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Reesidites (Cretaceous Ammonoidea) from the upper Turonian of New Mexico

By **W. A. Cobban**, Denver, and **W. J. Kennedy**, Oxford

With 3 figures in the text

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Abstract: *Reesidites minimus* HAYASAKA & FUKADA, 1951, an important index fossil in the upper Turonian of the Japanese Islands is documented from the upper Turonian zones of *Prionocyclus wyomingensis* and *Scaphites whitfieldi* of New Mexico in the Western Interior of the United States.

Zusammenfassung: *Reesidites minimus* HAYASAKA & FUKADA 1951, ein wichtiges Leitfossil im Oberturon Japans, wird aus den oberturonen Zonen des *Prionocyclus wyomingensis* und des *Scaphites whitfieldi* in Neumexiko und dem Westen Interior der USA nachgewiesen.

Introduction

Reesidites WRIGHT & MATSUMOTO (1954: 140), with *Barroisiceras minimum* HAYASAKA & FUKADA (1951: 325, pl. 1, figs. 1–4, pl. 2, figs. 1–7) as type species, is an upper Turonian member of the Collignoniceratidae that has features intermediate between Collignoniceratinae and Barroisiceratinae (see e. g. MATSUMOTO & OBATA 1982: 82), best known from the Japanese Islands, but also recorded from Colombia (REYMENT 1958) and the Armenian Soviet Socialist Republic (ATABEKIAN & AKOPIAN 1972). In Japan it is the index fossil of the highest zone of the Turonian, overlapping, at the lower end of its range with *Subprionocyclus neptuni* (GEINTZ, 1850) and *Subprionocyclus normalis* (ANDERSON, 1958) according to FUTAKAMI & MIYATA (1983). We record below the only known occurrences of this important stratigraphic indicator in the upper Turonian zones of *Prionocyclus wyomingensis* and *Scaphites whitfieldi* of New Mexico (COBBAN 1984) as a contribution towards the interregional correlation of the predominantly endemic faunas of the U. S. Western Interior and other regions.

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Systematic palaeontology

Genus *Reesidites* WRIGHT & MATSUMOTO, 1954

Type species: By original designation: *Barroisiceras minimum* (YABE ms.) HAYASAKA & FUKADA, 1951 (325, pl. 1, figs. 1–4; pl. 2, figs. 1–7).

Reesidites minimus (HAYASAKA & FUKADA, 1951)

Figs. 1–3

1951 Barroisiceras minimum – YABE (ms.) HAYASAKA & FUKADA, p. 325, pl. 1, figs. 1–4, pl. 2, figs. 1–7.
1954 *Reesidites minimus* – -WRIGHT & MATSUMOTO, p. 130.
1965 *Reesidites minimus* – (HAYASAKA & FUKADA); OBATA, p. 39, pl. 4, figs. 1–3, pl. 5, figs. 1–6; text-figs. 1–25.
1972 *Reesidites minimus* – (HAYASAKA & FUKADA, 1951), ATABEKIAN & AKOPIAN, p. 6, pl. 1, fig. 4; pl. 2, figs. 1–3; pl. 3, fig. 6.
1978 *Reesidites minimus* – (HAYASAKA & FUKADA); TANABE, OBATA & FUTAKAMI, p. 41, pl. 1, figs. 1, 2.
1982 *Reesidites minimus* – (HAYASAKA & FUKADA); MATSUMOTO & OBATA, p. 80, pl. 5, fig. 2; pl. 6, fig. 1; text-fig. 3.

Type: The holotype by original designation is the original of HAYASAKA & FUKADA 1951 p. 326, pl. 4, figs. 1–4, from the upper Turonian of the Ikushumbets, Hokkaido, Japan. MATSUMOTO (1965, pl. 14, fig. 1) has refigured this specimen.

Dimensions:

	D	Wb	Wh	Wb:Wh	U
Holotype					
(after MATSUMOTO)	98.6 (100)	22.8 (23.1)	51.0 (51.7)	0.45	16.2 (16.4)
USNM 414511	39.8 (100)	10.3 (25.9)	20.0 (50.3)	0.52	4.6 (11.6)
*USNM 414510	111.5 (100)	21.2 (19.0)	51.3 (46.0)	0.41	18.9 (17.0)
at		13.5 (–)	32.9 (–)	0.42	

*USNM 414510 is crushed

Fig. 1. *Reesidites minimus* (HAYASAKA & FUKADA, 1951). USNM 414511, ×1.

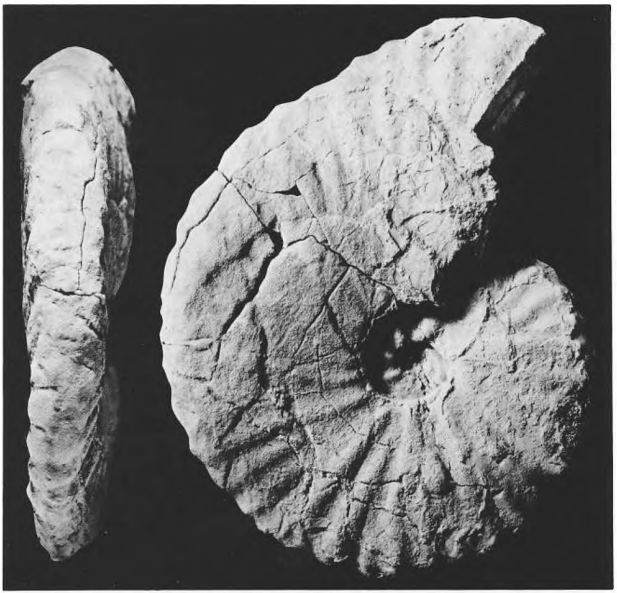

Fig. 2. *Reesidites minimus* (HAYASAKA & FUKADA, 1951). USNM 414510, ×1.

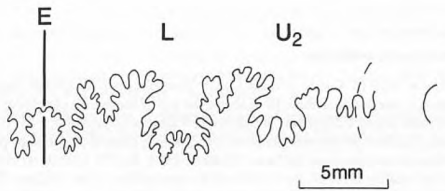

Fig. 3. External suture of *Reesidites minimus* (HAYASAKA & FUKADA, 1951). USNM 414511. Scale is 5 mm.

Description: The smaller specimen (Fig. 1) is wholly septate. Coiling is very involute with an umbilical ratio of 0.12; the umbilical wall is somewhat flattened. The whorl section is very compressed, with a whorl breadth to height ratio of 0.52, the greatest breadth at the umbilical bullae, the costal section with flattened, convergent sides and a fastigiate venter. There are three distant umbilical bullae per half whorl. These give rise to pairs of low, broad, prorsiradiate ribs that are flexed back on the outer flank. They strengthen across the flanks, and additional intercalatories arise low on the flank to give a total of 13 ribs per half whorl. All ribs bear ventrolateral clavi and strong siphonal clavi on the crest of the fastigiate venter so that the shell has a strongly crenulate margin when viewed from the side.

The larger specimen (Fig. 2) is crushed, and preserves half a whorl of body chamber; it appears to be a nearly complete adult with the umbilical seam egressing markedly around the last half whorl. There are five umbilical bullae on the last half whorl of the phragmocone, corresponding to eighteen ribs at the ventrolateral shoulder. The ribs arise in pairs from bullae. There are both long and short intercalatories and all are commonly flexed back and convex around midflank. All ribs terminate in ventrolateral clavi. The siphonal clavi are very prominent. On the body chamber the whorl section broadens somewhat and the venter rounds. The umbilical bullae decline and eventually disappear; most of the ribs are long, extending to the umbilical shoulder as both ribs and striae, while prominent growth lines develop. The ventrolateral and siphonal tubercles decline markedly towards the aperture.

Suture line with markedly asymmetric bifid E/L, the ventral half smaller than the dorsal; rectangular L that is deeper than E; asymmetrically bifid L/U_2 and relatively broad and bifid U_2 (Fig. 3).

Discussion: The larger, crushed specimen closely resembles the holotype, whereas the smaller finds a match in those figured by Obata (1965: pl. 5, fig. 5). *Reesidites elegans* Matsumoto & