active from the end of April until mid-July, mainly in May and June.

#### Family: Thymalidae

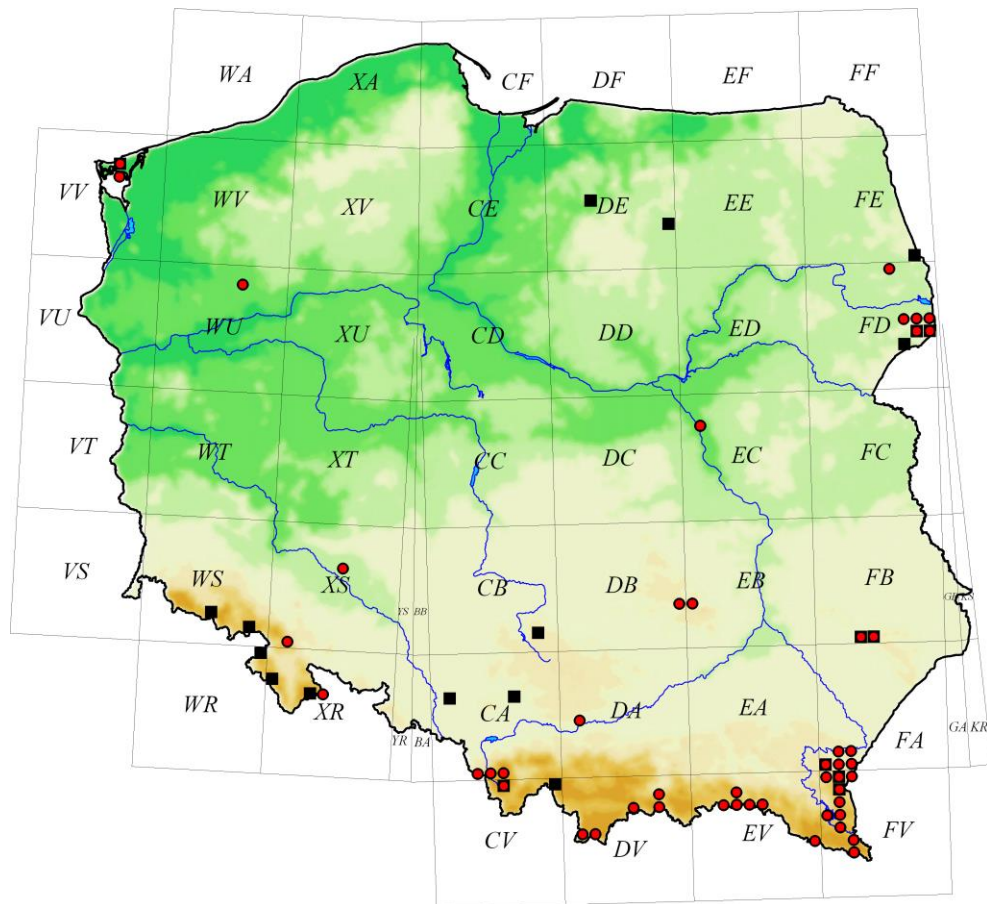
*Thymalus limbatus* (FABRICIUS, 1787)

**Material examined. Baltic Coast:** Międzyzdroje (VV67), 3 VI 1998 – 1 ex., leg. HS; Wolin Is., Lubiń (VV66), 3 V 1991 – 2 exx., 31 VII–8 VIII 1991 – 21 exx., leg. MW; Wolin Is., Międzyzdroje (VV67), 21 VII 2000 – 4 exx., mixed coniferous forest, under bark, leg. AL. **Pomeranian Lake District:** Drawieński NP, “Radęcin” strict protection area (WU68), 4 V 2013 – 1 ex., leg. RR. **Mazovian Lowland:** Otwock [Jabłoń] (EC17), 16 VIII 1900 – 1 ex., leg. WM [USMB]. **Podlasie:** Knyszyn Forest, “Krzemienne Góry” res. (FD69), 26 V 2011 – 1 ex., leg. JMG. **Białowieża Primeval Forest:** Białowieża NP, Zamosze vic., Głuszec (FD95), 29 V 2016 – 1 ex., leg. RR; Białowieża NP, comp. 224 (FD95), 5 VI 1954 – 2 exx., under the bark of spruce, leg. BB [MIZ]; Białowieża NP, comp. 256C (FD95), 6 V 1992 – 1 ex., leg. JMG [ISEA]; Białowieża NP, comp. 288C/318A (FD94), mixed coniferous forest, 15 V 1990 – 1 ex., 18 VII 1995 – 1 ex., in turpentine baited (the first specimen) and unbaited (the second specimen) IBL-2bis barrier traps, 29 V 2001 – 1 ex., 24 V 2002 – 1 ex., 19 V 2005 – 1 ex., 2 VI 2005 – 1 ex., 24 V 2007 – 1 ex., 29 V 2008 – 1 ex., 11 VI 2009 – 2 exx., 9 VII 2009 – 1 ex., 20 VII 2011 – 1 ex., 9 V 2012 – 2 exx., 23 V 2012 – 1 ex., in unbaited IBL-2bis barrier traps, 7 VI 2007 – 1 ex., in a Netocia trap, leg. JMG; Białowieża NP, comp. 316 (FD94), 17 VI 1996 – 1 ex.,

