

## NEW RECORDS OF SOME RARE SAPROXYLIC BEETLES (COLEOPTERA) IN POLAND

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**ABSTRACT:** New records of 43 rarely encountered saproxylic Coleoptera from 16 families are presented. Thirteen species are recognized as new for zoogeographical regions. Distribution of *Tilloidea unifasciata* (Fabr.) is discussed, as previous data of the species occurrence in Poland was uncertain.

**KEY WORDS:** Coleoptera, saproxylic beetles, Moericke trap, yellow pan trap, faunistics, Poland

### *Introduction*

Saproxylic invertebrates are permanently or periodically dependent on wood of dead or dying trees (standing or lying), or on other organisms (eg. fungi or other saproxylics) inhabiting this substrate (Speight 1989). Beetles are the richest group of these organisms which are represented in Poland by about 1,300 species, grouped in 70 families (Gutowski 2006).

Studies focusing exclusively on saproxylic beetles in Poland were started at the beginning of sixties of the last century by Burakowski (1962a, 1962b, 1975, 1988), who recorded a lot of detailed information on the biology, developmental stages and behavior of many species. Comprehensive research on the fauna of saproxylic Coleoptera in selected areas or in specific microhabitats were also conducted by, inter alia: Wiąckowski (1957), Pawłowski (1961), Burakowski [1996] (1997), Melke et al. (1998) and recently by Hilszczański and Plewa (2009). Valorization of the Białowieża Primeval Forest based on assemblages of saproxylic beetles was made by Szujecki (2001). Later, similar studies in different parts of the country were also carried out by Byk and Byk (2004), Tykarski et al. (2004), Gutowski et al. (2006), Staniec (2006), Borowski and Mazur (2007), Mokrzycki et al. (2008) and Gutowski et al. (2010).

Knowledge about saproxylic Coleoptera increased significantly in recent years as a result of comprehensive research on their habitat requirements and food preferences.

Nevertheless, data on the biology and distribution of some rarer species remain unknown. This paper aims to provide information about the occurrence and circumstances of finding of some rare saproxylic beetles recorded in various places in the country.

### ***Materials and methods***

Beetles were collected using several methods. Most of the adults were collected directly from plants or by sweeping lower plants and branches of trees with entomological net. Additional catches were also carried out with artificial light. Rearing of the adult beetles was conducted from the larvae-infested wood fragments (e.g. branches, logs etc.). Some anthophilous species were caught in 2009 – 2010 with yellow pan traps (Moericke traps), installed under the canopies of ca. 150-year-old, sun-exposed oak stands at a height of about 20 meters.

Although some new zoogeographical divisions were recently proposed (Tykarski 2011), we used traditional system used by Burakowski et al. in *Catalogus Faunae Poloniae*.

Collectors: CB – C. Bystrowski, JB – J. Borowski, JH – J. Hilszczański, JK – J. Kaźmierski, JS – J. Stocki, LS – Lidia Sukovata, PJ – P. Jałoszyński, PK – P. Krzyżostanek, RP – R. Plewa, RW – R. Wojtkowski, TJ – T. Jaworski, TJA – T. Jabłoński, WJ – W. Janiszewski.

### ***List of species***

#### **ANOBIIDAE**

##### ***Xestobium rufovillosum* (De Geer, 1774)**

Podlasie: Kumiałka ad Janów (FE52), 2exx., 25.03.2006, leg. RP. Adults were reared from oak, *Quercus* sp. L., firewood.

New species for Podlasie.

#### **ANTHRIBIDAE**

##### ***Anthribus fasciatus* Förster, 1771**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 4exx., 22.04 – 25.05.2009, leg. RP et JH. Yellow pan traps.

#### **BOSTRICHIDAE**

##### ***Xylopertha retusa* (Olivier, 1790)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 25.05 – 24.06.2009, leg. RP et JH. Yellow pan traps; Małopolska Upland: Góra Puławska ad Puławy (EB69), 10 exx., e.l. 02 – 03.2010, larvae 30.04.2009, leg. JH et RP. Reared from oak, *Quercus* sp., 6 cm thin branches infested with larvae of oak bark beetle, *Scolytus intricatus* (Ratz.).

