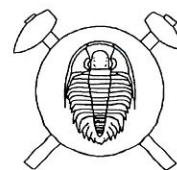


## Two new dendroid graptolites from the Klabava Formation (Lower Ordovician of the Prague Basin, Bohemia)

Dva noví dendroidní graptoliti z klabavského souvrství  
(spodní ordovik pražské pánve, Česká republika) (Czech summary)



(3 text-figs., 2 plates)

JAROSLAV KRAFT

West Bohemian Museum, Kopeckého sady 2, 301 36 Plzeň, Czech Republic

*Callograptus hanae* sp. n. and *Dendrograptus petri* sp. n. from the Klabava Fm. (Ordovician of the Prague Basin) are described. *Dendrograptus vokovicensis* Bouček has been recorded from the Klabava Fm. for the first time.

**Key words:** dendroid graptolites, Ordovician, Prague Basin

The dendroid graptolites from the Klabava Formation were described by Bouček (1956) and J. Kraft (1975).

Dendroid graptolite fauna of the upper part of the Klabava Formation was studied by P. Kraft (1990) who reported 15 species. J. Kraft, P. Kraft et Seidl (1993) established other new species from this stratigraphical level. During systematical investigations of the Bohemian Ordovician graptolite fauna three hitherto unknown dendroid graptolite species have been found in the upper part of the Klabava Formation. Two of them are new species, the third has up to now been known from the overlying Šárka Formation.

The entire studied material is housed in the collection of the Museum of dr. B. Horák in Rokycany.

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### Systematic part

**Graptolithina** Brönn, 1846

**Dendroidea** Nicholson, 1872

**Dendrograptidae** Roemer in Frech, 1897

**Callograptus** Hall, 1865

### *Callograptus hanae* sp. n.

Pl. I, figs. 1–4; Pl. II, fig. 4; Text-fig. 1a–g

**Holotype:** Specimen (10 325) figured on pl. I, fig. 1.

**Type horizon:** Klabava Formation, *Azygograptus-Tetragraptus (reclinatus group)* Biozone.

**Type locality:** Rokycany-Stráň (quarry).

**Named:** After Christian name Hana.

**Other material:** Sixteen specimens (10 074, 10 089, 10 193, 10 200, 10 229, 10 266, 10 267, 10 296, 10 297, 10 394, 14 010, 14 020, 14 021, 14 025, 19 823, 20 207) have been found in the same biozone as a holotype. Two specimens (4 899, 8 269) come from the underlying *Holograptus tardibrachiatus* Biozone.

**Description:** Rhabdosome probably broadly conical. From the basal stem two strong, immediately dichotomously branching stipes grow out. These four basal sti-

pes branch dichotomously or laterally in relatively short intervals. Stipes straight or slightly bent, subparallel and 0.6–1.3 mm wide in the proximal part of rhabdosome. They become parallel distally and their width decreases to 0.4–0.5 mm. There are about 6 stipes per 10 mm in the proximal part of rhabdosome and 7–10 stipes in its distal part. Dissepiments are distributed sporadically. They are 0.2–0.7 mm wide, usually perpendicular to the stipe axes. Anastomoses are limited to the proximal portion of rhabdosome and their occurrence is highly variable in single specimens. In the holotype they are relatively frequent while in other specimens they occur rarely. Thecae simple, tubular. Their free portion is usually 0.3–0.4 mm long. There are 19–22 thecae in 10 mm.

**Remarks:** With respect to the parallel or subparallel course of the distal parts of stipes connected by scarcely distributed dissepiments, this species may be placed into the genus *Callograptus* Hall. The only feature, in which

