COMMENTS ON BIVALVES *BUCHIA* FROM THE KATAROWA GÓRA SECTION

by Victor ZAKHAROV[1]

The twelve specimens studied come from the Katarowa Góra section: bed 17 (two specimens represented by separated left and right valves), bed 18 (one specimen – left valve, Fig. 7: 1), bed 20 (of four specimens three represented by left valves, Fig. 7: 2–4; one by right valve, Fig. 7: 5), bed 22 (three specimens – left valves, Fig. 7: 6, 9, 10), bed 23 (one specimen – left valve, Fig. 7: 7), and bed 24 (right valve, Fig. 7: 8). The morphology of the bulk of the specimens coincides precisely with that of *Buchia concentrica* (J. Sowerby). Only some specimens from bed 20 referred to as *Buchia* cf. *concentrica* (J.Sowerby) (Fig. 7: 2, 3) differ from the type specimen of the species in a more tapering shell outline, more convex left valve and a weaker sculpture. There are also some shells in the collection studied (*e.g.* from beds 18, 20, and 22), which resemble *Buchia tenuistriata* (Lahusen, 1888) in some characters (presence of radial ribs and the shape of left valves). Similar forms, however, are reported from Northern Siberia (*e.g.* in the Kimmeridgian Borealis Zone – see Zakharov, 1981, pl. 3: 6) where they constitute but a part of a uniform population of *B. concentrica*, and thus are considered as representing the intraspecific variations.

As it can be judged by the taphonomy of the material studied (valves are found isolated and poorly sorted by size, completely preserved valves are absent, no valve aggregations are present, meaning no sorting), it can be suggested that the sediment, which includes the shells, was formed in a relatively quiet environment, below the level of regular waves, and possibly below the depth of storm wave penetration.

Among Jurassic and Cretaceous bivalves, the geographic ranges of buchiid genera and species are restricted mostly to the Panboreal Realm. Most buchiid-bearing deposits are siliciclastic rocks: clays (or argillites), silts (or alevrolites), sands (or sandstones). In the territories which were close to the North Pole (Southeastern Asia, islands of modern Arctic Ocean, North Alaska, Northern Canada and Greenland) buchiids dominated in the bivalve communities of the Callovian, Late Jurassic and Neocomian. During the Late Jurassic and Early Cretaceous buchiids penetrated to the south several times, into Peri-Tethys areas, but did not domicile anywhere there for a longer time except for the Circum-Pacific region (North America, Primorye in Russia). Buchiids penetrated to Central European seas only sporadically (Zakharov, 1981; Kelly, 1990), *e.g. Buchia concentrica* is encountered commonly in central Poland, but also in southern Germany in limestones of the thin, but widely distributed, *Amoeboceras* layer in the Semimammatum Subzone of the Hypselum Zone of the Upper Oxfordian (Matyja, Wierzbowski, 1988, pl. 2). Thus, it may be concluded that these mollusks preferred cold and moderate environments, and were able to penetrate to the south (south of 45º north latitude) only during cooling events. This assumption is confirmed by the fact that around the Peri-Tethys margins buchiids are often associated with Boreal ammonites of the family Cardioceratidae.

Buchia concentrica (J. Sowerby) ranges from the Middle Oxfordian to the Lower Kimmeridgian of the Boreal succession – it occurs commonly in the Upper Oxfordian and Lower Kimmeridgian of North-East Greenland, Western and Arctic Canada, Alaska, Siberia, Eastern and Western Europe (Zakharov, 1981; Kelly, 1990). In the section of the Polish Jura studied it is encountered at some levels of the Hypselum Zone of the Upper Oxfordian – from the Semimammatum Subzone (Matyja, Wierzbowski, 1988), through the Semiarmatum Subzone up to the Berrense Subzone (see materials described herein).

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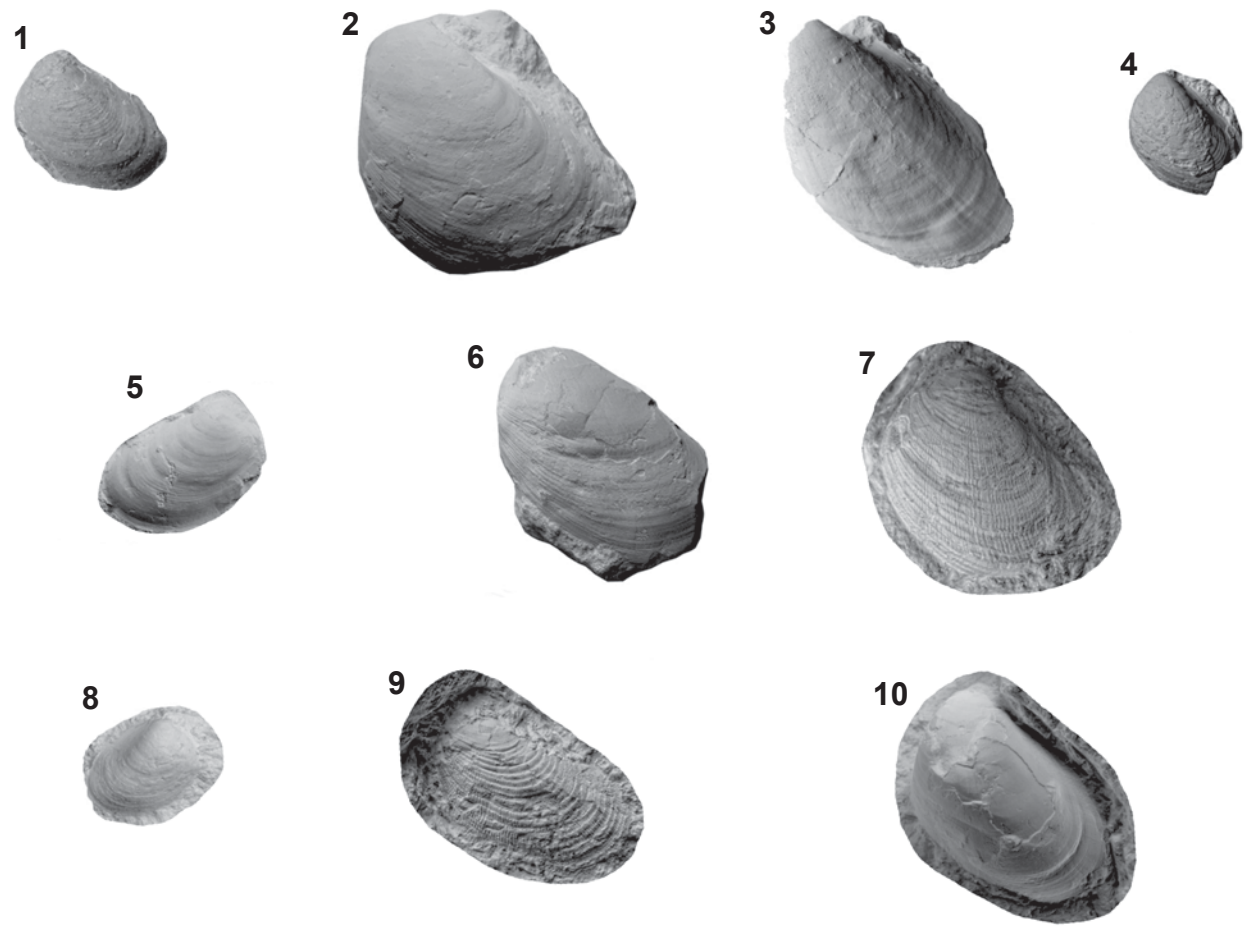

Fig. 7. Bivalves *Buchia* from the Katarowa Góra section from the Hypselum Zone

1 – *Buchia concentrica* (J. Sowerby), left valve; as the shell is absent the ornamentation of concentric and radial ribs is poorly visible; bed 18
2 – *Buchia* cf. *concentrica* (J. Sowerby), left valve; bed 20
3 – *Buchia* cf.*concentrica* (J. Sowerby), left valve; differs from type specimen by more prominent tapering, more convex valve and less developed sculpture; bed 20
4 – *Buchia concentrica* (J. Sowerby), left valve; bed 20
5 – *Buchia concentrica* (J. Sowerby), right valve, as the shell is absent the ornamentation is poorly visible; bed 20
6 – *Buchia concentrica* (J. Sowerby), left valve; bed 22
7 – *Buchia concentrica* (J. Sowerby), left valve; bed 23
8 – *Buchia concentrica* (J. Sowerby), right valve; as the shell is absent the ornamentation is poorly visible; bed 24
9 – *Buchia concentrica* (J. Sowerby), left valve; bed 22 (B2/B3)
10 – *Buchia* cf. *concentrica* (J. Sowerby), left valve; note weakly developed concentric sculpture; bed 22 (B2/B3); all specimens of collection MUZ PIG 1797.II.

All bivalves in natural size