#### **BUPRESTIDAE**

##### ***Anthaxia podolica* Mannerheim, 1837**

Mazowiecka Lowland: Falenty Nowe (DC97), 13exx., 02.05.2009, leg. JH. Adults were collected from bird cherry, *Padus avium* Mill., flowers; Same locality, 5exx., 09.05.2009, leg. JH. Collected from flowers of *Umbelliferae*; Same locality, 3exx., 30.04.2010, leg.

JH. Collected from flowers of *Taraxacum officinale* F.H. Wigg.; Same locality, 1ex., 30.04.2011, leg. JH. Collected from flowers of *T. officinale*.

#### CERAMBYCIDAE

##### ***Acmaeops marginatus* (Fabricius, 1781)**

Wielkopolsko-Kujawska Lowland: Notecka Forest: Miały ad Sieraków (WU74), 1ex., 15.06 – 04.07.2011, leg. LS et TJ. Collected from barrier trap, mounted 2 m above ground.

So far, the species was known from Wielkopolsko-Kujawska Lowland only from specimen taken in 1926 by Kéler from Bydgoszcz (Gutowski 1988).

##### ***Pedostrangalia revestita* (Linnaeus, 1767)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 2exx., 22.04 – 25.05.2009, leg. RP et JH. Yellow pan traps; Poznań, Cytańela City Park (XU30/XU31), 1ex., 13.05.1998, leg. PJ; Promno ad Poznań (XU51), 1 ex., e.l. 03.2010, larva 27.02.2010, leg. PJ. From deciduous tree branch; Puszczykowo ad Poznań (WT97), 1ex., 08.06.2010, leg. PJ. Reared from bark of elm, *Ulmus* L. sp.; Trzebnickie Hills: Szustry ad Wieruszów (CB18), 1ex., 03.05.2008. leg. PK. Captured on oak *Quercus* sp. log.

*P. revestita* is rarely encountered in our country. Recent records of this species in Poland come from the nineties of the 20th century from Pomeranian Lake District (Wolender and Zych 2005) as well as the area of Baltic coast and the Wielkopolsko-Kujawska Lowland (Burakowski et al. 1990, Kondrat 1996). In the sixties of the last century the species has been recorded also from Wielkopolsko-Kujawska Lowland, Upper Silesia and Kraków-Wieluń Upland (Śliwinski and Lessaer 1970). In our climatic conditions the species penetrates the canopies of deciduous trees, particularly oak stands. Larvae develop in thick and dead branches, often at the junction with the living tissue of the wood (Hoskovec and Rejzek 2011). Adults feed on pollen. In search of food, they sometimes penetrate the lower layers of forest. New species for Trzebnickie Hills.

##### ***Clytus tropicus* (Panzer, 1795)**

Białowieża Primeval Forest: Sacharewo ad Hajnówka (FD74), 1ex., 05.05 – 08.06.2009, 1ex., 08.06 – 02.07.2009, 1ex., 24 V – 21 VI 2010, leg. RP. Yellow pan traps.

The species is known from the northern part of the Białowieża Forest (FD85). One dead specimen was found in 1981 in spider's web (Gutowski and Ługowoj 1983).

##### ***Glaphyra marmottani marmottani* (Brisout, 1863)**

Mazowiecka Lowland: Sękocin Stary (DC97), 1ex., 10.02.2007, and 1ex., 18.02.2007, leg. JH. Reared from thin branches of Scots pine, *Pinus sylvestris* L., collected 27.01.2007 and 04.02.2007.

The species was previously known from this region, but Norway spruce, *Picea abies* (L.) Karst., has been given as a food plant (Wehnicki 2004).

##### ***Poecilium pusillum pusillum* (Fabricius, 1787)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 24.06 – 22.07.2008, leg. RP et JH. Yellow pan traps; Lower Silesia: Śmiechowice (XS84), 1ex., 02.2009, leg. JH. Reared from oak *Quercus* sp. twigs collected 20.08.2008.

