

DOI 10.15407/zoo2026.04.518
UDC 565.2(477)

TYPE SERIES OF PROETID TRILOBITE SPECIES (TRILOBITA, PROETIDA) FROM THE SILURIAN OF UKRAINE DESCRIBED BY LEONID KONSTANTYNENKO

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urn:lsid:zoobank.org:pub:2DFEA8CA-FC6F-4531-9CBF-0DFE454F5FA6

Type series of proetid trilobite species (Trilobita: Proetida) from the Silurian of Ukraine described by Leonid Konstantynenko. Dernov, V., Korneyev, V., Grytsenko, V. — The holotypes of the Late Silurian trilobite species *Proetus* (*Lacunoporaspis*) *mukshaensis* Konstantynenko, 2008, *P. (P.) rashkoviensis* Konstantynenko, 2008, *P. (P.) bragensis* Konstantynenko, 2008, and the subspecies *P. (P.) conspersus elongata* Konstantynenko, 2008 from Podillia (western Ukraine) are recognised and figured herein. Although these names are already available and valid, their original descriptions lacked explicit labelling of the holotypes on the illustrations, which necessitated their formal recognition in the present work. Additionally, *Wenlowiproetus konstantynenkoi* nom. nov. is hereby established as a replacement name for the available but invalid name *Proetus conspersus elongata* Konstantynenko, 2008 (non *Proetus conspersus elongatus* Lindström, 1885).

Key words: Podillia, nomenclature, new replacement name, primary homonymy.

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ISSN 2707-725X. Zoodiversity. 2026. Vol. 60, No. 5

Introduction

This article continues the taxonomic revision of the trilobite collection of the late Dr Leonid I. Konstantynenko (1943–2014), a project initiated by the first author in the earlier work (Dernov, 2025). The collection comprises approximately 8,000 trilobite specimens from various regions of Ukraine, including the Volyn-Podillia Monocline, the Lviv Palaeozoic Trough, the Dnipro-Donets Depression, and the Donets Basin, as well as from several foreign regions such as the Baltics, the Urals, Central Asia, and others. Although most material remains unpublished, a portion — notably several Silurian specimens of new species — was described by him in a series of publications (Konstantynenko, 2005, 2006, 2007, 2008, 2009).

Silurian trilobites from Podillia (“Podolia” in old literature) are relatively well studied (Balashova, 1968, 1975; Konstantynenko, 2005, 2007, 2008, 2009, and references therein), as this region represents a type area for several Silurian regional stratigraphic units of the East European Platform (Tsegelnyuk et al., 1983; Konstantynenko & Tsegelnyuk, 2013). The identification and illustration of type specimens for species and subspecies of *Proetus* are of particular importance, as the data provided by Dr Konstantynenko are crucial both for the systematics of Silurian proetids and for palaeobiogeographic reconstructions.

The aims of this study are to: (1) illustrate holotypes for the new species and subspecies described by Leonid Konstantynenko, and (2) formally validate these taxa.

Material and Methods

The collection of Silurian proetid trilobites (NMNHU-G 8972), which served as the basis for three studies by Konstantynenko (2005, 2008, 2009), comprises approximately 1,100 specimens representing 15 species, one subspecies, and two taxa in open nomenclature. The taxa include: *Proetus concinnus* (Dalman, 1827); *P. verrucosus* Lindström, 1885; *P. conspersus* (Angelin, 1854); *P. signatus* Lindström, 1885; *P. cf. signatus* Lindström, 1885; *P. scalicus* Balashova, 1968; *P. kuressaarensis* Männil, 1981; *P. dnestrovianus* Balashova, 1968; *P. volcovcyanus* Balashova, 1968; *P. bragensis* Konstantynenko, 2008; *P. rashkoviensis* Konstantynenko, 2008; *P. conspersus elongatus* Konstantynenko, 2008; *P. (Lacunoporaspis) mukshaensis* Konstantynenko, 2008; *P. (Lacunoporaspis) confossus* Owens, 1973; *P. (L.) obconicus* Lindström, 1885; *Unguliproetus planus* Balashova, 1975; *Cyphoproetus depressus* (Barrande, 1846); *Decoroproetus restevensis* Balashova, 1975; *Warburgella stokesii* (Murchison, 1839); *W. stokesii demschiniana* Balashova, 1975; *W. podolica* Konstantynenko, 2005; *Warburgella* sp.; and *Tetinia minuta* (Příbyl & Vaněk, 1962).

Nearly all of the new taxa listed above were revised by Basse & Schöning (2026), albeit without examination of the original material. Among the new species described by Konstantynenko (2008, 2009), several were either recognised as distinct or reassigned to different genera by Basse & Schöning (2026). Specifically, *Proetus (Lacunoporaspis) mukshaensis* Konstantynenko, 2008 was transferred to the genus *Wenlowiproetus* Basse & Schöning, 2026; *P. (P.) rashkoviensis* Konstantynenko, 2008 to *Pulcherproetus* Lütke, 1990; *P. (P.) bragensis* Konstantynenko, 2008 to *Signatoproetus* Basse & Schöning, 2023; and *P. (P.) conspersus elongata* Konstantynenko, 2008

SILURIAN	Series	Stage	Group	Formation	Type stratigraphic levels
	Pridoli		Skala	Dzvenyhorod	★ <i>P. rashkoviensis</i>
				Trubchyn	
				Varnytsya	
				Pryhorodok	
	Ludlow	Ludfordian	Malynivtsi	Rykhta	★ <i>P. bragensis</i>
				Tsviklivtsi	
				Konivka	
		Gorstian	Bagovytsya	Bagovytsya	★ <i>P. conspersus elongatus</i> <i>P. mukshaensis</i> <i>W. podolica</i>
	Wenlock	Homerian	Kytayhorod	Ternava	
		Sheinwoodian			
	Llandovery	Telychian		Furmanivka	

Fig. 1. Silurian stratigraphy of Podillia and stratigraphic position of species of the genus *Proetus* described by Konstantynenko (2005 b, 2008). Stratigraphic scheme modified after Konstantynenko and Tsegelnyuk (2013). Abbreviations: P. — *Proetus*, W. — *Warburgella*

was transferred to *Wenlowiproetus*, with its primary homonymy with *Proetus conspersus elongatus* Lindström, 1885 noted by Basse & Schöning (2023, 2026). However, the name *Wenlowiproetus konstantynenkoi* Basse & Schöning, 2026 was proposed in a manner that renders it unavailable according to the Code (ICZN, 1999).

In the present paper, the nominal species described by Konstantynenko (2008, 2009) are listed under their original combinations.

The collection is currently deposited at the Department of Geology of the National Museum of Natural History, National Academy of Sciences of Ukraine (Kyiv), and consists of moderately to well-preserved specimens, including nearly complete dorsal exoskeletons as well as isolated cephalons, cranidia, free cheeks, thoraces, and pygidia.

The examined trilobites come from the Ludlow- and Pridoli-aged Bagovytsya, Rykhta, and Dzvenyhorod formations, which are exposed in the Dniester River basin area in the Volyn-Podillia Monocline, western Ukraine (Fig. 1).

Stratigraphic setting

The Silurian sequence in Podillia is well exposed along the steep banks of the deeply incised Dniester River valley, between the Ternava tributary on the east and the village of Dnistrove on the west, as well as along its northern tributaries, primarily the Zbruch and Smotrych rivers (Tsegelnyuk et al., 1983) (Fig. 2). The strata are nearly horizontal, gently dipping to the west. The succession reaches a thickness of 370–430 meters and is particularly notable for its pronounced cyclicity (Tsegelnyuk et al., 1983; Łuczyński et al., 2016).