oak-hornbeam forest, on *Laetiporus sulphureus*, leg. KSU [AL]; Białowieża NP, comp. 318A (FD94), *Quercus-Piceetum*, 24 V 2007 – 1 ex., in a Netocia trap, 25 VI 2009 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Białowieża NP, comp. 399 (FD94), 18 VI 1991 – 1 ex., leg. MW; Białowieża NP, comp. 399C (FD94), oak-hornbeam forest, 24 V 1994 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Białowieża NP, comp. 400 (FD94), 1 VIII 1982 – 4 ex., leg. MW; Białowieża NP, comp. 400D (FD94), 24 VI 1997 – 1 ex., leg. RK; Białowieża NP, 15–27 VI 1991 – 3 ex., leg. LB [RR]; Białowieża NP/for. distr. Białowieża, Droga Browska, comp. 374D/403B (FD94), 21–27 VI 2001 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; Białowieża NP/for. distr. Białowieża, Droga Browska, comp. 375B/375D (FD94), 4–10 VI 1997 – 3 ex., 22–28 VII 1998 – 1 ex., 2–8 VI 1999 – 2 ex., in IBL-2bis barrier traps, leg. JMG; Białowieża, Palace Park (FD94), 18 IX 2004 – 1 ex., leg. RR; for. distr. Białowieża, ad Teremiski (FD84), oak-hornbeam forest, 8 VI 2015 – 1 ex., in an IBL-2bis barrier trap, leg. JMG; for. distr. Białowieża, Białowieża-Krzyże vic. (FD94), 19 V 2017 – 6 ex., on an oak *Quercus* sp. overgrown with fungi (at night), leg. JTD; for. distr. Białowieża, comp. 494C (FD84), 8 VI 2000 – 2 ex., leg. JMG [ISEA]; for. distr. Browska, comp. 156 (FD85), 26 VI 1991 – 1 ex., leg. TM [ISEA]; ad Nowosady, Bagna Derlicz vic. (FD75), 19 V 2017 – 1 ex., on the trunk of a spruce *Picea abies*, leg. JTD. **Trzebnica Hills:** Skoroszów vic. (XS56), beech forest, 15 VIII 2006 – 1 ex., leg. RR. **Kraków-Wieluń Upland:** Kraków-Las Wolski (DA14), 24 V, year unknown (end of 19<sup>th</sup> century) – 5 ex., leg. MR [ISEA]. **Świętokrzyskie Mts.:** Łysa Góra (EB03), 15 IX 1968 – 2 ex., under the bark of *Abies alba*, leg. BB [MIZ]; Góry Świętokrzyskie, Łysa Góra Mt. (EB03), 3 VI 1956 – 1 larva (imago: 14 VI 1956), leg. BB [MIZ]; Huta Szklana vic. (EB03), 10 V 2002 – 3 ex., leg. RR; Św. Katarzyna (DB93), 13 VII 2014 – 2 ex., leg. JG; Św. Krzyż, 21 V 1982 – 1 ex., leg. LB [RR]; Świętokrzyski NP, comp. C-1 (DB93), 8 VIII 1962 – 2 ex., leg. MBM [MIZ]; Świętokrzyski NP, Łysica-Św. Krzyż protected area (DB93), 3 V 2010 – 2 ex., leg. MM & LBU; Świętokrzyskie Mts., 25 VI 1983 – 1 ex., leg. JKM [ISEA]. **Roztocze:** Roztocze NP, “Nart” strict protection area [Nart g. Lubelska] (FB40), 15 VII 1910 – 1 ex., ex coll. ST [MIZ], 1 ex., in a bracket fungus, ex coll. FF [MIZ]; Zwierzyniec, Bukowa Góra (FB30), 24 VI 1902 – 2 ex., leg. WM [USMB]; Zwierzyniec [Zwierzyniec Lubelski] (FB30), 15 VI 1914 – 1 ex., ex coll. FF [MIZ]. **Western Sudeten Mts.:** Wolibórz (XS10), 4–5 VII 1996 – 12 ex., several hundreds of beetles were observed in the middle of the day, swarming on fruiting bodies of *Fomes fomentarius* growing on the basal part of an old *Fagus sylvatica* trunk, leg. HS. **Eastern Sudeten Mts.:** Góry Bialskie, Puszcza Jaworowa (XR46), 7 VII 1993 – 4 ex., leg. LB. **Western Beskid Mts.:** Beskid Wołosacki Mt. (FV23), 22 VII 1880 – 1 ex., leg. BK [ISEA]; Bircza (FA00), Panieński Czub Mt., 22 V 1879 – 1 ex., leg. BK [ISEA]; Barania Góra (CV59), VII 1876 – 1 ex., leg. BK [ISEA]; “Barania Góra” res. (CV59), 25 VII 1997 – 3 ex., under loose bark on a dead *Picea abies*, leg. HS; Silesian Beskids, Czantoria vic.

(CA40), 31 VII 2000 – 1 ex., leg. RR; Czantoria Mt. (CA40), VII–VIII 1884 – 2 exx., 21 VIII 1886 – 1 ex., 1887 – 8 exx. leg. BK [ISEA]; Radziejowa Mt. (DV77), 8 VII 1901 – 4 exx., leg. SAS [ISEA]; Roztoka Wielka (DV78), 9 VI 1896 – 1 ex., 12 IV 1899 – 1 ex., 15 VII 1901 – 4 exx. leg. SAS [ISEA]; Równica Mt. (CA40), VIII 1884 – 6 exx., leg. BK [ISEA]; Rytro (DV78), 20 VI 1919 – 3 exx., leg. SAS [ISEA], 21 VII 1902 – 1 ex., leg. WM [USMB]; Skrzyczne Mt. (CA50), VIII 1884 – 21 exx., leg. BK [ISEA]; Tuł Mt. (CA30), 1888 – 1 ex., leg. BK [ISEA]. **Eastern Beskid Mts.:** Długie vic. (EV27), 24 VI 2014 – 1 ex. under the bark of a standing beech stump with a diameter of over 100 cm, leg. AM; for. distr. Bircza: Borysławka for. div., the Kanasin Mt., southern slopes, comp. 115a (FV19), 14 VII–3 VIII 2015 – 1 ex., in an IBL-2 barrier trap suspended from a fir snag in Carpathian beech forest, leg. TN [KR]; for. distr. Krasieczyn, Krzeczkowa for. div., comp. 230h (FA11), VI 2012 – 1 ex., leg. AM; Hałbowska Pass vic. (EV38), 10 V–10 VI 2014 – 1 ex., in an IBL-5 barrier trap suspended from a fir tree *Abies alba* trunk, leg. AM; Hołubla (FA11), 31 V 1884 – 1 ex., leg. BK [ISEA]; Huta Krempska vic. (EV38), 17 VII 2014 – 1 ex., under the bark of a fir snag *Abies alba* 45 cm in diameter, leg. AM; Huwniki (FA20), 5 V–7 VI 2016 – 1 ex., in an IBL-2 barrier trap, leg. AM [HS]; Jureczkowa for. div., the north-eastern slope of Żupa Mt., comp. 204s (FV18), 26 V–15 VI 2015 – 4 exx., in an IBL-5 barrier trap suspended from a fir snag in Carpathian beech forest with admixed sycamore *Acer pseudoplatanus* L., leg. TN [KR]; Las Karaszyn (FV18), for. distr. Bircza, for. div. Jureczkowa, comp. 191, 5 IX 2013 – 3 exx., under the bark of *Abies alba*, leg. TO; Kuzmień Mt. (FV17), 19 VII 1884 – 1 ex., leg. BK [ISEA]; Magura NP: Baranie massif (EV47), 29 III 2014 – 1 ex., under the bark of a dead *Acer pseudoplatanus*, leg. MM et LBU; Magura NP, Ciechania (EV37), 7 VII 2014 – 1 ex., under a bracket fungus on a wind-thrown beech (fallen timber) – *Fagus sylvatica*, leg. AM; Olszany (FA11), 1877 – 4 exx., leg. BK [ISEA]; Paław (FV29), forest, 5 VI 2015 – 1 ex., in an IBL-5 barrier trap on *Quercus robur*, leg. TO; Przemyśl vic. (FA21\*), 25 exx., leg. TT [ISEA]; “Przełom Jasiołki” res. (EV57), 27 V 2016 – 1 ex., in an IBL-2 barrier trap on *Abies alba*, leg. TO; “Reberce” res. vic. (FA10), 1 VI 2016 – 1 ex., leg. TN [HS]; Roztoka (FV09), 1 VI 2016 – 2 exx., 2 VI. 2016 – 2 exx., leg. MB [HS]; Splawa Mt. (FA10), 6 VII 1884 – 4 exx., leg. BK [ISEA]; Trójca for. div., comp. 46l (FV19), 26 V–15 VI 2015 – 1 ex., in an IBL-5 barrier trap suspended from a fir above the Jamninka stream, leg. TN [KR]; Turnica for. div., Suchy Obycz massif, northern slopes of the Niemiecka Valley, comp. 162a (FV19), 27 IV–27 V 2015 – 1 ex., in an IBL-2 barrier trap suspended from beech trees in Carpathian beech forest with admixed fir, leg. TN [KR]. **Bieszczady Mts.:** Cisna for. distr., Roztoki for. div., comp. 169a, (EV94), 29 VII 2015 – 1 ex., obs. AM; Lutowiska for. distr., Paniszczew for. div., comp. 115b (FV06), 29 V 2014 – 1 ex., leg. AM; Lutowiska for. distr., Paniszczew for. div., comp. 116 (FV06), 24 V 2014 – 2 exx., under the bark, leg. AM; Polonina for. div., comp. 80B-a (FV16), 15 V–10 VI 2014 – 1 ex., leg. AM; Połonina