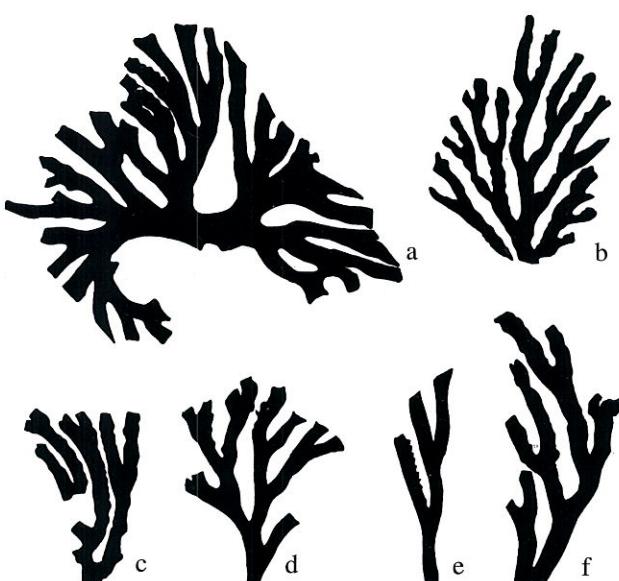


Fig. 1. *Callograptus hanae* sp. n. Rokycany-Stráň (quarry). 2x. a – 14 025, b – 19 823, c – 14 021, d – 20 207, e – 10 296, f – 10 074.

it differs from the other members of the genus *Callograptus* is the construction of the proximal part of rhabdosome including anastomoses. The species described may be distinguished from all members of the genus *Callograptus* Hall from the Bohemian Ordovician by wider stipes in the proximal part of rhabdosome and by a higher number of thecae in 10 mm.

Fragments of the proximal part of rhabdosome with anastomoses may be incorrectly referred to the genus *Desmograptus* Hopkinson.

**O c c u r r e n c e :** Klabava Formation, *Holograptus tardibrachiatus* Biozone: Rokycany-Stráň (near the swimmingpool, Valcha). *Azygograptus-Tetragraptus* (reclinator group) Biozone: Rokycany-Stráň (quarry).

### *Dendrograptus* Hall, 1858

#### *Dendrograptus petri* sp. n.

Pl. II, figs. 1-3

**H o l o t y p e :** Specimen (12 225) figured on pl. II, figs. 1, 2.

**T y p e h o r i z o n :** Klabava Formation, *Azygograptus-Tetragraptus* (reclinator group) Biozone.

**T y p e l o c a l i t y :** Rokycany-Stráň (quarry).

**N a m e d :** After Christian name Petr.

**O t h e r m a t e r i a l :** Seven specimens (10 337, 10 384, 10 405, 10 778, 16 793, 20 182, 20 219) have been found at the same locality as a holotype. One specimen (16 700) comes from the locality Zbiroh-Bukov (Josef gallery).

**D e s c r i p t i o n :** Rhabdosome probably conical. Stipes straight or moderately bent, 0.4–0.5 mm wide. Dorsoventral width of stipes measures 0.7–0.8 mm. Branching dichotomous, the angle of divergence varies between 30–50°. There are about 8–10 stipes in 10 mm. Thecae narrow, tubular. Their free part is 0.7–0.75 mm long. The width of thecae at the aperture 0.3–0.4 mm. The angle of inclination 35–40°. There are 13–15 thecae in 10 mm.

**R e m a r k s :** The species described is similar to *Dendrograptus bouceki* J. Kraft with which it is associated but differs from it by thinner stipes and particularly by a higher number of thecae in 10 mm (13–15 vers. 9–11).

Some fragments of the species *Callograptus holubi* Bouček and *Callograptus horaki* (Bouček) without dissepiments may be incorrectly referred to the species described. In this case it is possible to distinguish these species on the basis of the thecal density (*C. holubi* 15–18 thecae in 10 mm, *C. horaki* 10–12 thecae in 10 mm).

*Dendrograptus petri* sp. n. resembles *D. fruticosus* Hall and *D. rigidus* Ruedemann from the Ordovician of North America. From the former it differs by a nearly uniform stipe width, smaller intervals of branching, and a smaller angle of divergence. From the latter it is distinguished by a smaller angle of divergence, smaller intervals of branching and a somewhat smaller number of thecae in 10 mm.

**O c c u r r e n c e :** Klabava Formation, *Azygograptus-Tetragraptus* (reclinator group) Biozone: Rokycany-Stráň (quarry), Zbiroh-Bukov (Josef gallery).