***Plagionotus arcuatus* (Linnaeus, 1758)**

Mazowiecka Lowland: Falenty Nowe (DC97), 1ex., 09.05.2010, leg. JH. Adult was observed during feeding on flowers of *Umbelliferae*.

***Ropalopus femoratus* (Linnaeus, 1758)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 22.04 – 25.05.2009, leg. RP et JH. Yellow pan traps.

In western Poland the species is known from only few localities, e.g. from the vicinity of Poznań and Zielona Góra (Śliwiński and Lessaer 1970, Gutowski 1984, Tomalak 1984).

***Xylotrechus (Xyotrechus) arvicola* (Olivier, 1795)**

Małopolska Upland: Sandomierz (EB51), 2 exx., 04.2006, 1ex., 05.2007, leg. JH. Reared from the stem of hawthorn, *Crataegus* L. sp., collected 18.09.2005 and 27.03.2007. Same locality: 1ex., 03.2007, leg. JH. Reared from the thin stem of Black Locust, *Robinia pseudoacacia* L. collected in 2006.

New species for Małopolska Upland.

***Rusticoclytus pantherinus* (Savenius, 1825)**

Podlasie: Mielnik ad Siemiatycze (FD30), 1ex., 12.05.2008, leg. RP. Reared from willow, *Salix caprea* L., branch collected 19.04.2008; Sutno ad Siemiatycze (FC49), 2exx. 04.2009, leg. RP. Reared from branch of *S. caprea* collected III 2008.

Larvae infest live branches. In the first year development of young larvae takes place under the bark, while the older stages live exclusively in the wood, boring corridors exceeding 1m length. The development lasts 2 – 3 years.

New species for Podlasie.

***Mesosa (Aphelocnemis) nebulosa nebulosa* (Fabricius, 1781)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 22.04 – 25.05.2009, leg. RP et JH. Yellow pan traps.

***Oberea (Oberea) pupillata* (Gyllenhal, 1817)**

Masurian Lake District: Leszczewek ad Suwałki (FE39), 1ex., 28.05.2010, leg. RP. Reared from shoots of Fly honeysuckle, *Lonicera xylosteum* L., collected 31.03.2010.

***Saperda similis* (Laicharting, 1784)**

Podlasie: Gołazze Mościckie ad Wysokie Mazowieckie (ED97), 3exx., 20 – 25.03.2011, leg. RP. Reared from branches of *S. caprea* collected 11.02.2011; Ozierany ad Krynki (FD89), 07.2008, leg. RP. Infested twigs of *S. caprea* were observed; Małopolska Upland: Pińczów (DA69), 1♀, 15.06.2007, leg. JH. Captured on trunk of *S. caprea*.

New species for Małopolska Upland.

***Tetrops starkii* Chevrolat, 1859**

Wielkopolsko-Kujawska Lowland: Żmigródek ad Żmigród (XT30), 7exx., 13 – 14.05.2009, leg. RP, JH et TJ. The beetles were captured on lower side of leaves of about 4 – 5 m high ash, *Fraxinus excelsior* L., trees; Mazowiecka Lowland: Falenty Nowe (DC97), 1♀, 23.05.2009, leg. JH. Collected from leaf of Norway maple, *Acer platanoides* L.

## CLERIDAE

***Dermestoides sanguinicollis* (Fabricius, 1787)**

Białowieża Primeval Forest: Sacharewo ad Hajnówka (FD74), 1ex., 27.04 – 24.05.2010, leg. RP. Yellow pan traps.

The species is known in Poland from only four regions, where it was always scarcely encountered. Recent records of the species from Białowieża Primeval Forest come from 2002 (Jałoszyński et al. 2005).

***Opilo mollis* (Linnaeus, 1758)**

Eastern Beskidy Mts.: Brzeziny ad Wielopole Skrzyńskie (EA33), 1ex., 01.2010, leg. JH. Reared from wounded branch of European beech, *Fagus sylvatica* L., collected in 09.2009, infested with larvae of *Anaglyptus mysticus* L.; Same locality, 1ex., 06.1995 leg. JH. Reared from dead, thin branch of *Malus domestica* Borkh. infested with larvae of *Anobiidae*.

