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TRILOBITES FROM THE COUVINIAN OF WYDRYSZÓW
(HOLY CROSS MTS., POLAND)

Abstract. — This paper deals with 13 species of Couvinian Trilobites from Wydryszów. In addition to species previously recorded from the Holy Cross Mts. the writer describes some others not known so far from Poland and 3 new species.

INTRODUCTION

The material here described has been collected by the present writer in the Holy Cross Mts., at the locality of Wydryszów, to the north-east of Kielce. The paper has been prepared at the Paleozoological Laboratory of the Polish Academy of Sciences at the inspiration and under the guidance of Dr. Zofia Kielan to whom sincere thanks are due for her advice, assistance in the selection of literature and criticism of the manuscript. The writer is also most indebted to Mrs. M. Pajchel for her most valuable suggestions concerning the stratigraphy of the deposits from which the studied material has been collected. To Miss M. Czarnocka the writer is grateful for the photographs.

STRATIGRAPHIC AND GEOGRAPHIC DISTRIBUTION
OF THE DISCUSSED SPECIES

The Couvinian fauna from Wydryszów has been described by the late J. Czarnocki, but both, the respective manuscripts and the collections of this author, were in 1944 destroyed in Warsaw. Czarnocki (1950) has assigned to the Couvinian the deposits of Wydryszów, regarding this stage as intermediate between the Lower and the Middle Devonian. He also tentatively listed then the Wydryszów fauna, mentioning the following trilobitic species: *Otarion* cf. *hydrocephala* Roem., *Proetus* cf. *cuvieri* Stein., *Proetus* sp., cf. *Pteroparia* sp., *Phacops* (*Phacops*) cf. *major* Barr., *Ph.* (*Ph.*) cf. *potieri* Bayle, *Acaste* (*Acastoides*) *paeckelmanni* R. & E. Richter, *Asteropyge rotundifrons* R. & E. Richter, *Asteropyge* n. sp.

Out of these species, the present writer has only found *Acaste* (*Acastoides*) *paeckelmanni* R. & E. Richter.

The trilobitic fauna from Wydryszów, though numerically meagre, is rather strongly differentiated. Some of the species are in the writer's collection represented by single specimens only, hindering their exact classification. These are namely: *Proetus (Proetus) sp. A*, *Pr. (Pr.) sp. B*, *Scutellum (Scutellum) sp.*, and *Cyrtosymbole? sp.*

Among the here discussed species some are known from Germany and Czechoslovakia, e. g. *Otarion (Otarion) convexum* (Hawle & Corda, 1847), *Leonaspis (Leonaspis) laportei* (Hawle & Corda, 1847), *Scutellum (Paralejurus) dormitzeri dormitzeri* (Barr., 1852). An interesting fact is the presence in the Polish material of *Acaste (Acastoides) paeckelmanni* R. & E. Richter, 1939, thus far recorded from Turkey only.

The majority of the discussed Trilobites are species recorded from the Couvinian, while three of them have been described from the Lower Devonian, i. e. *Otarion (Otarion) convexum* (Hawle & Corda), *Leonaspis (Leonaspis) laportei* (Hawle & Corda) and *Acaste (Acastoides) paeckelmanni* R. & E. Richter. None of the species occurring in the Givetian were found by the writer in Wydryszów beds.

Stratigraphic and geographic distribution of the discussed species

Species		Lower Devonian	Couvinian
1	<i>Proetus (Proetus) papillaris</i> n. sp.		W
2	<i>Proetus (Proetus) sp. A.</i>		W, G?
3	<i>Proetus (Proetus) sp. B</i>		W
4	<i>Scharyia couviniana</i> n. sp.		W
5	<i>Cyrtosymbole? sp.</i>		W
6	<i>Otarion (Otarion) convexum</i> (Hawle & Corda)	Th	W, Cz
7	<i>Otarion (Otarion) polonicum praecedens</i> Kielan		W, G
8	<i>Leonaspis (Leonaspis) laportei</i> (Hawle & Corda)	H, Cz	W, Cz
9	<i>Scutellum (Scutellum) sp.</i>		W
10	<i>Scutellum (Paralejurus) dormitzeri dormitzeri</i> (Barr.)		W, G?, Cz
11	<i>Phacops (Phacops) latifrons grzegorzowicensis</i> Kielan		W, G
12	<i>Acaste (Acastoides) paeckelmanni</i> R. & E. Richter	T	W
13	<i>Asteropyge (Rhenops) jani</i> n. sp.		W

Legend

Species recorded from:

Cz — Czechoslovakia

H — Harz

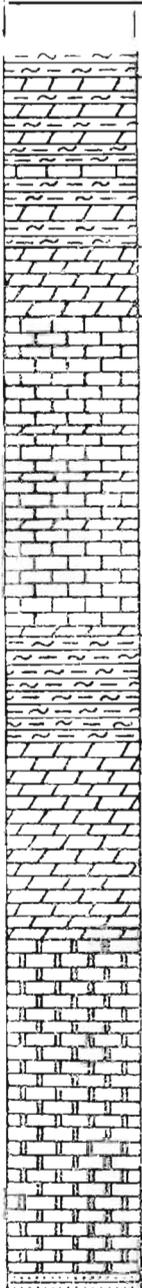
W — Wydryszów (Holy Cross Mts.)

G — Grzegorzowice (Holy Cross Mts.)

Th — Thuringia

T — Turkey

A characteristic of beds in the Couvinian section from Wydryszów.

Stratigr. column	Bed	Thick-ness in m	Type of rock	Trilobitic fauna
	8	?	mudstones	<i>Proetus (Proetus) papillaris</i> , <i>Phacops (Phacops) latifrons grzegorzowicensis</i>
	7	12.5	marls and mudstones	<i>Ph. (Ph.) latifrons grzegorzowicensis</i> , <i>Acaste (Acastoides) paeckelmanni</i> , <i>Pr. (Pr.) papillaris</i> , <i>Cyrtosymbole? sp.</i> , <i>Otarion (Otarion) polonicum praecedens</i> , <i>Leonaspis (Leonaspis) laportei</i> , <i>Scutellum (Parclejurus) dormitzeri dormitzeri</i>
	6	5.0	marls	<i>Pr. (Pr.) papillaris</i> , <i>L. (L.) laportei</i> , <i>Ph. (Ph.) latifrons grzegorzowicensis</i> , <i>O. (O.) polonicum praecedens</i>
	5	23.5	limestories with marls inclusions	<i>Pr. (Pr.) sp. A</i> , <i>(Pr.) sp. B</i> , <i>Pr. (Pr.) papillaris</i> , <i>Scharyia cuviniiana</i> , <i>O. (O.) convexum</i> , <i>O. (O.) polonicum praecedens</i> , <i>Sc. (Sc.) sp.</i> , <i>Ph. (Ph.) latifrons grzegorzowicensis</i> , <i>Ac. (Acastoides) paeckelmanni</i> , <i>Asteropyge (Rhenops) jani</i>
	4	8.0	mudstones	<i>Ph. (Ph.) latifrons grzegorzowicensis</i> , <i>Ac. (Acastoides) paeckelmanni</i> , <i>Asteropyge (Rh.) jani</i>
	3	15.0	marls	<i>Ph. (Ph.) latifrons grzegorzowicensis</i> , <i>O. (O.) convexum</i> .
	2	24.5	dolomites	No Trilobites
	1	?	sandstones	ditto

In her paper on Lower Devonian Trilobites from the Grzegorzowice-Skały section Z. Kielan (1954) listed from the Couvinian the following Trilobites: *Dechenella* (*Basidechenella*) *kayseri* R. Richter, *Dechenella* (*Basidechenella*) *dombrowiensis* (Sobolew), *Otarion* (*Otarion*) *polonicum praecedens* Kielan, *Acanthaloma* (*Kettneraspis*) sp. (= *Leonaspis* (*Kettneraspis*) sp.), *Scutellum* (*Paralejurus*) *dormitzeri* cf. *dormitzeri* (Barr.), *Phacops* (*Phacops*) *latifrons grzegorzowicensis* Kielan. Three only of these species have been found by the present writer in deposits of the same stage in Wydryszów, i. e. *Otarion* (*Otarion*) *polonicum praecedens* Kielan, *Scutellum* (*Paralejurus*) *dormitzeri dormitzeri* (Barr.) and *Phacops* (*Phacops*) *latifrons grzegorzowicensis* Kielan. The latter form, as is the case also in Grzegorzowice, occurs nearly throughout the Couvinian section of Wydryszów, regardless of the petrographic character of deposits.

In comparison to the trilobite fauna described by Kielan (1954) the trilobitic assemblage from Wydryszów here discussed, though by far less numerous is more strongly differentiated. The calcite-marly Couvinian deposits of Grzegorzowice and Wydryszów, after Czarnocki (1950), display great resemblance and are referable to the same facial area.

The important differences, however, observed in the trilobitic faunas recorded from these two sections not more than 10 km apart, suggest that they do not correspond to the same horizon. Lack of adequate material is in the way of determining which of the mentioned horizons is referable to the older Couvinian.

SYSTEMATIC DESCRIPTIONS¹

Family **Proetidae** Hawle & Corda, 1847

Subfamily **Proetinae** (Hawle & Corda), 1847

Genus *Proetus* Steininger, 1831

Subgenus *Proetus* (*Proetus*) Steininger, 1831

Proetus (*Proetus*) *papillaris* n. sp.

(fig. 1; pl. I, fig. 1-3)

Holotype: cranium figured in pl. I, fig. 1.

Stratum typicum: Couvinian mudstones (bed No. 7).

Locus typicus: Wydryszów, Holy Cross Mts., Poland.

Derivatio nominis: *papillaris* — arrangement of glabellar granules resembling the course of papillar lines on finger tip.

¹ In description of glabella the present writer has followed the terminology used by V. Jaanusson (1956), i. e. lateral glabellar furrows and lobes are lettered S (sulcus) and L (lobus) respectively and are numbered from behind forwards. Independently of that the terminology followed by R. & E. Richter, i. e. posterior, median and anterior furrows and lobes, is also mentioned.

The abbreviations used are: tr. = transverse, i. e. perpendicular to the plane of symmetry; sag. = sagittal, i. e. parallel to plane of symmetry.

Glabellar length measured without occipital ring.

Material. — 14 cranidia, 8 free cheeks with spines broken off 10 pygidia (beds Nos. 5-8).

Dimensions of four specimens (in mm):

	1	2		3	4
Length of cephalon	7.8	4.2	Length of pygidium	5.2	3.0
Length of glabella	7.0	3.8	Width of pygidium	8.0	4.0
Width of glabella	5.0	2.9	Length of rachis	4.0	2.2
			Width of rachis	3.0	1.7

Diagnosis. — Glabella cylindrical; preglabellar field lacking; three lateral glabellar furrows as areas without granulation; basal furrow (S_1) occupies one fourth of maximum glabellar width, bifurcated at inner end and directed obliquely posteriorly; middle furrow (S_2) shorter, also directed obliquely posteriorly; anterior furrow (S_3) the shortest, not extending to dorsal furrow, directed slightly anteriorly; occipital ring

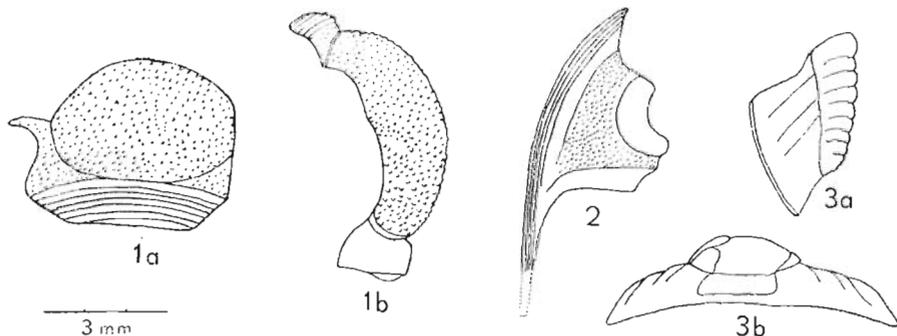


Fig. 1. — *Proetus (Proetus) papillar* n. sp.; 1 a paratype, cranium, anterior view; 1 b same specimen, lateral view; 2 paratype, free cheek, dorsal view; 3 a paratype, pygidium, lateral view, 3 b same specimen, posterior view.

with a tubercle; length of genal spine equal to two thirds of that of free cheek; pygidium surrounded by flat border with width equal to one sixth of total length of pygidium; cephalon finely granulated, glabellar granules arranged along the concentric lines; pygidium smooth.

Description. — Cranium broadly rounded in front. Glabella cylindrical, broad, rounded in front; width/length from 0.7 to 0.8; dorsal furrows nearly parallel; lateral furrows broad in form of shallow depressions without granulation; posterior furrow (S_1) the longest, directed obliquely posteriorly and bifurcated at inner end, occupies about one fourth of the maximum glabellar width; middle furrow (S_2) shorter, also directed posteriorly; anterior furrow (S_3) as an oval depression placed somewhat obliquely anteriorly; occipital furrow deep and broad (sag.), bent forwards; occipital ring broad (sag.) with a central tubercle near its posterior

margin; palpebral lobes narrow, with maximum width (tr.) equal to one sixth of that of glabella measured in projection; facets on visual lobe not discernible even under strong magnification; border of cephalon with from 4 to 5 longitudinal concentric ridges; anterior border separated from the glabella by deep border furrow growing more shallow posteriorly and less deep at posterior genal angle; genal spine, preserved as an imprint, has a length equal to two thirds or less than that of the free cheek; border ridges extending on the genal spines. In longitudinal section the occipital ring low, flat, the occipital furrow deep and broad (sag.); glabella low-convex, the border in front of glabella prominent. In transverse section glabella strongly convex, palpebral lobes extending to half the glabellar height. Hypostome and thorax unknown.

Pygidium sub-semicircular; length/width 0.7; width of rachis about one third of total width, its length equal to four fifths of total pygidial length; dorsal furrows divergent forwards and fusing backwards by a gentle arch. Rachis with 8 rings, and 5 ribs discernible on side lobes. The deep interpleural grooves and the shallow pleural furrows do not extend to pygidial borders; pygidium surrounded by flat border with width equal to one sixth of its length; border not separated from rest of pygidium by border furrow. In longitudinal and transverse sections rachis slightly higher than the pleural region. Cephalon finely granulated; glabellar granules arranged on lines resembling the arrangement of papillar lines on finger tip. They are largest in posterior end of glabella and diminish anteriorly. With a cephalic length of 7.8 mm, the diameter of tubercles is from 0.07 to 0.15 mm. On palpebral lobes and on the border zone the tubercles are very minute, being discernible under a magnification of $\times 60$. On the remaining parts of the cephalon the tubercles are 0.07 mm in diameter. Round the eye lobe there is a narrow area without granulation. Pygidium smooth.

Remarks. — The here described species shows close similarity with *Proetus (Pr.) bohemicus* Hawle & Corda, from which it, however, differs in the presence of longer genal spines, a bifurcated posterior glabellar furrow (S₁) and a flat pygidial border. On the other hand, *Proetus (Pr.) papillaris* n. sp. is very near to *Pr. (Pr.) glandiferus* Novak, 1890. In the latter, however, the glabella is of considerably more slender form and without lateral furrows. In addition, the very peculiar ornamentation of glabella constitutes a feature by which *Pr. (Pr.) papillaris* n. sp. differs from all known species of subgenus *Pr. (Pr.)*. A. Příbyl (1946) and H. K. Erben (1951) have distinguished three groups within subgenus *Proetus (Proetus)* Stein., i. e.:

1. *Pr. (Pr.) bohemicus* Hawle & Corda, including species with broad glabella and a sharp genal angles.

2. *Pr. (Pr.) tenuimargo* R. Richter, including species with narrow glabella and long genal cheeks.

3. *Pr. (Pr.) orbitatus* Barr., including species with rounded genal angle.

Pr. (Pr.) papillaris n. sp. is not referable to any of these groups since it has a wide glabella typical of *Pr. (Pr.) bohemicus* Hawle & Corda, but free cheeks with fairly long spines, as is the case in *Pr. (Pr.) tenuimargo* Richter. Kielan (1954) in her observations on *Pr. (Pr.) granulosus* Goldfuss and *Pr. (Pr.) moravicus* Smyčka has noted that the subdivision suggested by Přibyl (1946) and Erben (1951) does not cover all species of subgenus *Pr. (Pr.)* Stein., and cannot be applied in the case of Polish species displaying characters intermediate between the several groups. Observations concerning *Pr. (Pr.) papillaris* n. sp. supply additional evidence of that fact.

Proetus (Proetus) sp. A

(pl. I, fig. 4)

Material. — A complete but distorted specimen from bed No. 5.

Dimensions (in mm):

Length of cephalon	9.5	Length of pygidium	6.0
Width of cephalon	17.0	Width of pygidium	9.1
Length of glabella	7.5	Length of rachis	5.0
Width of glabella	6.0	Width of rachis	3.5

Description. — Border slightly protruding in front of glabella; glabella elongate, with semicircular anterior outline and contiguous with border furrow; palpebral lobes broad (tr.), somewhat shifted to the back beyond the middle of glabellar length. The ridge surrounding the eye lobe slightly marked and posterior genal angle slightly pointed; rachis of thorax semicircular in transverse section, and elevated above the rather strongly convex side lobes; pleural edges rounded and directed forwards; pygidium sub-semicircular in outline; rachis U-shaped, occupying just a little more than one third of pygidial width; segmentation of rachis distinct (8 rings) but almost obliterated in pleural regions. In longitudinal section rachis slightly elevated above the side lobes and lowering gently backwards. In transverse section the semicircularly arched rachis is slightly elevated above the low-convex pleural region. Glabellar ornamentation consists of minute closely arranged granules, diminishing to the front, while the rest of the cephalon is without granulation; thorax and pygidium smooth.