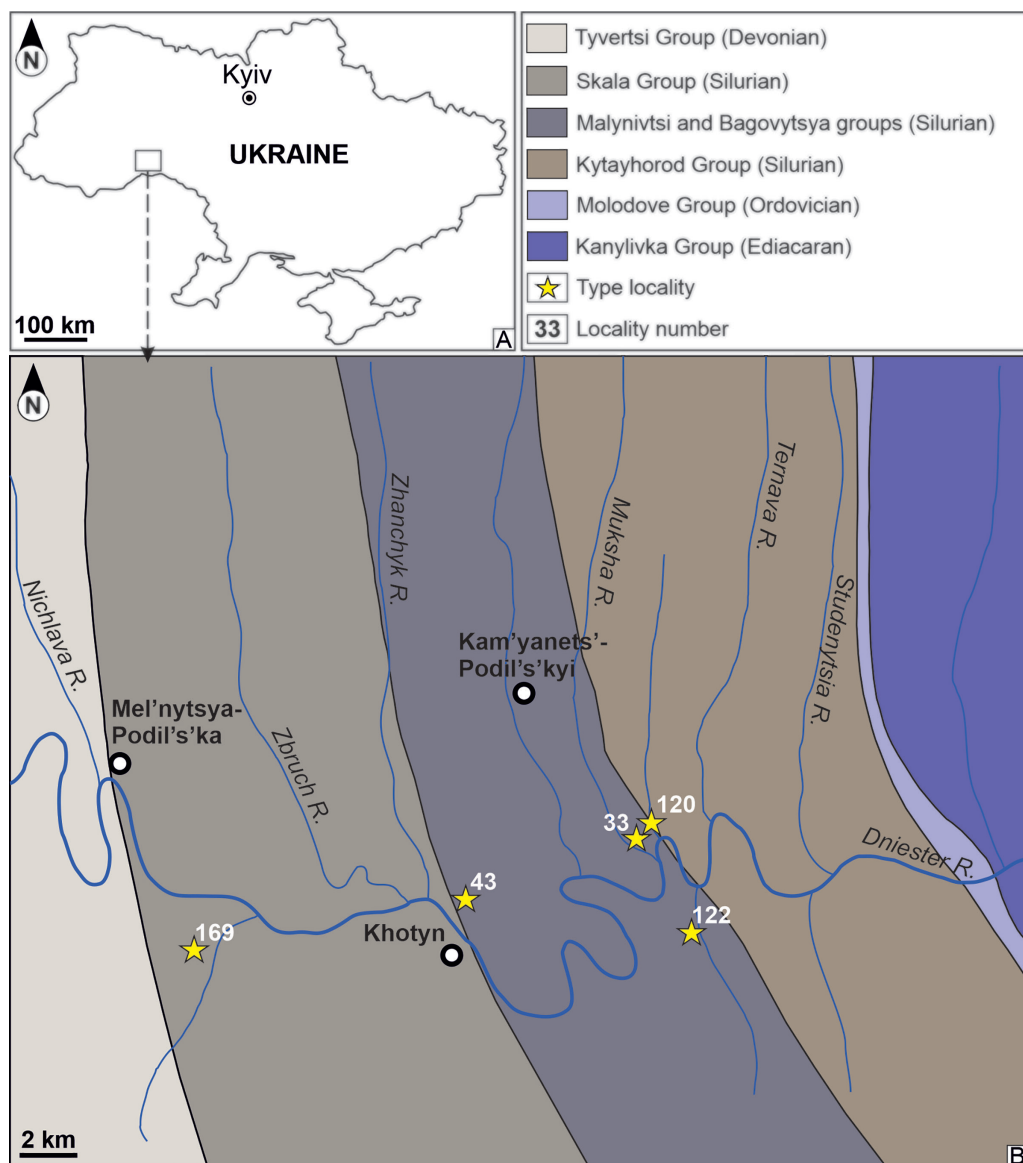


Fig. 2. Geographical location of the type localities of species of the genus *Proetus* described by Konstantynenko (2005, 2008). Geological map of the Palaeozoic deposits (with removed cover of the Mesozoic-Cenozoic rocks) in Fig. 2, B modified after Tsegelnyuk et al. (1983: Fig. 2). Abbreviation: R. — River

The Bagovytsya Formation is a 40 to 55-m-thick sequence of massive, detritic limestones (Muksha Subformation) and lagoon dolomites and domerites (Ustia Subformation) (Nikiforova et al., 1972; Tsegelnyuk, 1974; Tsegelnyuk et al., 1983, and references therein).

The Rykhta Formation is a 22 to 48-m-thick sequence of argillaceous limestones with marlstone interbeds and thin-bedded dolomites. The upper part of the formation in the Dniester River area is composed of a succession of domerites and dolomites up to 7.0 m thick. To the north of the reference section near the village of Rykhta (Khmelnitskyi Oblast), the formation is laterally replaced

by dolomites belonging to the Toky Formation and by domerites of the Velytsi Formation. Based on the lithological features, the formation subdivided into the Hrynychuk Subformation (argillaceous limestones and marlstones) and the Isakivtsi Subformation (thin-bedded dolomites) (Nikiforova et al., 1972; Tsegelnyuk, 1974, 1980; Tsegelnyuk et al., 1983; Konstantynenko & Tsegelnyuk, 2013).

The Dzvenyhorod Formation is an 18–47-m-thick succession of limestones with marlstone interbedded; small coral bioherms occur in the lower part of the formation. On the eastern slope of the Lviv Palaeozoic Trough and the western slope of the Ukrainian Shield, the formation is composed of limestones with marlstone interbedded, which to the west is replaced by marlstones with limestone interbedded. The upper boundary of the formation is defined by the change of limestones to mudstones of the Tiverian Group (Lochkovian, Lower Devonian) with the graptolite species *Monograptus uniformis* Přibyl, 1940 (Nikiforova et al., 1972; Tsegelnyuk, 1974; Tsegelnyuk et al., 1983, and references therein).

Palaeoenvironments

During the Silurian Period, the region corresponding to present-day Podillia formed part of an extensive carbonate shelf associated with a marginal sea along the southern margin of Baltica. This shelf extended from what is now western Ukraine, across Belarus, northwestern Poland, and the Baltic region (Calner, 2005; Łuczyński et al., 2016). The palaeoecology and palaeoenvironmental conditions have been considered in more detail in the studies by Sytova et al. (1977), Modzalevskaya & Nikiforova (1980), Bogoyavlenskaya (1982), Predtechensky et al. (1983), Gritsenko et al. (1986, 1987, 1990, 1995), Gritsenko (1987 a, b), Sinitsyna & Isakar (1987), and Konstantynenko (1987).

Systematic palaeontology

Class Trilobita Walch, 1771

Order Proetida Fortey & Owens, 1975

Superfamily Proetoidea Hawle & Corda, 1847

Family Proetidae Hawle & Corda, 1847

Subfamily Proetinae Hawle & Corda, 1847

Genus *Proetus* Steininger, 1831

Type species: *Calymene concinna* Dalman, 1827; by original designation.

Subgenus *Proetus* Steininger, 1831

Proetus* (*P.*) *bragensis Konstantynenko, 2008

Fig. 3, A–E, I, J

Proetus bragensis Konstantynenko, 2008: 93–94, pl. 2, figs 1–8, 11, 12, 20, 21.

Proetus bragensis: Konstantynenko, 2009: 47, pl. 3, fig. 21–25.

Signatoproetus bragensis: Basse & Schöning, 2026: fig. 3.

Valid name: *Signatoproetus bragensis* (Konstantynenko, 2008).

Holotype. Specimen NMNHU-G 8972/47 (cranidium) figured by Konstantynenko (2008, pl. 2, fig. 3) and in Fig. 3, D in this work.