***Opilo pallidus* (Olivier, 1795)**

Eastern Beskidy Mts.: Brzeziny ad Wielopole Skrzyńskie (EA33), 1ex., 05.1993, leg. JH. Reared from dead branch of *M. domestica* collected in 02.1993; Małopolska Upland: Białobrzegi (DC92), 1ex., 05.2005, leg. JH. Reared from twigs of *Quercus* sp., collected 24.04.2005; Lower Silesia: Miękinia ad Wrocław (XS27), 1ex., 06.1994, leg. JS.

New species for Eastern Beskidy Mts. and Małopolska Upland.

***Tilloidea unifasciata* (Fabricius, 1787)**

Małopolska Upland: Góra Puławska ad Puławy (EB69), 8exx., 1 – 10.04.2010, leg. JH et RP. Reared from ca. 6 cm oak branches collected 30.04.2009, infested with larvae of *X. rethusa* and *S. intricatus*.

Recent findings of *T. unifasciata* come from the seventies of 20th century from the vicinity of Zamość (Mazur 1975). Other records from Poland refer to data from more than 100 years ago and require confirmation (Burakowski et al. 1986). Recently the species was found at several localities in the Czech Republic (Zýka 2010).

New species for Małopolska Upland.

***Tillus elongatus* (Linnaeus, 1758)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 2exx., 25.05 – 24.06.2008, leg. RP et JH. Yellow pan traps. Same locality, 1ex., 24.01.2009, leg. JH. Reared from thick branch of hornbeam, *Carpinus betulus* L., collected in 08.2008; Białowieża Primeval Forest: Masiewo (FD95), 1ex., 25.02.2009, leg. RP et JH. Reared from thin stem of *P. abies*, collected 06.01.2009; Same locality, 1ex., 03.2010, leg. RP et JH. Reared from thick stem of aspen, *Populus tremula* L., collected in 01.2010; Białowieża (FD94), 1ex., 07.2009, leg. RP.

***Trichodes alvearius* (Fabricius, 1792)**

Wielkopolsko-Kujawska Lowland: Żmigródek ad Żmigród (XT30), 1ex., 14.05.2009, leg. JH.

## CUCUJIDAE

***Cucujus cinnaberinus* (Scopoli, 1763)**

Mazowiecka Lowland: Boża Wola ad Nowy Dwór Mazowiecki (DD80), 2exx., 04.09.2008, leg. TJ, RP et JH. Adults were observed under thick bark of wind-thrown, sun-exposed oak *Quercus* sp. stem.

## CURCULIONIDAE

***Gasterocercus depressirostris* (Fabricius, 1792)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 3exx., 05.2006, leg. JH. Reared from logs of oak collected 08.02.2006; Same locality, 1ex., 24.06 – 22.07.2009, leg. RP et JH. Yellow pan trap; Jasne Pole (XT73), 1ex., 21.07.2009, leg. RP. Captured at light;

Podlasie: Lipniki ad Tykocin (FD29), 1ex., 17.05.2002, leg. JH. Reared from thin stem (about 15 cm) of *Quercus* sp. collected 05.05.2002.

New species for Podlasie.

## ELATERIDAE

***Calambus bipustulatus* (Linnaeus, 1767)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 31.05 – 28.06.2010, leg. RP. Yellow pan trap; Sokołówka ad Krotoszyn (XT73), 2 exx., 16.06.2010, leg. JH.

The present record confirms species' occurrence in Wielkopolsko-Kujawska Lowland after more than seventy years (Szulczewski 1922).

***Ampedus elegantulus* (Schönherr, 1817)**

Mazowiecka Lowland: Warszawa/Ursynów (EC07), 1ex., 09.05.2008; Cegłów ad Błonie (DC67), 1ex., 14.05.2011, leg. RP.