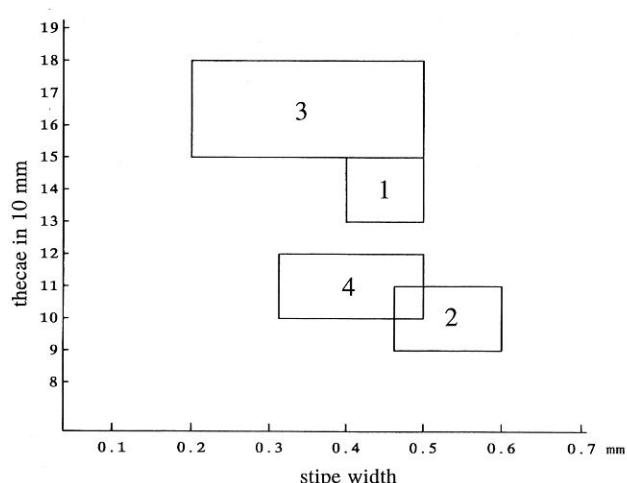


Fig. 2. Relation between stipe width and thecal density in selected species.

1 – *Dendrograptus petri* sp. n.; 2 – *Dendrograptus bouceki* J. Kraft; 3 – *Callograptus holubi* Bouček; 4 – *Callograptus horaki* (Bouček).

### *Dendrograptus yokovicensis* Bouček, 1933

Text-fig. 3

**M a t e r i a l :** 1 fragment of rhabdosome (10 825).

**D e s c r i p t i o n :** Stipes slightly bent, 0.4–0.5 mm wide. Dorsoventral width of stipes 0.7–0.75 mm. Branching dichotomous. Thecae narrow, tubular. Angle of inclination 10° in the proximal portion of the thecae, distally it increases up to 15°. There are 7–8 thecae in 10 mm.

**R e m a r k s :** The described fragment fully corresponds to the original description of the species *Dendrograptus*

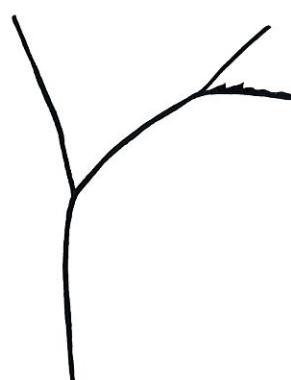


Fig. 3. *Dendrograptus yokovicensis* Bouček. Klabava-Starý hrad. 10 825. x2.

*yokovicensis* Bouček from the Šárka Formation. It represents hitherto single finding of this species in the Klabava Formation.

**O c c u r r e n c e :** Klabava Formation, *Azygograptus-Tetragraptus* (reclinator group) Biozone: Klabava-Starý hrad.

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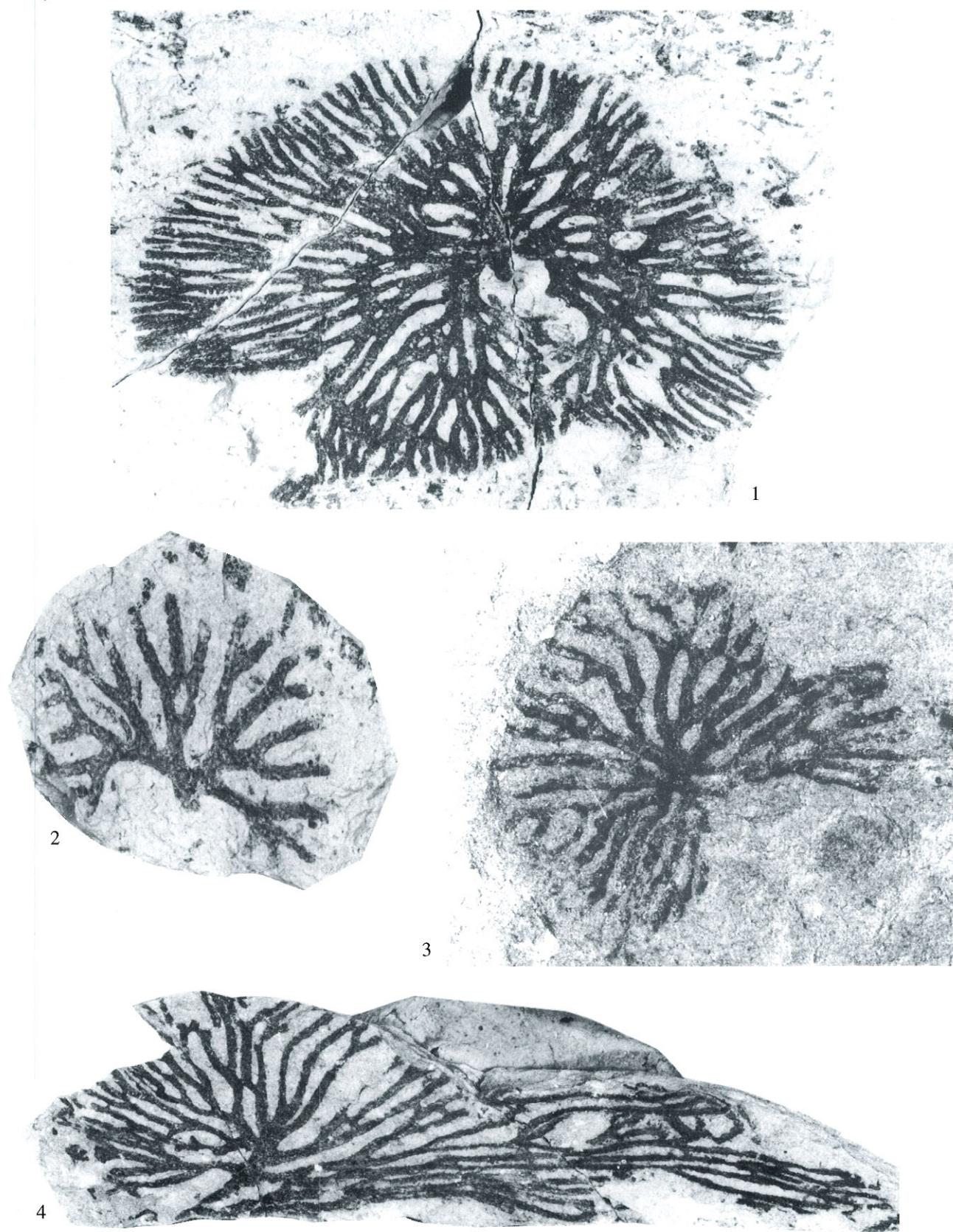
## References

- Bouček, B. (1933): Příspěvek k poznání graptolitů pásmu komárovského ( $d\beta$ ) a šáreckého ( $d\gamma$ ) českého ordoviku. – Věst. St. geol. Úst. Čs. Republ., 9, 2. Praha.
- (1956): Graptolitová a dendroidová fauna klabavských břidlic ( $d\beta$ ) z rokycanské Stráňe. – Sbor. Ústř. Úst. geol., Odd. paleont., 22, 123–227. Praha.
- Kraft, J. (1975): Dendroid graptolites of the Ordovician of Bohemia. – Sbor. Nár. Muz. (Praha), Ř. B, 3–5, 211–238. Praha.
- Kraft, J. – Kraft, P. – Seidl, R. (1993): New dendroid graptolites from the Lower Ordovician of Bohemia. – J. Czech Geol. Soc., 38, 1/2, 89–92. Praha.
- Kraft, P. (1990): Dendroid graptolites of the *Tetragraptus abbreviatus* Biozone (Klabava Formation, Barrandian Ordovician). – Věst. Ústř. Úst. geol., 65, 4, 249–252. Praha.
- Ruedemann, R. (1947): Graptolites of North America. – Geol. Soc. Amer. Mem., 19. New York.

## Dva noví dendroidní graptoliti z klabavského souvrství (spodní ordovik pražské pánve, Česká republika)

Při systematickém výzkumu graptolitové fauny českého ordoviku byly v klabavském souvrství nalezeny dva nové druhy dendroidních graptolitů *Callograptus hanae* sp. n. a *Dendrograptus petri* sp. n. První se nachází ve střední a svrchní části klabavského souvrství – biozóny *Holograptus tardibrachiatus* a *Azygograptus-Tetragraptus* (reclinatus group); druhý byl nalezen ve svrchních partiích klabavského souvrství. Ze svrchních partií klabavského souvrství je popsán zatím jediný nález druhu *Dendrograptus vokovicensis* Bouček, který byl dosud uváděn pouze ze šáreckého souvrství.