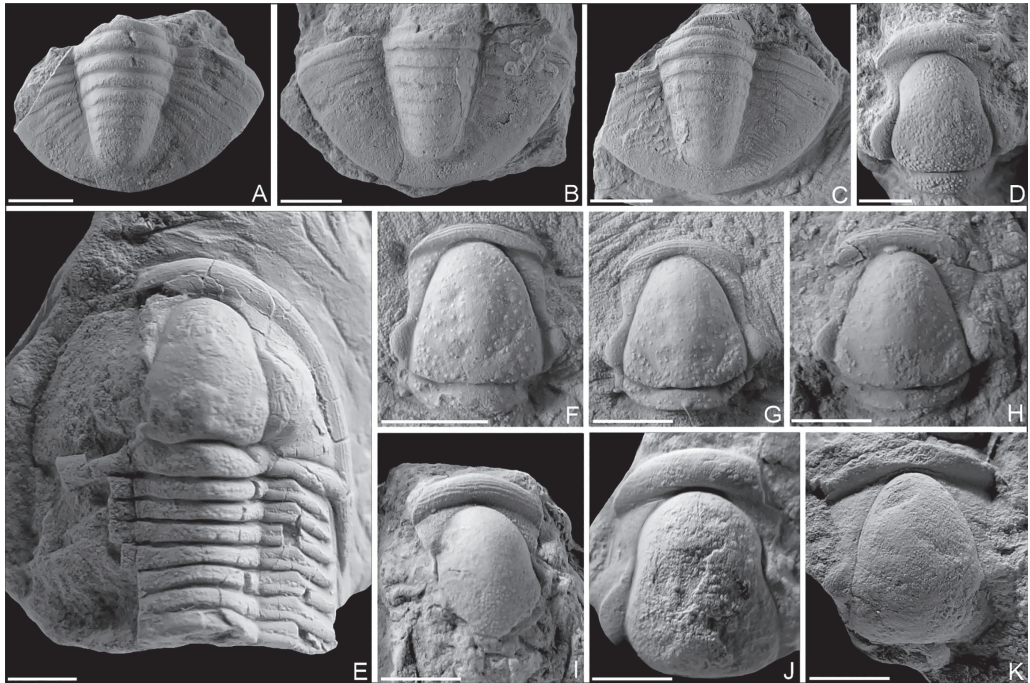


Fig. 3. Silurian proetid trilobites described by Dr Konstantynenko. A–E, I, J — *Proetus (P.) bragensis* Konstantynenko, 2008: A — paratype NMNHU-G 8973/52 (pygidium in dorsal view); B — paratype NMNHU-G 8973/49 (pygidium in dorsal view); C — paratype NMNHU-G 8973/46 (pygidium in dorsal view); D — holotype NMNHU-G 8973/47 (cranidium in dorsal view); E — paratype NMNHU-G 8973/45 (cephalon with part of thorax in dorsal view); I — paratype NMNHU-G 8973/51 (cranidium in dorsal view); J — paratype NMNHU-G 8973/48 (cranidium in dorsal view). F–H — *Proetus (Lacunoporaspis) mukshaensis* Konstantynenko, 2008: F — paratype NMNHU-G 8973/66 (cranidium in dorsal view); G — holotype NMNHU-G 8973/67 (cranidium in dorsal view); H — paratype NMNHU-G 8973/75 (cranidium in dorsal view); K — *Proetus (P.) conspersus elongata* Konstantynenko, 2008 (paratype NMNHU-G 8973/58, cranidium in dorsal view). Scale bars equal 2 mm

Type locality and stratigraphic level. Outcrop No. 43 (in Tsegelnyuk et al., 1983) near the village of Braga, Khmel'nytskyi Oblast; Hrynychuk Subformation of the Rykhta Formation (Ludfordian).

Paratypes. Six specimens: one cephalon with part of a thorax (NMNHU-G 8972/45), two cranidia (NMNHU-G 8972/48, NMNHU-G 8972/51) and three pygidia (NMNHU-G 8972/46, NMNHU-G 8972/49, NMNHU-G 8972/52) from the Hrynychuk Subformation, Rykhta Formation.

Diagnosis. Glabella moderately convex, elongate, compressed at the level of the anterior ends of the palpebral lobes, giving it a pear-shaped outline. Three pairs of lateral glabellar furrows present; first pair distinct, third pair expressed as small oval depressions. Anterior border furrow arched. Anterior border ridge-like, swollen in front of glabella, its sagittal length about 20% of cranidial length. Occipital lobe broad, slightly convex, bearing a median tubercle. Anterior branches of facial sutures diverging at an angle of about 42°. Ocular lenses narrow, elongate-oval, situated posteriorly. Free cheeks convex, with slender genal spines. Compound eyes large, strongly arched and elevated, composed of rows of coarse lenses. Cranidial surface tuberculate; cephalic margin bearing

fine terrace ridges. Pygidium broad, with high axis composed of eight axial rings and four pairs of pleural ribs. Pygidial surface smooth, with sparse tubercles restricted to axial rings. Pygidial margin bearing fine terrace ridges (after Konstantynenko, 2008: 93–94; translated from the original Ukrainian-language text by the authors).

Remarks. Konstantynenko (2008) stated that the type series of *Proetus bragensis* consists of 14 specimens (one nearly complete cephalon, six cranidia, and seven pygidia). Of these, only one cephalon, three cranidia, and three pygidia were found in the Konstantynenko's collection (NMNHU-G 8972). Konstantynenko (2008: 93) listed the holotype of *Proetus bragensis* as a cranidium No. 1979/3-3-43/12τ and illustrated five cranidia, including the holotype. The number “43” in the field number of the holotype refers to the outcrop number from which the holotype originated. Three specimens illustrated by Konstantynenko (2008, pl. 2, figs 3, 4, 20) originate from this outcrop, one of which was found in the collection NMNHU-G 8972. This specimen is here recognised as the holotype of *Proetus bragensis* (Fig. 3, D), as it matches the description provided by Konstantynenko (2008).

Distribution. Rykhta Formation (Ludfordian, Ludlow); Podillia.

Proetus (P.) rashkoviensis Konstantynenko, 2008.

Fig. 4, J–Q

Proetus rashkoviensis Konstantynenko, 2008: 94–95, pl. 2, figs 9, 10, 13–18.

Proetus rashkoviensis: Konstantynenko, 2009: 48–49, pl. 4, figs 6, 7.

Pulcherproetus rashkoviensis: Basse & Schöning, 2026: p. 196, fig. 3.