Caryńska Mt. (FV24), 2 VI 2001 – 1 ex., leg. HS; Rosochate for. div., comp. 96c (FV15), 1 VII–23 IX 2013 – 1 ex., leg. AM; Bieszczadzki NP; Ustrzyki Górne (FV24), 24–27 V 1996 – 1 ex., 26 V 1997 – 1 ex., leg. HS. **Pieniny Mts.:** Pieniny NP, Burzana vic. (DV57), 20 VII 2017 – 1 ex., on *Polyporus squamosus* (HUDS.) QUÉL. growing on a beech in an old beech and fir forest, leg. PCH [PNPM]; Pieniny, Pustelnia Św. Kingi (DV57), 1 VI 1929 – 1 ex., coll. ST [MIZ]; Potok Pieniński (DV57), 26 V 1912 – 1 ex., ex coll. ST [MIZ]. **Tatra Mts.:** Kościeliska Valley (DV15), 4 VII 1939 – 1 ex., leg. SAS [ISEA]; Liliowe (DV25), 8–10 VIII 1879 – 2 exx., leg. BK [ISEA].



**Fig. 13.** *Thymalus limbatus* (published records – black squares, records reported in the present paper – red circles) – distribution in Poland.



**Distribution.** Widely distributed in Europe, reaching northern Africa. Rarely collected in Poland – a relict of natural forests. Recorded in radiocarbon-dated subfossil remains from ca. 10000 BP (PAWŁOWSKI & KUŚKA 1987). Occurs in southern Poland, the Białowieża Forest and scattered localities in the lowlands. Recently recorded in the Białowieża Forest and Podlasie (PLEWA et al. 2014). New records from the Pomeranian Lake District, Mazovian Lowland, Trzebnica Hills and Tatra Mts. (Fig. 13).