J. Kraft: Two new dendroid graptolites from the Klabava Formation (Lower Ordovician of the Prague Basin, Bohemia) (Pl. I)



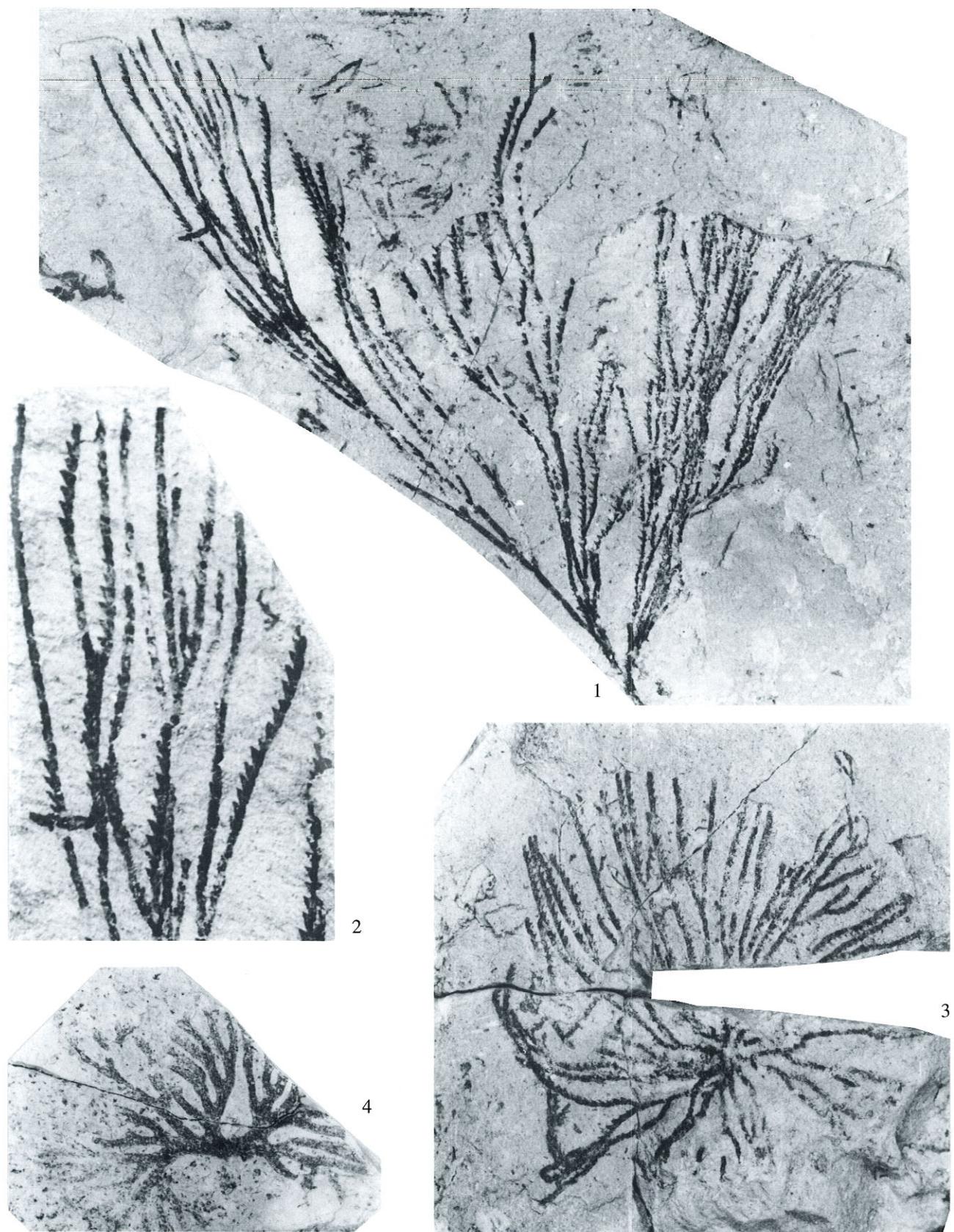
*Callograptus hanae* sp. n.

1. Rokycany-Stráň (quarry). x2. Holotype. 10 325.
2. Rokycany-Stráň (quarry). x4. 14 010.

3. Rokycany-Stráň (Valcha). x2. 4 899.

4. Rokycany-Stráň (near swimmingpool). x2. 8 269.

J. Kraft: Two new dendroid graptolites from the Klabava Formation (Lower Ordovician of the Prague Basin, Bohemia) (Pl. II)



*Dendrograptus petri* sp. n.

1. Rokycany-Stráň (quarry). x2. Holotype. 12 225.  
2. Dto – detail. x4.

3. Rokycany-Stráň (quarry). x2. 10 405.

*Callograptus hanae* sp. n.

4. Rokycany-Stráň (quarry). x2. 14 025.