Valid name: *Pulcherproetus rashkoviensis* (Konstantynenko, 2008).

Holotype. Specimen NMNHU-G 8972/84 (cranidium) figured by Konstantynenko (2008: pl. 2, figs 10 a, b) and in Fig. 4, Q of this paper.

Type locality and stratigraphic level. Outcrop No. 169 (in Tsegelnyuk et al., 1983) near the village of Rashkiv, Chernivtsi Oblast; Dzvenyhorod Formation (Pridoli).

Paratypes. Nine specimens: three cranidia (NMNHU-G 8972/81, NMNHU-G 8972/82, NMNHU-G 8972/89), two free cheeks (NMNHU-G 8972/83 and NMNHU-G 8972/88), one hypostome (NMNHU-G 8972/79), and three pygidia (NMNHU-G 8972/80, NMNHU-G 8972/85, NMNHU-G 8972/86) from the Dzvenyhorod Formation.

Diagnosis. Glabella elongate (length/maximum width ratio 1.5), cylindrical, anteriorly bluntly rounded, bearing two pairs of weak lateral furrows at the level of the palpebral lobes. Anterior margin weakly convex, narrowed in front of glabella, separated by a shallow furrow. Occipital ring flat, about twice as wide as anterior border, with a small median tubercle. Anterior branches of facial sutures diverging at an angle of about 60°. Free cheeks broad, convex, lacking genal spines. Compound eyes large, crescentic, with smooth surface. Cranidial ornamentation tuberculate; anterior and lateral cephalic margins bearing fine terrace ridges. Hypostome elongate, trapezoidal, with small rounded lateral wings; median body elongate, swollen, covered with fine terrace ridges. Anterior lobe short, sickle-shaped. Pygidium convex, semicircular in outline, with six pairs of pleural ribs and blunt posterior end. Axis conical and consists of eight axial rings. Pleural fields of pygidium convex, with broad flattened border; pleural and interpleural furrows narrow, extending to margin. Pygidial ornamentation tuberculate; border bearing fine terrace ridges (after Konstantynenko, 2008: 94; translated from the original Ukrainian-language text by the authors).

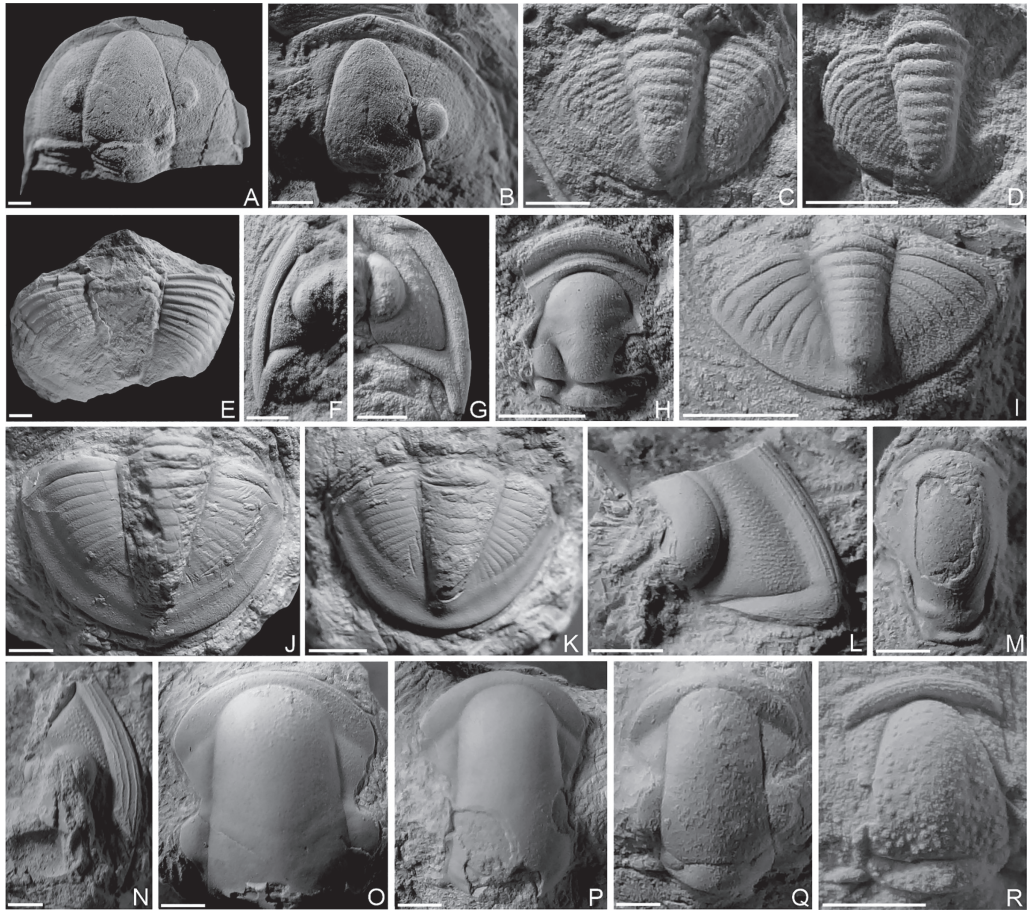


Fig. 4. Silurian proetid trilobites described by Dr Konstantynenko. A–E — *Proetus (P.) conspersus elongata* Konstantynenko, 2008: A — holotype NMNHU-G 8973/59 (cephalon in dorsal view); B — paratype NMNHU-G 8973/54 (cephalon in dorsal view); C — paratype NMNHU-G 8973/57 (pygidium in dorsal view); D — paratype NMNHU-G 8973/60 (pygidium in dorsal view); E — paratype NMNHU-G 8973/55 (pygidium in dorsal view). F, G, R — *Proetus (Lacunoporaspis) mukshaensis* Konstantynenko, 2008: F — paratype NMNHU-G 8973/63 (free cheek in dorsal view), G — paratype NMNHU-G 8973/68 (free cheek in dorsal view), R — paratype NMNHU-G 8973/74 (cranidium in dorsal view). H, I — *Warburgella podolica* Konstantynenko, 2005: H — holotype NMNHU-G 8973/78 (cranidium in dorsal view); I — paratype NMNHU-G 8973/77 (pygidium in dorsal view). J–Q — *Proetus (P.) rashkoviensis* Konstantynenko, 2008: J — paratype NMNHU-G 8973/86 (pygidium in dorsal view); K — paratype NMNHU-G 8973/85 (pygidium in dorsal view); L — paratype NMNHU-G 8973/83 (free cheek in dorsal view); M — paratype NMNHU-G 8973/79 (hypostome in ventral view); N — paratype NMNHU-G 8973/88 (free cheek in dorsal view); O — paratype NMNHU-G 8973/86 (cranidium in dorsal view); P — paratype NMNHU-G 8973/81 (cranidium in dorsal view); Q — holotype NMNHU-G 8973/84 (cranidium in dorsal view). Scale bars equal 2 mm

Remarks. Konstantynenko (2008: 94) reported that the original species description of *Proetus rashkoviensis* was based on five cranidia, one hypostome, four free cheeks, and eight pygidia. Among these, nine paratypes (see above) have been identified in the collection.

According to Konstantynenko (2008: 94), the holotype of *P. rashkoviensis* is a cranidium (specimen's field number 1979/9-9-269/2τ). However, this field number likely contains an error. The final segment "269/2τ" refers to the outcrop and litho-cycle numbers, but in the figure captions (Konstantynenko, 2008: pl. 2, figs 9, 10, 13–18), the holotype and paratypes of *P. rashkoviensis* are all reported to come from outcrop No. 169.

Konstantynenko (2008) illustrated three cranidia of *P. rashkoviensis* (pl. 2, figs 9, a–b, 10, a–b, and 15) and stated that one of them represents the holotype. However, as no specific designation was provided, the holotype remained unidentified. Here, we establish the identity of the holotype as the best-preserved specimen, which matches the description and illustrations provided by Konstantynenko (2008: pl. 2, figs 10 a, b; 2009: pl. 4, fig. 6) (specimen NMNHU-G 8972/84, Fig. 4, Q).

Distribution. Dzvenyhorod Formation (Pridoli); Podillia.

Proetus (P.) conspersus elongata Konstantynenko, 2008

Figs 3, K; 4, A–E

Proetus conspersus elongata Konstantynenko, 2008: 92–93, pl. 1, figs 13–19.

Proetus conspersus elongata: Konstantynenko, 2009: 45–46, pl. 2, figs 20–25.

Signatoproetus conspersus elongata: Basse & Schöning, 2023: 226 (transfer to *Signatoproetus* as an invalid name / junior homonym).

Wenlowiproetus conspersus elongata: Basse & Schöning, 2026: 171 (transfer to *Wenlowiproetus* as an invalid name / junior homonym).

Wenlowiproetus konstantynenkoi Basse & Schöning, 2026: 171, *nomen nudum* / unavailable name.

Valid name: *Wenlowiproetus konstantynenkoi* nom. n. pro *Proetus conspersus elongata* Konstantynenko, 2008, non *Proetus conspersus elongatus* Lindström, 1885.

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Holotype. Specimen NMNHU-G 8972/59 (cephalon) figured by Konstantynenko (2008: pl. 1, fig. 13) and in Fig. 4, A of this study.

Type locality and stratigraphic level. Outcrop No. 33 (in Tsegelnyuk et al., 1983) in the Muksha River basin, Podillia, Ukraine; Ustia Subformation, Bagovytsya Formation (Gorstian).

Paratypes. Six specimens: one cephalon (NMNHU-G 8972/54), one cranidium (NMNHU-G 8972/58), one hypostome (NMNHU-G 8972/56), and three pygidia (NMNHU-G 8972/55, NMNHU-G 8972/57, NMNHU-G 8972/60) from the Ustia Subformation, Bagovytsya Formation.

Diagnosis. Glabella elongate (length/maximum width ratio about 1.5), slightly convex, with rounded anterior margin and three pairs of weak lateral furrows. Anterior marginal furrow narrow and deep. Occipital ring flat, bearing a median tubercle. Anterior branches of facial sutures diverging at an angle of about 50°. Palpebral lobes small, semicircular, situated near mid-length of glabella. Free cheeks weakly convex, with broad genal field, narrow marginal border, and slender genal spines. Hypostome narrow and elongate; anterior and lateral borders narrow, bounded by distinct furrows. Median body convex, with elongate triangular anterior lobe. Pygidium broad, weakly convex, with conical

axis, gently rounded posterior margin, and six to seven pairs of pleural ribs. Axis consists of eight to nine axial rings. Marginal border narrow. Cranidial surface finely tuberculate; pygidial border bearing terrace ridges (after Konstantynenko, 2008: p. 93; translated from the original Ukrainian-language text by the authors).

Remarks. The type series of *Proetus (P.) conspersus elongata* includes 52 specimens: two cephalons, 14 cranidia, one hypostome, eight free cheeks, and 27 pygidia (Konstantynenko, 2008: p. 92). Of the illustrated specimens (Konstantynenko, 2008: pl. 1, figs 13–19), only a portion (two cephalons, one cranidium, one hypostome, and three pygidia) could be identified in the Konstantynenko's collection. In the collection NMNHU-G 8972, an additional 40 specimens of *Proetus (P.) conspersus elongata* were identified (specimens NMNHU-G 8972/20-01 to 20-40); however, it is impossible to recognize the paratypes among them because they were neither labelled nor illustrated by Konstantynenko (2008, 2009).

The holotype of *P. conspersus elongata* was originally designated by Konstantynenko (2008: 92) as cephalon No. 1979/1-13-33/7 from outcrop No. 33. Konstantynenko (2008) illustrated two cephalons (pl. 1, figs 13, 15); the better preserved specimen NMNHU-G 8972/59 (Konstantynenko, 2008: pl. 1, fig. 13) is here identified as the holotype (Fig. 4, A).

Nomenclatural remark. The name *Wenlowiproetus konstantynenkoi*, introduced by Basse & Schöning (2026) instead of the junior homonym *Proetus conspersus elongata* Konstantynenko, 2008 (non *Proetus conspersus elongatus* Lindström, 1885), is unavailable under the International Code of Zoological Nomenclature (ICZN, 1999). Instead of being explicitly proposed as a new replacement name (*nomen novum*) to satisfy Article 13.1.3, the name was inconsistently labelled as “n. sp.” (new species) in one instance and as a “nomen nudum” in another (Basse & Schöning (2026: 171). Because it was formally treated as a new species-group taxon, it completely fails to meet the mandatory criteria for availability: a) it was not accompanied by a description or definition in words stating characters purported to differentiate the taxon, which is a direct violation of Article 13.1.1; b) as a name proposed after 1999 for a new species, it lacks an explicit fixation of a holotype or syntypes and the required statement of an institution where the type material is deposited, violating Article 16.4; c) the internal contradiction of applying the label “nomen nudum” within the same publication indicates a lack of unambiguous intent to establish and use the name as valid when proposed (Article 11.5). Consequently, the name as published by Basse & Schöning (2026) is a *nomen nudum* and possesses no status in zoological nomenclature. It does not enter into homonymy and cannot serve as a replacement name. The junior homonym remains without a valid replacement name.

To resolve this nomenclatural issue, *Wenlowiproetus konstantynenkoi* **nom. nov.** is hereby established as a replacement name for the available but invalid name *Proetus conspersus elongata* Konstantynenko, 2008 (non *Proetus conspersus elongatus* Lindström, 1885).

Distribution. Ustia Subformation, Bagovytsya Formation (Gorstian); Podillia.

Subgenus *Lacunoporaspis* Yolkin, 1966

Type species: *Lacunoporaspis contermina* Yolkin, 1966; by original designation.

Proetus (Lacunoporaspis) mukshaensis Konstantynenko, 2008

Figs 3, F–H, 4, F, G, R

Proetus (Lacunoporaspis) mukshaensis Konstantynenko, 2008: 92, pl. 1, figs 1–12.

Proetus (Lacunoporaspis) mukshaensis: Konstantynenko, 2009: 44, pl. 1, figs 15–21.

Wenlowiproetus mukshaensis: Basse and Schöning, 2026: 171.

Valid name: *Wenlowiproetus mukshaensis* (Konstantynenko, 2008).

Holotype. Specimen NMNHU-G 8972/67 (cranidium) figured by Konstantynenko (2008, pl. 1, fig. 2) and in Fig. 3, G in this paper.

Type locality and stratigraphic level. Outcrop No. 122 (in Tsegelnyuk et al., 1983) near the village of Lenkivtsi, Chernivtsi Oblast; Muksha Subformation, Bagovytsya Formation (Gorstian).

Paratypes. Fourteen specimens: eight cranidia (NMNHU-G 8972/62, NMNHU-G 8972/64, NMNHU-G 8972/65, NMNHU-G 8972/66, NMNHU-G 8972/70, NMNHU-G 8972/73, NMNHU-G 8972/74, NMNHU-G 8972/75), two free cheeks (NMNHU-G 8972/63 and NMNHU-G 8972/68), and four pygidia (NMNHU-G 8972/61, NMNHU-G 8972/69, NMNHU-G 8972/71, NMNHU-G 8972/72) from the Muksha Subformation, Bagovytsya Formation.

Diagnosis. Glabella moderately convex, conical, anteriorly rounded, with length/width ratio about 1.1. Dorsal furrows shallow, converging anteriorly at an angle of about 30°. Three pairs of glabellar furrows present, first pair situated at the level of the palpebral lobes. Anterior border short, convex, slightly elevated, separated by a shallow border furrow. Occipital ring narrow, flattened. Anterior branches of facial sutures weakly divergent. Fixed cheeks narrow, with widened and sloping anterior portions. Palpebral lobes short. Free cheek weakly convex, narrow, bearing short genal spines; lateral marginal border narrow. Eyes small, rounded. Cranidial surface finely tuberculate; anterior and lateral marginal borders bearing terrace ridges. Pygidium rounded in outline, relatively narrow (width/length ratio about 1.3), with eight axial rings and six pairs of pleural ribs. Pleural and interpleural furrows narrow and sharply defined, extending to pygidial border. Pygidial surface tuberculate; marginal border and doublure bearing fine terrace ridges (after Konstantynenko, 2008: p. 92; translated from the original Ukrainian-language text by the authors).