## EUCNEMIDAE

***Dromaeolus barnabita* (A. Villa et J.B. Villa, 1838)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 22.04 – 25.05.2009, 4exx, 25.05 – 24.06.2009, 1ex., 22.07 – 27.08.2009, leg. RP et JH. Yellow pan traps.

The species is considered as very rare in our country. Recent records come from the Białowieża Primeval Forest and Lower Silesia (Buchholz et al. 1997). In other regions the species' occurrence has not been confirmed for over 50 years. *D. barnabita* was recorded from Wielkopolsko-Kujawska Lowland in the early 20th century from the vicinity of Nowa Sól (Burakowski et al. 1985).

## LUCANIDAE

***Aesalus scarabaeoides* (Panzer, 1794)**

Wielkopolsko-Kujawska Lowland: Jasne Pole (XT73), 1ex., 24.06.2009, leg. TJA et WJ. Captured at light.

Recent records of *A. scarabaeoides* from this region are known from Głogów and Wąsosz, where the species was found over 100 years ago (Gerhardt 1910).

***Ceruchus chrysomelinus* (HOCHENWARTH, 1785)**

Masurian Lake District: Płaska (FE47), 1ex., 07.2001, leg. JK.

## MELANDRYIDAE

***Conopalpus testaceus* (Olivier, 1790)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 6exx., 22.04 – 25.05.2009, 4exx., 25.05 – 24.06.2009, leg. RP et JH. Yellow pan traps; Upper Silesia: Ziemęcice ad Gliwice (CA38), 1ex., 06.04.1992, leg. JH. Reared from thin branch of *Quercus* sp. collected 08.03.1992.

***Hypulus quercinus* (Quensel, 1790)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 20.04.2011, leg. TJ. Collected from oak *Quercus* sp. snag.

New species for Wielkopolsko-Kujawska Lowland.

***Melandrya caraboides* (Linnaeus, 1760)**

Sandomierska Lowland: Pustków ad Dębica (EA35), 1ex., 01.06.1993, leg. JH.

***Osphya bipunctata* (Fabricius, 1775)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 1ex., 22.04.2009, leg. RP. Collected from the bark of oak *Quercus* sp. trunk; Same locality, 321exx., 22.04. – 24.06.2009, leg. RP et JH. Yellow pan traps.

The species is one of the rarest representatives of the family Melandryidae in our country and is always caught singly. Recent data on *O. bipunctata* from Poland come from Świętokrzyskie Mts. (Byk 2007, Rutkiewicz 2007), vicinity of Poznań (Przewoźny 2006, 2007), Pomeranian Lake District (Puszcza Bukowa near Szczecin) (Kubisz 1993) and from Małopolska Upland and Roztocze (Kubisz et al. 2010). Larvae develop in dead, rotting wood of deciduous species (Burakowski et al. 1987). Adults are sometimes found on flowers of hawthorn. In this way, the species was recently found in the Czech Republic, where it is considered vulnerable species (Rébl 2010). Adults are quite variable in size, shape and color of the body. Yellow pan traps located in sun exposed places in tree crowns in old oak stands appear to be very effective method for collecting the species.

***Phryganophilus (Phryganophilus) auritus* Motschulsky, 1845**

Podlasie: Ruchenka ad Węgrów (ED70), 2exx., 05.05 – 06.06.2009, 1ex., 27.04 – 24.05.2010, leg. RP. Yellow pan traps; Podlasie: Żuki ad Tykocin (FE10), 1ex., 20.04.2006, leg. CB. Reared from rotting wood.; Mazowiecka Lowland: Sękocin Stary (DC97), 1ex., 05.2005, leg. JH. Reared from twig of *Quercus* sp. collected 25.04.2005; Eastern Beskidy Mts.: Brzeziny ad Wielopole Skrzyńskie (EA33), 1ex., 17.12.1999, leg. JH. Reared from wood of *C. betulus* collected 09.1999.

New species for Podlasie and Mazowiecka Lowland

***Serropalpus barbatus* (Schaller, 1783)**

Mazowiecka Lowland: Warszawa/Ursynów (EC07), 1ex., 29.07.2008, leg. RP. Captured on a building wall.

## OEDEMERIDAE

***Anogcodes ustulatus* (Fabricius, 1787)**

Masurian Lake District: Serwy ad Płaska (FE57), 1ex., 20.07.2007. Collected from flowers of *Umbelliferae*, leg. RP.

New species for the Masurian Lake District.

***Chrysanthia geniculata* (Heyden, 1877)**

Masurian Lake District: Mikaszówka ad Płaska (FE47), 1ex., 23.07.2007, leg. RP. Collected from flowers of *Umbelliferae*.

The species is recorded from this region for the first time for over 150 years (Burakowski et al. 1987).

***Chrysanthia viridissima* (Linnaeus, 1758)**

Podlasie: Sarnaki ad Siemiatycze (FC29), 2exx., 20.07.2005, leg. RW. Collected from flowers of *Umbelliferae*.

New species for Podlasie.

***Ischnomera caerulea* (Linnaeus, 1758)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 222exx., 22.04 – 24.06.2009, leg. RP et JH. Yellow pan traps.

So far, the species was known from three localities in Wielkopolsko-Kujawska Lowland (Kubisz 1992). Yellow pan traps located in sun exposed places in tree crowns in old oak stands appear to be very effective method for collecting the species.

## SCARABAEIDAE

***Osmoderma* sp. Lepeletier et Serville, 1825**

Mazowiecka Lowland: Boża Wola ad Nowy Dwór Mazowiecki (DD80), 04.09.2008, leg. RP, TJ et JH. Remains of adult beetles were observed near the old oak *Quercus* sp. log; Białowieża Primeval Forest: Topiło ad Hajnówka, [Berezowo reserve] (FD83), 06.04.2011, leg. RP et TJ. Remains of 3exx. were found inside the hollow of wind-thrown oak *Quercus* sp., located at a height of ca. 20 m above the ground; Podlasie: Nur ad Ciechanowiec (ED83), 27.07.2011; leg. RP et TJ. 1ex. larva in wood mold of broken willow *Salix* sp. L.; Masurian Lake District: Żytkiejmy (FF12), 21.07.2011; leg. RP. 9exx. larvae in wood mold of wind-thrown lime *Tilia cordata* Mill.; Małopolska Upland: Góra Puławska ad Puławy (EB69), 17.05.2010, leg. TJ et RP. Remains of 2exx. were observed near the oak *Quercus* sp. trunk; Wielkopolsko-Kujawska Lowland: Kobylin ad Krotoszyn (XT63), 20.04.2010, leg. RP et TJ. Remains of the adult beetles and numerous larvae were observed inside the hollow located in oak *Quercus* sp. log.

The species *Osmoderma eremita* (Scop.) was recently divided into several taxa, however no specimens from Poland were examined (Audisio et al. 2007). Thus current status of Polish specimens of *Osmoderma* sp. is unclear.

## SILPHIDAE

***Dendroxena quadrimaculata* (Scopoli, 1771)**

Wielkopolsko-Kujawska Lowland: Smoszew ad Krotoszyn (XT72), 4exx., 22.04 – 24.06.2009, leg. RP et JH. Yellow pan traps; Podlasie: Suchodolina ad Dąbrowa Białostocka (FE54), 1ex., 19.05.2008, leg. CB.

From the Wielkopolsko-Kujawska Lowland the species was recorded by many authors, but recent data come from late sixties of the 20th century (Burakowski et al. 1978). New species for Podlasie.

## ZOPHERIDAE

***Synchita humeralis* (Fabricius, 1792)**

Mazowiecka Lowland: Osęczyzna ad Stanisławów (EC49), 1ex., 24.05.2010, leg. RP. Adult was found under the bark of *R. pseudoacacia*.



### **Acknowledgements**

The authors would like to thank all the persons mentioned in the paper for the opportunity to use their faunistic data. We express our special thanks to dr. Paweł Jałoszyński and dr. hab. Jerzy Borowski for providing information about *P. revestita*.

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