Remarks. — From the Givetian of Grzegorzowice-Skały Kielan (1954, p. 8) has described species *Proetus (Proetus) granulosus* Goldfuss. Her

specimens were collected from beds j and l_2 . Those recovered from bed j (pl. 1, fig. 3 of that author) differed from others in a distinctly elongate glabella, finer granulation and narrower (tr.) palpebral lobes, placed in median glabellar length. On the other hand, palpebral lobes of specimens from bed l_2 (pl. 1, fig. 1, 2, 4, 5) are placed somewhat posteriorly, beyond the median glabellar length. For that reason, R. & E. Richter (1956, p. 371) have suggested that these are two separate species.

The specimen collected from Wydryszów has an elongate and finely granulated glabella, as also have the specimens from bed j of the Grzegorzowice-Skały section, but its palpebral lobes are broad (tr.) and placed in the same relation to the glabella as has been observed in specimens from bed l_2 . Pygidium comes very close to that in specimens from bed j .

R. & E. Richter (1956) have also questioned the specific identity of Polish specimens from bed l_2 of the Grzegorzowice-Skały section with typical *Proetus* (*Proetus*) *granulosus* (according to these authors conspecific with *Pr.* (*Pr.*) *cuvieri* Stein), from which it differs in a more distinctly quadrangular glabella, coarser granulation and in the anterior border not protruding in front of glabella.

These remarks are correct as regards the specimen figured by Kielan (1954) in pl. 1, fig. 5 a - 5 c, which corresponds to an extreme variety, whereas other specimens from bed l_2 (1954, pl. 1, fig. 1, 1 a, 2) differ from *Pr.* (*Pr.*) *granulosus* Goldfuss from the Eifel chiefly in slightly coarser granulation.

Differences in outline of glabella and of its relation to the anterior border in specimens from bed l_2 may be referred to individual variations, whereas some differences displayed by Polish and German specimens may indicate that these forms represent separate geographic stocks of the same species. Ampler material is needed for a final elucidation of this problem.

Proetus (*Proetus*) sp. B

(pl. I, fig. 5)

Material. — A nearly complete specimen, but lacking free cheeks; bed No. 5.

Dimensions (in mm):

Length of cephalon	4.2	Length of pygidium	2.1
Length of glabella	3.0	Width of pygidium	4.5
Width of glabella	2.8	Length of rachis	2.0
		Width of rachis	1.3

Description. — Anterior border broad (sag.), gently convex, with from 4 to 5 sharp ridges; border furrow deep; glabella cylindrical, slightly

enlarged posteriorly and gently rounded anteriorly, in direct contact with border furrow; width/length 0.9; two lateral furrows as non-granulated areas; glabella strongly convex both in transverse and longitudinal sections. Thorax with 10 segments; rachis gently tapering posteriorly and corresponding to one third of the total width of thorax; in transverse section rachis considerably more arched than the slightly convex side lobes. Pygidium semicircular with rachis tapering posteriorly and bluntly terminated, not extending to the outer margin; 8 rings discernible on rachis, interpleural grooves and pleural furrows faintly discernible. Glabella granulated, granules sharply pointed, anteriorly diminishing and more widely spaced; above border furrow glabella smooth; on the occipital ring the granules are more minute and widely spaced; fixed cheeks, pygidium and thorax smooth.

Remarks. — This form resembles *Proetus (Proetus) tenuimargo* R. Richter, 1909, recorded from the Givetian of Germany, in having a broad anterior border with several longitudinal ridges, but differs from it in having a less elongate glabella, broader (tr.) palpebral lobes, and in the glabellar granulation consisting of sharply pointed tubercles. This type of granulation occurs in *Proetus (Pr.) prox* R. & E. Richter, 1956, whose ovate glabella approaches very closely to that of the here discussed specimen. Nevertheless the two species show important differences, i. e. in *Proetus (Pr.)* sp. B the anterior border is not partly concealed under the glabella as is the case in *Proetus (Pr.) prox* R. & E. Richter, but, on the contrary, protrudes in front of the glabella, the palpebral lobes are broader (tr.), the glabella more strongly convex in transverse and longitudinal sections. The lack of free cheek in the Wydryszów specimen makes it impossible to ascertain whether the posterior genal angle is gently pointed, as it is in *Proetus (Pr.) prox* R. & E. Richter, or stretched out into a spine as in *Proetus (Pr.) tenuimargo* R. Richter.

Pygidia of the here studied species also show different proportions, i. e. length/width of pygidium in *Proetus (Pr.)* sp. 0.5, while it is 0.6 in *Proetus (Pr.) tenuimargo* R. Richter and 0.7 in *Proetus (Pr.) prox* R. & E. Richter.

Family *Cyrtosymbolidae* Hupé, 1953

Subfamily *Scharyiinae* n. subfam.

Trilobites with cephalon semicircular, glabella conical, preglabellar field wide (sag.), facial suture pseudoproparian², hypostome long and

² Also termed „*cedariiiforme*“. These are terms introduced by Hupé (1953) to designate a facial suture whose posterior branch is directed transversely to the longitudinal axis of the cephalon, as it is in the proparian type, and which bends backwards in its terminal course transecting the posterior border.

narrow, thorax with 6 segments, pygidium semicircular surrounded by a border, dorsal furrows V-shaped.

Occurrence. — Upper Silurian (Ludlow) — Middle Devonian (Couvinian), Czechoslovakia, Poland.

Discussion. — This subfamily is monotypic, being erected to include genus *Scharyia* Pribyl. This genus has by Pribyl (1946b, p. 25) been placed in subfamily Tropidocoryphinae Pribyl, family Proetidae (Hawle & Corda, 1847). P. Hupé (1953) placed it in subfamily Eodrevermanniinae Hupé, family Cyrtosymbolidae Hupé. Inasmuch as the assignment of genus *Scharyia* Pribyl to Cyrtosymbolidae seems reasonable yet its association with such genera as *Prantlia* Pribyl, 1946, and *Eodrevermannia* Pribyl, 1946, in subfamily Eodrevermanniinae Hupé, seems doubtful. These genera have a typical opisthoparian facial suture and a greater number of thoracial segments, i. e. 8 in *Eodrevermannia*, 10 in *Prantlia*.

The pseudoproparian type of facial suture has been noted in representatives of Upper Cambrian families Pilgrimiidae Hupé, 1953, and Cedariidae Hupé, 1953. A facial suture unusual for the family of Proetidae, as well as the smaller number of segments in thorax, prompt the erection for *Scharyia* of a special subfamily — Scharyiinae n. subfam. in the family Cyrtosymbolidae Hupé.

Genus *Scharyia* Pribyl, 1946

Diagnosis and occurrence — as in the subfamily.

Type species *Scharyia micropyga* Pribyl, 1946.

Scharyia couviniana n. sp.

(fig. 2; pl. II, fig. 1, 2)

Holotype: cranidium, fig. 2-1 & pl. II, fig. 1.

Stratum typicum: Couvinian limestones and marls (bed No. 5).

Locus typicus: Wydryszów, Holy Cross Mts., Poland.

Derivatio nominis: *couviniana* — as occurring in Couvinian beds.

Material. — 10 cranidia, of which 7 preserved without exoskeleton, 1 damaged free cheek, 12 pygidia.

Dimensions of four specimens (in mm):

	1	2		3	4
Length of cephalon	2.5	1.8	Length of pygidium	2.6	1.8
Length of glabella	1.5	1.2	Width of pygidium	4.1	2.8
Width of glabella	1.5	1.2	Length of rachis	2.1	1.4
			Width of rachis	1.4	0.7

Diagnosis. — Length/width in glabella 1; two lateral glabellar furrows; occipital ring without tubercle; anterior and posterior branches of suture

sub-parallel; palpebral lobe separated from the fixed cheek by furrow; pygidium finely granulated.

Description. — Anterior part of cranium flat, glabella conical, broadest at the base, length/maximum width 1; width (sag.) of occipital ring equal to one third of glabellar length; occipital furrow straight, shallow, deeper where transecting dorsal furrows; dorsal furrows deep at

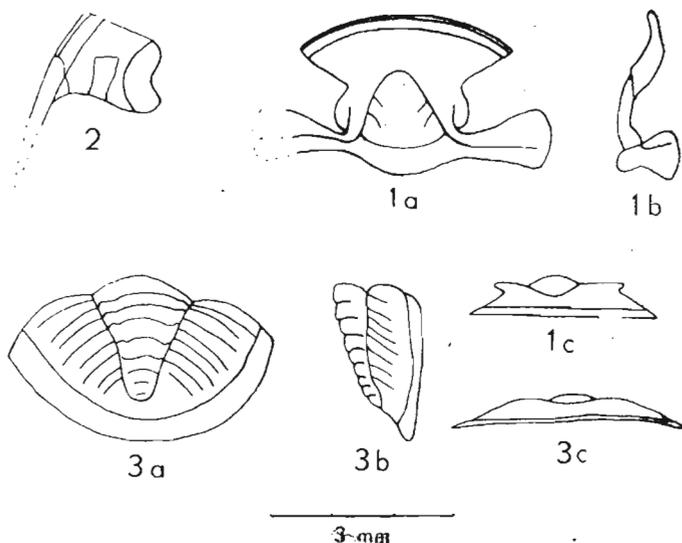


Fig. 2. — *Scharyia couviniana* n. sp.: 1 a holotype, cranium, dorsal view, 1 b same specimen, lateral view; 1 c same specimen, anterior view, 2 paratype, free cheek, dorsal view; 3 a paratype, pygidium, dorsal view; 3 b same specimen, lateral view; 3 c same specimen, posterior view.

the base of glabella near the occipital furrow, shallowing anteriorly and fusing together at an angle of approximately 52° . Two lateral glabellar furrows short and directed obliquely backwards. Owing to the deep incision of the dorsal furrow at the occipital ring, the hind part of the free cheek, between the dorsal furrow and the horizontal palpebral lobe, is steeply elevated. The palpebral lobe is separated from the fixed cheek by a deep furrow, deepest posteriorly, anteriorly growing more shallow to complete obliteration; the posterior part of the fixed cheek, back of the palpebral lobe, enlarged outwards; the posterior border furrow conspicuous, broad (sag.), horizontally directed; pleura of occipital segment enlarged at dorsal furrow; facial suture pseudoproparian, both its branches sub-parallel; eye lobe low-convex, with facets very minute, distinctly delimited, alternately arranged in 5 horizontal rows. A damaged free cheek, found detached, has the lateral border with a characteristic

ridge, also noted on the anterior border. Near the free cheek the impression is visible of a broken off genal spine, whose length cannot be determined. In the longitudinal section the occipital ring is low, the occipital furrow shallow and narrow (sag.), the glabella flat, the broad preglabellar field descends to the upturned anterior border which has a well marked sharp ridge. In transverse section glabella slightly convex, as high as or slightly higher than palpebral lobes. Hypostome and thorax unknown. Pygidium sub-semicircular, length/width 0.6; pygidial border convex, pygidial border furrow broad and moderately deep; rachis with 9 rings, pleurae with 4 discernible ribs. In longitudinal section rachis uniformly elevated, posteriorly it bends rapidly without attaining the border. In transverse section rachis slightly more raised than the convex side lobes; border strongly convex and distinctly separated from rest of pygidium.

Remarks. — The here described species, as compared with *Scharyia micropyga* Přibyl, 1946, the only species of the genus thus far described and occurring in the Upper Silurian and Lower Devonian of Czechoslovakia, displays numerous differences:

<i>Scharyia micropyga</i> Přibyl	<i>Scharyia couviniana</i> n. sp.
Anterior portion of cranium narrow (tr.).	Anterior portion of cranium broad (tr.).
Glabella with 3 lateral furrows.	Glabella with 2 lateral furrows.
Occipital ring with tubercle.	Lack of tubercle.
Anterior and posterior branch of facial suture non-parallel.	Both branches of suture sub-parallel.
Palpebral lobe not delimited from fixed cheek.	Palpebral lobe delimited by furrow from fixed cheek.
Pygidium smooth.	Pygidium finely granulated.

Přibyl has described and reconstructed *Scharyia micropyga* Přibyl in two of his papers (1946a, 1946b). The figures published in these papers differ considerably. In the first reconstruction (1946a, fig. 9) the posterior branch of facial suture intersects the posterior border in front of the genal angle, and there are 3 lateral furrows marked on the glabella. In the second reconstruction (1946 b, pl. 2, fig. 9) the posterior branch of suture intersects the genal angle and only 2 lateral furrows are marked on the glabella (though 3 are mentioned in the description). In our comparison, the second figure only has been considered.

Subfamily *Cyrtosymbolinae* Hupé, 1953Genus *Cyrtosymbole?* R. Richter, 1913*Cyrtosymbole?* sp.

(pl. III, fig. 3)

Material. — 1 cranidium (bed. No. 7).*Dimensions* (in mm):

Length of cephalon	1.39	Width of glabella	0.61
Length of glabella	0.9	Width/length of glabella	0.6

Description. — Front of cranidium slightly rounded; occipital ring very broad (sag.), medially equal to one third of glabellar length, rapidly tapering at dorsal furrows; occipital furrow straight; dorsal furrow sub-parallel; glabella elongate, cylindrical, enlarged at basal glabellar lobes, gently rounded anteriorly; basal lateral furrows (S_1) well incised in the glabella and cutting off the basal lobes (L_1); preglabellar field broad (sag.), its width being equal to nearly one fourth of glabellar length; border furrow extremely shallow; anterior border broad (sag.), equal to one eighth of glabellar length; fixed cheeks broad (tr.); palpebral lobes semi-circular, set somewhat posteriorly, beyond median glabellar length. In longitudinal section occipital ring very broad (sag.), flat; occipital furrow shallow; glabella somewhat higher than occipital ring, nearly flat in two thirds of its length, then rather steeply descending to the downturned preglabellar field; anterior border upturned. In transverse section the glabella strongly convex, palpebral lobes reach median glabellar height. Exoskeleton smooth. Free cheeks. Thorax and pygidium unknown.

Remarks. — The here described species seems to confirm Přibyl's (1949) belief concerning the connection of some Middle Devonian forms with the Upper Devonian genus *Cyrtosymbole* R. Richter, 1913. Přibyl (1949, p. 328) mentioned that *Proetus superstes* Barr., described by J. Bar-rande (1852, 1872) from the uppermost Middle Devonian (Hh_1) of Czechoslovakia, cannot be referred to genus *Proetus* Stein., its characters bringing it more closely to the Upper Devonian genus *Cyrtosymbole* R. Richter. These are among others: an elongate glabella and very large eyes, as well as outline of pygidium. Přibyl (1949) has also stressed the resemblance of *Proetus superstes* Barr. to *Cyrtosymbole* (*Waribole*) *phacomma* R. & E. Richter, 1926, in naming this form *Cyrtosymbole?* *superstes* (Barr.).

The above described species also displays features characteristic of genus *Cyrtosymbole*, particularly subgenus *Cyrtosymbole* (*Waribole*) R. & E. Richter. The Polish specimen, however, does not approach *C. (Waribole) phacomma* R. & E. Richter, whose glabella tapers slightly between

the anterior edges of the palpebral lobes, the central (S_2) and anterior (S_3) lateral furrows are well impressed, and the preglabellar field is narrower (sag.) than the anterior border. It resembles more *C. (Waribole) warsteinensis* R. & E. Richter, 1926 (see correlation table).

Correlation table of 1. *Cyrtosymbole (Waribole) warsteinensis* R. & E. Richter, 2. *Cyrtosymbole?* sp., and 3. *Cyrtosymbole? superstes* (Barr.) *

	1	2	3
Anterior outline of cranidium	nearly flat	nearly flat	highly arched
Width of occipital ring (sag.)	one fourth of glabellar length	one third of glabellar length	one fifth of glabellar length
Occipital ring	slightly tapering laterally	abruptly tapering	slightly tapering peripherally
Posterior (S_1) lateral glabellar furrows	deep, cutting off basal lobes	moderately deep, cutting off basal lobes	weakly impressed
Anterior outline of glabella	gently rounded	gently rounded	gently rounded
Width of preglabellar field	one eighth of glabellar length	one fourth of glabellar length	one twelfth of glabellar length
Width of anterior border	one tenth of glabellar length	one eighth of glabellar length	one sixth of glabellar length
Distance of terminal ends of palpebral lobes from glabella	small	great	very small
In longitudinal section	glabella flat	glabella convex	glabella flat
In transverse section	glabella slightly convex	glabella strongly convex	?
Shape of pygidium	slightly elongate posteriorly	unknown	slightly elongate posteriorly
Pygidial rachis	broad, occupying two thirds of pygidial length	—	narrow, nearly attaining posterior pygidial border

* The dimensions of *Cyrtosymbole (Waribole) warsteinensis* and *Cyrtosymbole? superstes*, listed in the table here below, have been taken from figures of these species.

Family *Otarionidae* R. & E. Richter, 1926Subfamily *Otarioninae* R. & E. Richter, 1926Genus *Otarion* Zenker, 1833 emend. R. & E. Richter, 1926Subgenus *Otarion* (*Otarion*) Zenker, 1833 emend. R. & E. Richter, 1926*Otarion* (*Otarion*) *polonicum praecedens* Kielan, 1954

(pl. III, fig. 5)

1954. *Otarion* (*Otarion*) *polonicum praecedens* Kielan; Z. Kielan, Les Trilobites mésodévonienens..., p. 26, pl. 2, fig. 10 et 11; text-fig. 18.

Material. — 2 damaged cephalons, 1 cranidium preserved as mould, one cheek. From marls (bed No. 5) and mudstones (bed No. 6).

Dimensions of two specimens (in mm):

	1	2		1	2
Length of cephalon	6.5	6.0	Length of glabella	4.5	4.2
Width of cephalon	9.5	9.0	Width of glabella	4.0	3.7
Length/width of cephalon	0.6	0.6	Width/length of glabella	0.8	0.8

Remarks. — The specimens found in Wydryszów generally agree with those described by Kielan (1954) from the Couvinian of Grzegorzowice. The only distinction is in the different shape of depression in the free cheek angle, which in specimens here described is elongate as in *O. (Otarion) polonicum polonicum* Kielan, 1954. *O. (Otarion) polonicum praecedens* displays close similarity to *O. (Otarion) balanops* Erben, 1953 from the Couvinian of Germany (Eifel), it differs, however, in another orientation of cheek spines in relation to the longitudinal axis, the genal spine in the former being sub-parallel to the longitudinal axis, while in the latter it is directed obliquely outwards.

Otarion (*Otarion*) *convexum* (Hawle & Corda), 1847

(fig. 3; pl. III, fig. 4)

1952. *Otarion* (*Otarion*) *convexum* (Hawle & Corda); H. K. Erben, Trilobiten aus dem Älteren Hercyn..., p. 246, pl. 19, fig. 15, text-fig. 28 (with previous synonymy).

Material. — 4 damaged cranidia preserved in marls (beds Nos. 2 and 4).

Dimensions of two specimens (in mm):

	1	2		1	2
Length of cephalon	4.9	4.0	Width of glabella	3.0	2.0
Length of glabella	3.9	2.9	Width/length of glabella	0.7	0.7

The Polish forms of this species do not differ from those of Czechoslovakia, described by Barrande (1852) and by Přebyl and Prantl (1950)

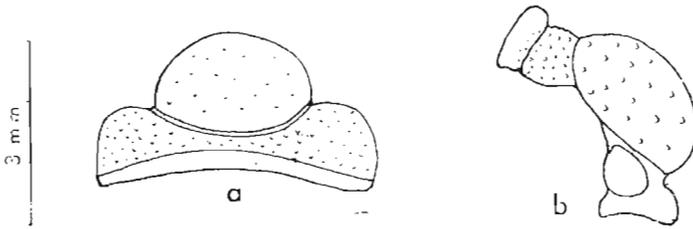


Fig. 3. — *Otarion (Otarion) convexum* (Hawle & Corda):
a cranidium, anterior view; b same specimen, lateral view.

from lower Middle Devonian beds (ga_1 and ga_2) or from German forms, described by Kegel (1931) and Erben (1952) from Lower Devonian deposits.

Family **Scutellidae** R. & E. Richter, 1925

Genus *Scutellum* Push, 1833

Subgenus *Scutellum (Paralejurus)* Hawle & Corda, 1847

Scutellum (Paralejurus) dormitzeri dormitzeri (Barrande, 1852)

(pl. II, fig. 6)

1852. *Bronteus dormitzeri* Barr.; J. Barrande, *Système silurien...*, p. 847, pl. 48.

Material. — 1 cranidium, fragments of exoskeleton from marls (bed No. 7).

Dimensions (in mm):

length of cranidium	12
width of cranidium	14

Remarks. — The cranidium of *Sc. (Paralejurus) dormitzeri dormitzeri* Barr. collected from Wydryszów scarcely differs at all from *Sc. (Paralejurus) dormitzeri cf. dormitzeri* Barr., described by Kielan (1954) from the Couvinian of Grzegorzowice. Nevertheless the transverse and longitudinal sections of the cranidium are flatter, while the glabellar furrows are faintly impressed as is the case in Bohemian specimens. These features are not observed in cranidia from Grzegorzowice, which led Kielan to describe them as *Scutellum (Paralejurus) dormitzeri cf. dormitzeri* Barr. In preserved fragments of exoskeleton from Wydryszów ornamentation is the same as that in Bohemian specimens.

Subgenus *Scutellum* (*Scutellum*) Pusch, 1833*Scutellum* (*Scutellum*) sp.

(pl. II, fig. 7)

Material. — 1 pygidium from limestones (bed No. 5).*Dimensions* (in mm):

Width of pygidium	6.0	Length of rachis	2.0
Length of pygidium	8.5	Width of rachis	2.5

Description. — Pygidium sub-semicircular in outline; length/width 0.7; rachis convex, broadly triangular; on its surface are impressed two longitudinal parallel furrows reaching its end just at the summit of the triangle. These furrows divide the rachis into three longitudinal regions of which the median one is more convex than the two lateral; the pleural region of pygidium gently convex. All pleural ribs approximately of the same width, only the first and the middle ribs are broader, the first rib more convex than all others. Pleural furrows narrow (tr.) and gradually becoming obliterated towards rim of carapace which forms a flat border. In longitudinal section the rachis convex, the posterior area of pygidium flat, descending slightly beyond two thirds of length and again slightly raised peripherally. Several small granules on the axis; a single row of minute granules (about 0.1 mm in diameter) runs medianly along every rib; border smooth.

Remarks. — The here described pygidium approaches that in *Scutellum* (*Scutellum*) *flabelliferum* (Goldfuss). The existing differences, however, indicate that we are dealing with another species. The differences are: stronger convexity of pygidial exoskeleton, broad and very prominent first pygidial rib, characteristic ornamentation consisting of a single row of granules running medially along each rib, and longitudinal furrows on rachis not coalescing basally as is the case in *Sc. (Sc.) flabelliferum* (Goldfuss), but extending to rim of rachis near its summit.

Family **Odontopleuridae** Burmeister, 1843Subfamily **Leonaspidae** Prantl & Přibyl, 1949Genus *Leonaspis* R. & E. Richter, 1917Subgenus *Leonaspis* (*Leonaspis*) R. & E. Richter 1917*Leonaspis* (*Leonaspis*) *laportei* (Hawle & Corda), 1847

(fig. 4; pl. III, fig. 8)

1952. *Acanthaloma* (*Acanthaloma*) *laportei* (Hawle & Corda); H. K. Erben, *Trilobiten aus dem Älteren Hercyn...*, p. 289, text-fig. 44a, b; pl. 20, fig. 11, 12 (with previous synonymy).

Material. — 3 cranidia preserved in marls (beds Nos. 6, 7).*Dimensions* of three specimens (in mm):

	1	2	3
Length of cranidium	7.5	7.0	4.5
Width of cranidium	11.0	13.0	8.0

Description. — Anterior border damaged; anterior border furrow straight, directed transversely; central part of glabella cylindrical, frontally enlarged and T-shaped; false glabellar furrows parallel, running from occipital furrow to the anterior part of glabella, but not extending to anterior border furrow; dorsal furrows diverging posteriorly; occipital

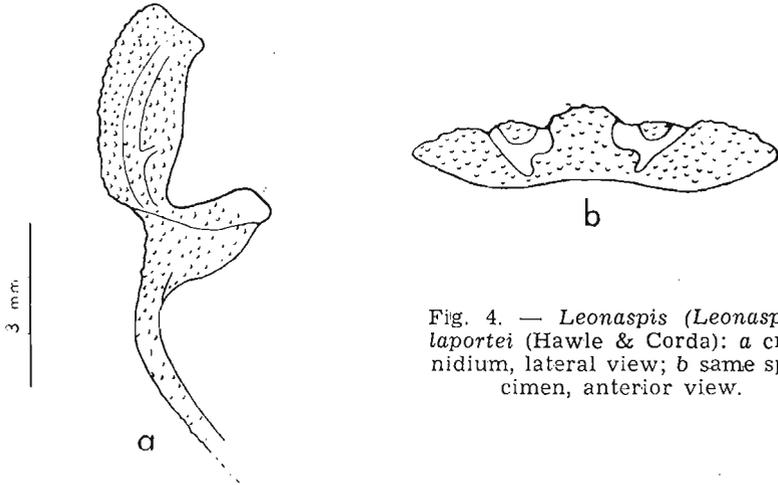


Fig. 4. — *Leonaspis (Leonaspis) laportei* (Hawle & Corda): a cranidium, lateral view; b same specimen, anterior view.

furrow arched toward the front; two of the lateral glabellar furrows (S_1 and S_2) directed obliquely backwards; lateral lobes (L_1 and L_2) oval shaped, the posterior one (L_1) larger than the median (L_2). The occipital ring tapered abruptly at the dorsal furrows, in the central portion provided with a long median spine; the fixed cheek bounded on the outside by a distinct furrow. Owing to unsatisfactory state of preservation, the eye ridge as well as the palpebral lobe are not discernible. In longitudinal section the occipital ring is broad (sag.), the occipital furrow extremely broad (sag.) and deep, the central part of glabella rises rather abruptly from occipital furrow and then descends gently to the anterior border furrow. In transverse section the cranidium is faintly convex, the central part of the glabella being gently convex, the lateral lobes as high as the glabella, and the dorsal furrows and false glabellar furrows extremely broad (tr.) and moderately deeply incised. Surface of glabella, fixed cheeks and occipital spine granulated.

Remarks. — Specimens of *Leonaspis (Leonaspis) laportei* (Hawle & Corda), described by Hawle and Corda (1947) and by Barrande (1852) from Lower Devonian and lower part of the Middle Devonian (β_1 and $g\alpha_2$)

of Czechoslovakia, as well as by Kegel (1926) and Erben (1952) from the Lower Devonian of Germany, are doubtlessly all conspecific. Nevertheless, specimens here described display different cranidial proportions. While cranidia in Bohemian and German specimens are approximately as long as they are wide, the Wydryszów specimens have the cranidium about twice as broad as they are long. Their characteristic unpaired occipital spine has, thus far, been described and figured in papers by Kegel (1926) and Hawle and Corda (1847). A photograph of the same specimen has been published by Prantl and Přebyl (1949). In both these cases, however, the spine is broken off just beyond the occipital ring. It seems that the spine in specimens here described was more slender. The cited authors make no mention of the strong inflection of the spines (see fig. 4 a), which is a very characteristic feature of the Polish specimens.

Subfamily *Acastinae* Delo, 1935

Genus *Acaste* Goldfuss, 1843

Subgenus *Acaste* (*Acastoides*) Delo, 1935

Acaste (*Acastoides*) *paeckelmanni* R. & E. Richter, 1939

(fig. 5; pl. II, fig. 3-5)

1939. *Acaste* (*Acastoides*) *paeckelmanni* R. & E. Richter; R. & E. Richter, *Trilobiten aus dem Bosporus...*, p. 23, pl. 18, fig. 19-21.

Material. — 17 cephalons, of which 9 as internal moulds, 5 pygidia. From marls (bed No. 5) and mudstones (bed No. 4).

Dimensions of four specimens (in mm):

	1	2	3	4
Length of cephalon	6.0	4.1	—	—
With of cephalon	10.2	7.0	—	—
Length of glabella	5.7	4.0	—	—
Wirth of glabella	4.9	3.0	—	—
Ratio of distance of eye from posterior cephalon rim to length of eye and to distance of eye from anterior cephalon rim	1:2:1.5	1:2:1.5	—	—
Length of pygidium	—	—	—	4.0
Width of pygidium	—	—	--	4.2

Description. — Cephalon semicircular in outline, length/width 0.6; dorsal furrows deep, extending sub-parallel as far as the anterior lateral furrow (S_3), and then slightly deflected outwards. Occipital furrow somewhat bent forwards, strongly deeper at intersection with dorsal furrows; pre-occipital furrow (S_1) the deepest, directed somewhat forwards; the median furrow (S_2) horizontal, the anterior (S_3) bent backwards; border

in front of the glabella very narrow, widening laterally; border furrow very faintly impressed; posterior border dilates laterally. Posterior border furrow well incised near the dorsal furrows, but disappearing near the rounded posterior genal angle; eyes large; palpebral lobe delimited from fixed cheek by a short furrow inflected to the outside; on the eye lobe three horizontal rows of round lenses, distinctly spaced. Anterior branches of the facial suture coalesce in the border furrow anteriorly to the glabella; posterior branches directed outwards. In longitudinal section the occipital ring not higher than the glabella, occipital furrow faintly incised, glabella gently arched, border furrow weakly marked, anterior

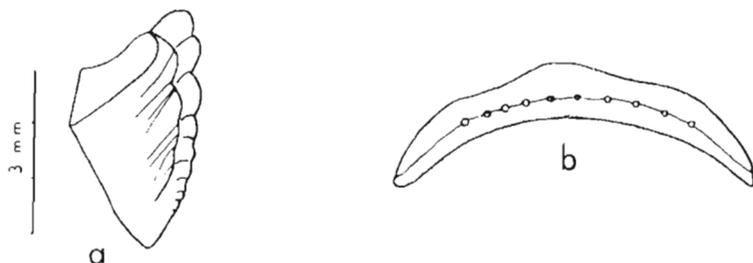


Fig. 5. — *Acaste (Acastoides) paeckelmanni* R. & E. Richter: a pygidium, lateral view; b same specimen, posterior view.

border narrow (sag.), gently convex. In transverse section glabella slightly convex, palpebral lobes horizontally placed in the glabellar plane, eye lobe placed vertically in relation to the palpebral one and separated from the cheek by a distinct furrow. The cheek descends nearly vertically, its angle with the horizontal plane decreases only by the lateral border; thorax unknown. Pygidium semicircular; rachis with 6 rings separated by furrows which, the first one excepted, become shallow medially; 4 ribs on the sides lobes; interpleural grooves narrow (sag.). On the first half-rib a broad (sag.) articulate surface is well discernible. In longitudinal section the rachis gently passes into the posterior part of pygidium. In transverse section the rachis scarcely raised above the side lobes, dorsal furrows not impressed. Glabella covered by granules about 0.07 mm in diameter, the length of cephalon being 6 mm; occipital ring smooth; in free cheek ornamentation is of a denser and more delicate pattern; pygidium smooth, some tubercles present along its posterior edge only.

Remarks. — Among the 17 studied cephalons, 4 are distinguished by the course of its median latered furrow (S_2) which is interrupted before attaining the dorsal furrow. In one specimen this furrow extends to the dorsal furrow, but it is very shallow. In consequence, the above specimen

occupies an intermediate position between two groups. Since cephalons with the lateral furrow S_2 not extending to the dorsal furrow, are on the average smaller than those of typical specimens, it may be that they are juvenile forms. Polish forms are not distinct from the holotype described by R. & E. Richter (1939) from the Upper Coblenzian of Turkey. Only the number of rows of facets on the eye lobe in here described specimens is smaller, never exceeding 3, and twice being 2 only. The forms from Turkey have from 4 to 5 rows. In specimens described by R. & E. Richter (1939) the middle lateral furrow (S_2) always stretches to the dorsal furrows.

Family **Phacopidae** Hawle & Corda, 1847 emend. Delo, 1935

Subfamily **Phacopinæ** Reed, 1905

Genus *Phacops* Emmrich, 1839

Subgenus *Phacops* (*Phacops*) Emmrich, 1839

Phacops (*Phacops*) *latifrons grzegorzowicensis* Kielan, 1954

(pl. III, fig. 1, 2)

1954. *Phacops* (*Phacops*) *latifrons grzegorzowicensis*; Z. Kielan, Les Trilobites méso-dévoniens..., p. 36, pl. 7, fig. 1-5; text-fig. 29, 30.

Material. — 14 cephalons, 10 of which as internal moulds, 2 pygidia (beds Nos. 3-8).

Dimensions of four specimens (in mm):

	1	2		1	2
Length of cephalon	12.0	7.8	Length of pygidium	10.0	12.0
Width of cephalon	20.0	11.0	Width of pygidium	18.0	17.0
Length of glabella	10.0	6.2	Length of rachis	7.0	10.0
Width of glabella	13.0	8.0	Width of rachis	4.0	5.5

Remarks. — Z. Kielan has described the above mentioned subspecies from Couvinian marly shales of Grzegorzowice-Skały. It is relatively abundant in the Couvinian of Wydryszów and occurs virtually throughout the whole profile. Wydryszów specimens compared with those from Grzegorzowice are on the average smaller and provided with fewer facets on the eye lobe, i. e. three in each of the 15 vertical rows. In longitudinal section the occipital ring is not flat as it is in specimens from Grzegorzowice, but strongly convex. This feature brings the here discussed specimens nearer to *Phacops* (*Phacops*) *latifrons* (Bronn.) from Germany. On the other hand, the glabella slightly overhangs the anterior border, like in specimens from Grzegorzowice.

Family **Dalmanitidae** Delo, 1935
 Subfamily **Asteropyginae** Delo, 1935
 Genus *Asteropyge* Hawle & Corda, 1847
 Subgenus *Asteropyge (Rhenops)* R. & E. Richter, 1943

Asteropyge (Rhenops) jani n. sp.

(fig. 6; pl. III, fig. 6, 7)

Holotype: cephalon (fig. 6; pl. II, fig. 6).

Stratum typicum: Couvinian marls (bed No. 5).

Locus typicus: Wydryszów, Holy Cross Mts., Poland.

Derivatio nominis: *jani* — after the name of Jan Czarnocki, an outstanding Polish geologist.

Material. — 3 cephalons, 1 cranidium, 2 free cheeks, all specimens with exoskeleton preserved.