Remarks. The type series originally included 22 cranidia, six free cheeks, and 26 pygidia (Konstantynenko, 2008: 92), but only eight cranidia, two free cheeks, and four pygidia were found in the Konstantynenko's collection. Konstantynenko (2008: 92) stated that the holotype of *Proetus (Lacunoporaspis) mukshaensis* is cranidium No. 1979/1-1-33/3τ. In that work, twelve specimens were illustrated (pl. 1, figs 1–12), four of which are cranidia. Later, Konstantynenko (2009: 45) indicated the holotype as cranidium 2-11-33/3τ; two cranidia were illustrated in that publication (pl. 2, figs 1, 3), both of which had been figured in the 2008 paper. Given the overlap in illustrations, it is reasonable to assume that the holotype is one of the two specimens figured in both publications. Of these two, the specimen (NMNHU-G 8972/67) illustrated in pl. 1, fig. 2

of Konstantynenko (2008) is here identified as the holotype, as it is the only specimen in the extant collection that can be unequivocally matched to the description and its preservation features.

Distribution. Muksha Subformation, Bagovytsya Formation (Gorstian); Podillia.

Subfamily Proetidaellinae Hupé, 1953

Genus Warburgella Reed, 1931

Type species: *Asaphus stokesii* Murshison, 1839; by original designation.

Warburgella podolica Konstantynenko, 2005

Fig. 4, H, I

Warburgella podolica Konstantynenko, 2005: 27–29, pl. 1, figs 1–8.

Warburgella podolica: Konstantynenko, 2008: 51–52, pl. 4, figs 20, 21.

Valid name: *Warburgella podolica* Konstantynenko, 2005.

Holotype. Specimen NMNHU-G 8972/78 (cranidium) figured by Konstantynenko (2005: pl. 1, fig. 3, a, b) and in Fig. 4, H of this study.

Type locality and stratigraphic level. Outcrop No. 120 (in Tsegelnyuk et al., 1983) near the village of Bagovytsya, Khmel'nytskyi Oblast; Muksha Subformation, Bagovytsya Formation (Gorstian).

Paratypes. One pygidium (NMNHU-G 8972/77) from the Muksha Subformation, Bagovytsya Formation.

Diagnosis. Glabella convex, broad, bearing three pairs of furrows. Anterior marginal border broad and convex. Preglabellar field narrow, with distinct tropidium and preglabellar ridge. Free cheeks narrow with long genal spines. Pygidium broad, with axial lobe composed of 10–11 axial rings and five to six pairs of pleural ribs. Fine ornamentation of cranidium and pygidium consisting of delicate linear sculpture (after Konstantynenko, 2005: 27; translated from the original Ukrainian-language text by the authors).

Remarks. The holotype of this species is a cranidium (field No. 1–3–120/2p) collected from outcrop No. 120 (Tsegelnyuk et al., 1983). Konstantynenko (2005) reported that, in addition to the holotype, he examined 271 paratypes, comprising 1 nearly complete cephalon, 115 cranidia, 1 hypostome, 32 free cheeks, and 122 pygidia. These paratypes originated from outcrops No. 120 and 122. Of these, only 1 pygidium has been recognised in the Konstantynenko collection. An additional 193 specimens of *Warburgella podolica* were identified in the collection (NMNHU-G 8972/24–01 to 24–181 and NMNHU-G 8972/31–01 to 31–12); however, it is impossible to recognise the paratypes among them as they were neither labelled nor illustrated in Konstantynenko's papers. The holotype of *Warburgella podolica* is clearly indicated in the plate captions in Konstantynenko (2005), which facilitates its recognition. In the present work, the field number of the holotype (1–3–120/2p) is updated to its permanent catalogue number, NMNHU-G 8972/78.

Distribution. Muksha Subformation, Bagovytsya Formation (Gorstian); Podillia.

Conclusion

Holotypes of three trilobite species, *Proetus* (*Lacunoporaspis*) *mukshaensis*, *P. (P.) rashkoviensis*, and *P. (P.) bragensis*, and one subspecies, *P. (P.) conspersus elongata*, from Upper Silurian strata of Podillia described by Dr Leonid Konstantynenko (2008) were figured and marked in the collection. Permanent catalogue numbers have been assigned to the holotypes and paratypes. These results formally validate these species and subspecies, since Konstantynenko (2008) did not provide stable holotype numbers in the original description, nor did he mark them on the illustrations in these works.

Author contributions. Vitaly Dernov and Volodymyr Grytsenko conducted a comprehensive revision of the Konstantynenko collection at the National Museum of Natural History, National Academy of Sciences of Ukraine, Kyiv, and recognised the holotypes of species described by Leonid Konstantynenko. Valery Korneyev provided refined nomenclatural formulations regarding the holotypes and replacement names, based on the International Code of Zoological Nomenclature. The 3.1 Flash-Lite and 3.5 Flash language models were used for grammatical editing of the manuscript. The final version of the manuscript has been read and approved by all authors.

Acknowledgments. The authors would like to thank to Dr Yaryna Tuzyak (Ivan Franko National University of Lviv) and Mr Martin Basse (Senckenberg Research Institute and Natural History Museum) for their help with rare literature. The authors are sincerely grateful to anonymous reviewers whose comments and suggestions improved the quality of the final version of the manuscript. This study was funded by the National Museum of Natural History, National Academy of Sciences of Ukraine (project No. 0122U000429 “Scientific foundations for the conservation of Ukraine’s geodiversity in the context of sustainable development”).

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Received 25 March 2026

Accepted 28 October 2026