**Biology.** A fungivorous species associated with trees of numerous species, mostly broadleaved (beech, birch, lime) but also coniferous (spruce) (BURAKOWSKI et al. 1986, KOLIBÁČ et al. 2005, this study). Both adults and larvae feed on wood overgrown with fungi. Sometimes, the beetles are attracted in great numbers to the sporocarps (see above the record by HS from Wolibórz). Adults can be observed throughout the year in feeding galleries or in places of concealment; the beetles are active from mid-May until the beginning of August. According to the present data (Tab. 1), it prefers fir (28% of records) and beech (23%).

## DISCUSSION

Species of Trogossitidae, Lophocateridae, Peltidae and Thymalidae are associated with forests and have various habitat preferences. Several species, like *Calitys scabra*, *Grynocharis oblonga*, *Peltis ferruginea*, *P. grossa* and *Thymalus limbatus* are mycophagous, while others, like *Nemozoma caucasicum*, *N. elongatum*, *Temnoscheila caerulea* and *Tenebroides mauritanicus* are predators. Two species, *Lophocateres pusillus* and occasionally also *T. mauritanicus*, have been recorded as pests of stored products.

The amount of data collected in the present paper allowed us to analyse the habitat preferences of these beetles. Data on preferred trees were analysed for 290 records and 7 species (Tab. 1). The most ubiquitous species was *G. oblonga*, which was found on 22 genera of trees. *Nemozoma caucasicum* is strictly associated with ash (*Fraxinus excelsior*) in Poland, although the number of available records was small. Both species of *Peltis* preferred coniferous trees – spruces and firs. In contrast, *Tenebroides mauritanicus* and *Grynocharis oblonga* were associated with deciduous trees. Two species – *Nemozoma elongatum* and *Thymalus limbatus* – occurred on deciduous and coniferous trees with similar frequencies. The most attractive trees for these beetles were fir (6 species), spruce and oak (each with 5 species), and beech (4 species). *Grynocharis oblonga* occurred on adventive species, like *Aesculus hippocastanum*, *Philadelphus* sp., *Juglans regia*, *Platanus orientalis*, *Robinia pseudoacacia*, and on fruit trees. In most cases, it was the only representative of the beetle families examined here on these tree taxa.

**Table 2.** Observations of beetles in natural forests, managed forests, and anthropogenic localities; based on original data (total number of localities analysed: 133). Abbreviations: NP – number of localities in natural and protected forests, NM – number of localities in managed forests, A – number of anthropogenic localities (avenues, parks),  $\Sigma$  – sum.

Species	NP	NM	A	$\Sigma$
<i>Nemozoma elongatum</i>	8	3	1	12
<i>Tenebroides mauritanicus</i> *	7	2	13	22
<i>Grynocharis oblonga</i>	17	6	15	38
<i>Peltis ferruginea</i>	30	5	0	35
<i>Peltis grossa</i>	13	3	0	16
<i>Thymalus limbatus</i>	12	1	0	13
$\Sigma=$	86	18	29	133

\* records from synanthropic localities have been omitted

**Table 3.** Species included in red lists in Central Europe. Abbreviations: PL – Poland (PAWŁOWSKI et al. 2002/ROSSA 2004); Ge – Germany (GEISER 1998); IUCN – IUCN red list, P/V – restricted to primeval/virgin forests; CR – critically endangered; EX? – probably extinct, 1 – vom Aussterben bedroht (= CR); 2 – stark gefährdet (= EN); 3 – gefährdet (= VU, vulnerable), LC – least concern, DD – data deficient.

Species	PL	Ge	IUCN	P/V
<i>Calitys scabra</i>	CR/EX?	1	–	–
<i>Grynocharis oblonga</i>	–	2	LC	ECKELT et al. (2018)
<i>Peltis ferruginea</i>	–	2	LC	KOLIBÁČ et al. (2005)
<i>Peltis grossa</i>	VU/-	1	–	KOLIBÁČ et al. (2005)
<i>Temnoscheila caerulea</i>	EX?/-	–	–	–
<i>Tenebroides mauritanicus</i>	–	2	DD	BURAKOWSKI et al. (1986)
<i>Thymalus limbatus</i>	–	3	LC	KOLIBÁČ et al. (2005)

Data on habitat preferences were analysed for 133 localities and 6 species (Tab. 2). Synanthropic habitats, like stores and flats, were not included in the analysis. There were only a small number of records from managed forests, quite possibly because of the greater interest among entomologists in the exploration of natural forests and protected areas. Despite this bias, we think that the results of this analysis are worth publishing. Forest habitats were divided into three categories: natural forests, managed forests and anthropogenic tree stands like avenues and parks. *Grynocharis oblonga* and *Tenebroides mauritanicus* were observed in anthropogenic tree stands and in managed forests more often than other species. *Nemozoma elongatum* was most frequently recorded in natural

forests, and only exceptionally in anthropogenic sites. The other three species – *Peltis ferruginea*, *P. grossa* and *Thymalus limbatus* – were never collected in avenues or parks, and only rarely collected in managed forests; they were usually recorded in natural forests, often with large volumes of deadwood. Our results confirm the data published by KOLIBÁČ et al. (2005) (Tab. 3), but do not justify treating either *G. oblonga* or *Tenebroides mauritanicus* as relicts of primeval forests (BURAKOWSKI et al. 1986, ECKELT et al. 2018).

The occurrence of two of the species in question here – *Calitys scabra* and *Temnoscheila caerulea* – has not been confirmed in Poland for over 100 years. *Grynocharis oblonga*, *Nemozoma elongatum* and *Tenebroides mauritanicus* are relatively common. *Peltis ferruginea*, *P. grossa* and *Thymalus limbatus* are more or less rare and larger numbers of individuals are observed only occasionally. *Nemozoma caucasicum* is a very interesting species, described in 1832 from the Caucasus, which has expanded its range in recent decades, although it was recorded in France as early as in 1927.

Several species from these four families are included in red lists of endangered species in Europe (GEISER 1998, PAWŁOWSKI et al. 2002, NIETO & ALEXANDER 2010). The categories of threat on the Polish Red List (PAWŁOWSKI et al. 2002) appear to be correctly assigned to these species, but we think that *Peltis ferruginea* and *Thymalus limbatus* should be added to the list. The IUCN and German red lists (GEISER 1998) include two species that are common in Poland, namely, *Grynocharis oblonga* and *Tenebroides fuscus*; this is probably justified in view of the deteriorating conditions of habitats in western Europe. Stenotopic species, like *Calitys scabra*, *Peltis ferruginea*, *P. grossa*, *Temnoscheila caerulea* and *Thymalus limbatus*, can be used as indicator species of natural forests. While *Calitys scabra* and *Temnoscheila caerulea* are probably extinct in Poland, other species, like *Peltis ferruginea*, *P. grossa* and *Thymalus limbatus*, are quite often observed in natural forests. All these species are relatively abundant in the Białowieża Forest, Świętokrzyskie Mts., Roztocze and Carpathians Mts. Numerous localities are protected in national parks and nature reserves, but as a consequence of the intensification of forest management, we feel it is reasonable to establish other areas protecting their populations. One such area is the proposed Turnica National Park, which should protect one of the best-preserved mountain forests in Poland (DEMBEK et al. 2014) and one of the most important areas for endangered invertebrates (including Coleoptera) in central Europe (BUCHHOLZ & MELKE 2018).

The genus *Thymalus* LATREILLE, 1802 requires a systematic revision of specimens collected throughout its range. The occurrence of *Thymalus oblongus* REITTER, 1889 in Poland seems plausible, as the species has already been recorded in Scandinavia and the European part of Russia (KOLIBÁČ 2007). In the authors' opinion, however, the existing literature does not permit certain identification of this species.

*Ancyrona japonica* REITTER, 1889, originally an Asian species, was introduced to several European countries. It became acclimatised in Slovakia, Hungary, Czechia and

probably also in Bulgaria, as it has been regularly collected there since 1904 (KOLIBÁČ 2013). It is likely that the species is already present in Poland, as the known localities are situated in neighbouring countries. The larval characters of *Ancyrona* are described in KOLIBÁČ (2006), and KOLIBÁČ & ZAITSEV (2010), but especially in the case of the early instars, identification may be doubtful or even impossible when using the existing keys (KLAUSNITZER 1996). The morphology of immatures of *Ancyrona* REITTER, 1876 and *Grynocharis* C.G. THOMSON, 1859 requires further study.

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