Diagnosis. — Glabella gently convex, eyes high; free cheeks steeply descending, genal spines with length one half that of cephalon, occipital ring with prominent tubercle.

Dimensions (in mm):

Length of cephalon	4.3	Width of glabella	3.4
Width of cephalon	6.8	Length of eye	1.8
Length of glabella	3.9	Height of eye	1.1

Description. — Cephalon high arched in outline, length/width 0.6; anterior border narrow (sag.); facial suture, running anteriorly parallel to the outline of frontal lobe, divides the anterior border into 2 bands of almost the same width; border furrow lacking; dorsal furrow but slightly divergent to the anterior lateral furrow (S_3), but more strongly deflected outwards by the frontal lobe; occipital ring moderately broad (sag.), convex, with a distinctly prominent median tubercle; occipital furrow straight, deep; lateral glabellar furrows uniformly impressed; posterior lateral furrow (S_1) straight, parallel to the occipital furrow; median furrow (S_2) directed obliquely anteriorly; anterior furrow (S_3) the longest, directed obliquely backwards. Owing to this course of the median (S_2) and anterior (S_3) furrows, the third lateral lobe (L_3) enlarged distinctly at the dorsal furrows; posterior border furrow distinct from dorsal furrows to the cheek spine where it vanishes abruptly. Part of the fixed cheek contained between the dorsal furrow and the palpebral lobe is steeply elevated; palpebral furrow deep; eyes large with anterior ends close to the dorsal furrows at the level of the third lateral furrow (S_3), there is considerable space between their posterior ends and the dorsal furrows. At the outer margin of the palpebral lobe a shallow furrow runs parallel to its edge; on the visual surface lenses arranged alternately in 5 horizontal rows; visual lobe delimited at the base by a flat ridge, separated by a furrow

from the free cheek. Genal spine broad, flat, with length (sag.) half that of the cephalon; spine without longitudinal furrow. In longitudinal section occipital ring convex with strong occipital tubercle, occipital furrow deep, glabella flat, passing anteriorly as a continuous line into the narrow

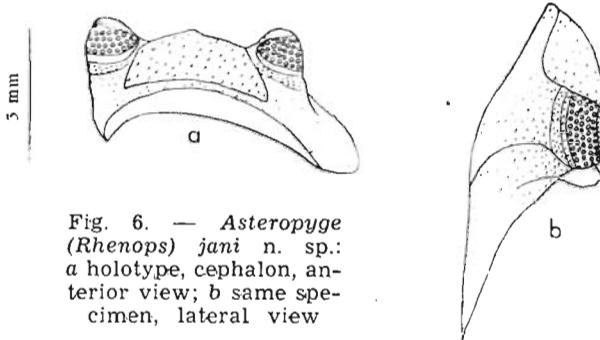


Fig. 6. — *Asteropyge (Rhenops) jani* n. sp.: a holotype, cephalon, anterior view; b same specimen, lateral view

anterior border. In transverse section glabella slightly convex, eyes conspicuously raised above the glabella, eye lobe placed vertically in relation to the palpebral lobe and separated by a furrow from the free cheek which steeply extends downwards. Glabella covered with densely and evenly spaced granules, 0.1 mm, with length of cephalon at 4.3 mm; on occipital ring the granulation indistinct, on the cheeks smaller granules, decreasing in size and growing more sparse towards the cephalic border. Thorax and pygidium unknown.

Remarks. — The new species here discussed displays characters of subgenus *Asteropyge (Rhenops)* R. & E. Richter, 1943. In the development of the glabella this species very closely resembles *Asteropyge (Rhenops) anserina* R. & E. Richter, 1916, from the Lower Coblenzian of Germany

<i>Asteropyge (Rhenops) anserina</i>	<i>Asteropyge (Rhenops) jani</i> n. sp.
Middle lateral furrow (S_2) arcuate, horizontal.	Middle lateral furrow, straight, directed obliquely forwards.
No tubercle on occipital ring.	Strong tubercle on occipital ring.
Eyes not higher than glabella.	Eyes higher than glabella.
No furrow near the outer edge of palpebral lobe.	Distinct furrow near the outer edge of palpebral lobe.
Genal spine slightly longer than one third the cephalic length.	Genal spine half as long as the cephalon.
Genal spine divided into two parts by a longitudinal furrow.	Genal spine without a longitudinal furrow.

(Eifel) (*idem*, 1943). On the existing differences, however, these two species can be reasonably separated. These differences are illustrated by table on preceding page.

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Warszawa, October 1956*

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HALSZKA OSMÓLSKA

TRYLOBITY KUWINU Z WYDRYSZÓWA (GÓRY ŚWIĘTOKRZYSKIE)

Streszczenie

Autorka opisała trylobity znalezione w osadach kuwinu miejscowości Wydryszów. Występują tam trzy gatunki znane z kuwinu profilu Grzegorzowice-Skały (Góry Świętokrzyskie):

Otarion (Otarion) polonicum praecedens Kielan

Phacops (Phacops) latifrons grzegorzowicensis Kielan

Scutellum (Paralejurus) dormitzeri dormitzeri (Barrande),

a także dotychczas w Polsce nie znajdowane:

Otarion (Otarion) convexum (Hawle & Corda)

Leonaspis (Leonaspis) laportei (Hawle & Corda)

Acaste (Acastoides) paeckelmanni R. & E. Richter.

Do tego dochodzą trzy nowe gatunki:

Proetus (Proetus) papillaris n. sp.

Scharyia couviniana n. sp.

Asteropyge (Rhenops) jani n. sp.

Ustanowiona tu została podrodzina Scharyiinae n. subfam.

Poniżej przytoczone są krótkie diagnozy gatunków nowych:

Proetus (Proetus) papillaris n. sp.

(fig. 1; pl. I, fig. 1-3)

Glabella walcowata; pola preglabellarne brak; na glabelli trzy bruzdy boczne w postaci pól bez granulacji; na pierścieniu potylicznym guzek; długość kolca policzkowego równa $\frac{2}{3}$ długości policzka ruchomego; pygidium otoczone płaską obwódką, szerokości równej $\frac{1}{6}$ całkowitej długości tarczy pygidialnej; cefalon pokryty drobną granulacją; guzki na glabelli ułożone wzdłuż linii przypominających przebieg linii papilarnych na opuszcze palca; pygidium gładkie.

Scharyia couviniana n. sp.

(fig. 2; pl. II, fig. 1, 2)

Stosunek długości do szerokości glabelli równy 1; na glabelli 2 bruzdy boczne; pierścień potyliczny bez guzka; szew twarzowy pseudoproparialny, jego przednia i tylna gałąź niemal równoległe, płąt powiekowy odgraniczony od policzka stałego bruzdą; pygidium otoczone limbusem, delikatnie granulowane.

Asteropyge (Rhenops) jani n. sp.

(fig. 6; pl. III, fig. 6, 7)

Glabella słabo uwypuklona; oczy wysokie; policzki stromo opadające ku dołowi; kolce policzkowe o długości równej $\frac{1}{2}$ długości cefalonu; pierścień potyliczny z wydatnym guzkiem; toraks i pygidium nie znane.

OBJAŚNIENIA DO ILUSTRACJI

Fig. 1 (p. 57)

Proetus (Proetus) papillaris n. sp.: 1 a paratyp, kranidium z przodu; 1 b ten sam okaz, z boku; 2 paratyp, policzek ruchomy, z góry; 3 a paratyp, pygidium, z boku; 3 b ten sam okaz, z tyłu.

Fig. 2 (p. 63)

Scharyia couviniana n. sp.: 1 a holotyp, kranidium, z góry; 1 b ten sam okaz, z boku; 1 c ten sam okaz, z przodu; 2 paratyp, policzek ruchomy, z góry; 3 a paratyp, pygidium, z góry; 3 b ten sam okaz, z boku; 3 c ten sam okaz, z tyłu.

Fig. 3 (p. 68)

Otarion (Otarion) convexum (Hawle & Corda): a kranidium, z boku; b ten sam okaz, z przodu.

Fig. 4 (p. 70)

Leonaspis (Leonaspis) laportei (Hawle & Corda): a kranidium, z boku; b ten sam okaz, z przodu.

Fig. 5 (p. 72)

Acaste (Acastoides) paeckelmanni R. & E. Richter: a pygidium, z boku; b ten sam okaz, z tyłu.

Fig. 6 (p. 75)

Asteropyge (Rhenops) jani n. sp.: a holotyp, cefalon, z przodu; b ten sam okaz, z boku.

Pl. I

Proetus (Proetus) papillaris n. sp.

Fig. 1. Holotyp, kranidium, w. 6; \times 5.

Fig. 2. Paratyp, pygidium, w. 6; \times 5.

Fig. 3. Paratyp. kranidium, dobrze widoczna ornamentacja, w. 6; \times 4,8.

Proetus (Proetus) sp. A

Fig. 4 a, b. Cały okaz w dwóch pozycjach, w. 5; \times 2,6.

Proetus (Proetus) sp. B

Fig. 5a. Kranidium, w. 5; \times 5,7.

Fig. 5b. Ten sam okaz, widoczny toraks i pygidium; \times 6,4.

Pl. II

Scharyia couviniana n. sp.

Fig. 1. Holotyp, kranidium, w. 5; \times 8,5.

Fig. 2. Paratyp, pygidium, w. 5; \times 7,2.

Acaste (Acastoides) paeckelmanni R. & E. Richter

Fig. 3. Cefalon ze środkową bruzdą boczną (S_2) nie dochodzącą do bruzd grzbietowych, w. 4; \times 5.

Fig. 4a. Cefalon ze środkową bruzdą boczną (S_2) dochodzącą do bruzd grzbietowych, w. 4; \times 4,5.

Fig. 4b. Ten sam okaz, widok z boku; \times 4,5.

Fig. 5. Pygidium, w. 5; \times 5.

Scutellum (Paralejurus) dormitzeri dormitzeri BarrandeFig. 6. Kranidium, w. 7; \times 3.2.*Scutellum (Scutellum) sp.*Fig. 7. Pygidium, w. 5; \times 5.1.

Pl. III

Phacops (Phacops) latifrons grzegorzowicensis Kielan

Fig. 1. Cefalon i fragment toraksu, w. 6; wielk. nat.

Fig. 2. Cefalon, ośródką, w. 3; \times 5.*Cyrtosymbole? sp.*Fig. 3. Kranidium, w. 7; \times 19.4.*Otarion (Otarion) convexum* (Hawle & Corda)Fig. 4. Kranidium, w. 5; \times 5.5.*Otarion (Otarion) polonicum praecedens* KielanFig. 5. Cefalon, w. 5; \times 5.*Asteropyge (Rhenops) jani* n. sp.Fig. 6. Holotyp, cefalon, w. 5; \times 6.7.Fig. 7. Płat wzrokowy, w. 5; \times 6.2.*Leonaspis (Leonaspis) laportei* (Hawle & Corda)Fig. 8. Kranidium, w. 6; \times 5.1.

ГАЛЬШКА ОСМУЛЬСКА

ТРИЛОБИТЫ КУВИНА ИЗ ВЫДРЫШОВА (СВЕНТОКРЖИНСКИЕ ГОРЫ),
ПОЛЬША

Резюме

В данной заметке описаны кувинские трилобиты из местности Выдрышув в Свентокржиских Горах. Некоторые виды были уже описаны Келян (Z. Kielan, 1954) из разреза Гржегоржовице-Скалы в тех же Свентокржиских Горах. Это следующие виды:

Otarion (Otarion) polonicum praecedens Kielan*Phacops (Phacops) latifrons grzegorzowicensis* Kielan*Scutellum (Paralejurus) dormitzeri dormitzeri* Barrande

Другие виды, как:

Otarion (Otarion) convexum (Hawle & Corda)*Leonaspis (Leonaspis) laportei* (Hawle & Corda)*Acaste (Acastoides) paeckelmanni* (R. & E. Richter)

не были до сих пор известны в Польше.

Публикация содержит сверх того описание трех новых видов:

Proetus (Proetus) papillaris n. sp.*Scharyia couviniana* n. sp.*Asteropyge (Rhenops) jani* n. sp.

Pl. I

Proetus (Proetus) papillaris n. sp.

- Fig. 1. Holotype, cranidium, bed No. 6; \times 5.
Fig. 2. Paratype, pygidium, bed No. 6; \times 5.
Fig. 3. Paratype, cranidium with distinct ornamentation, bed No. 6; \times 4.8

Proetus (Proetus) sp. A

- Fig. 4 a, b. Complete specimens in two views, bed No. 5; \times 2.6.

Proetus (Proetus) sp. B

- Fig. 5 a. Cranidium, bed No. 5; \times 5.7.
Fig. 5 b. Thorax and pygidium of same specimen; \times 6.4.

Pl. II

Scharyia cowiniana n. sp.

- Fig. 1. Holotype, cranidium, bed No. 5; \times 8.5.
Fig. 2. Paratype, pygidium, bed No. 5; \times 7.2.

Acaste (Acastoides) paeckelmanni R. & E. Richter

- Fig. 3. Cephalon with median lateral furrow (S_2) not extended to dorsal furrows, bed No. 4; \times 4.
Fig. 4 a. Cephalon with median lateral furrow (S_2) extended to dorsal furrows, bed No. 4; \times 4.5.
Fig. 4 b. Same specimen, side view; \times 4.5.
Fig. 5. Pygidium, bed No. 5; \times 5.

Scutellum (Paralejurus) dormitzeri dormitzeri Barrande

- Fig. 6. Cranidium, bed No. 7; \times 3.2.

Scutellum (Scutellum) sp.

- Fig. 7. Pygidium, bed No. 5; \times 5.1.

Pl. III

Phacops (Phacops) latifrons grzegorzowicensis Kielan

- Fig. 1. Cephalon and fragment of thorax, bed No. 6; nat. size.
Fig. 2. Internal mould of cephalon, bed No. 3; \times 5.

Cyrtosymbole? sp.

- Fig. 3. Cranidium, bed No. 7; \times 19.4.

Otarion (Otarion) convexum (Hawle & Corda)

- Fig. 4. Cranidium, bed No. 5; \times 5.5.

Otarion (Otarion) polonicum praecedens Kielan

- Fig. 5. Cephalon, bed No. 5; \times 5.

Asteropyge (Rhenops) jani n. sp.

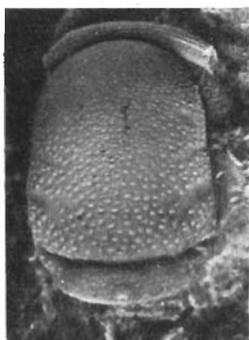
- Fig. 6. Holotype, cephalon, bed No. 5; \times 6.7.
Fig. 7. Eye lobe, bed No. 5; \times 6.2.

Leonaspis (Leonaspis) laportei (Hawle & Corda)

- Fig. 8. Cranidium, bed No. 6; \times 5.1.



5 a



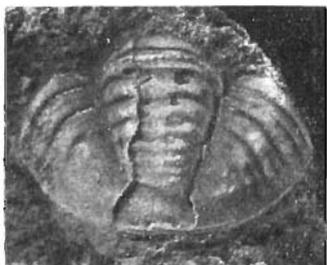
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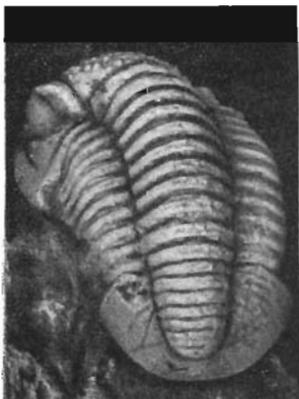
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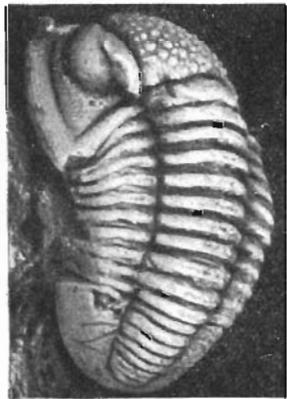
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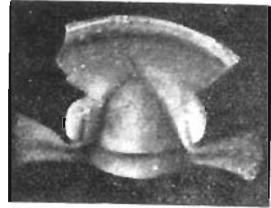
4 a



4 b



4 b



1



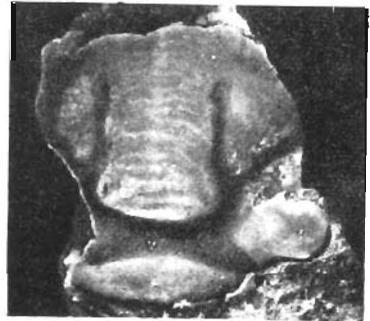
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2



5



6



4 a



7



1



7



3



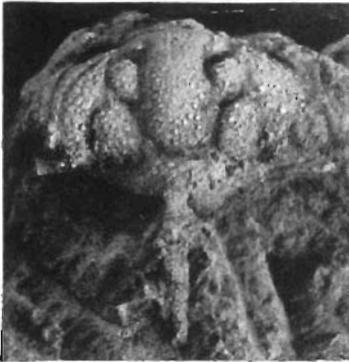
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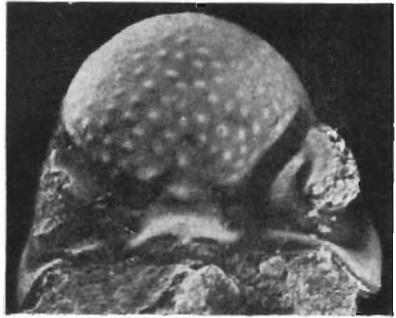
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5



8



2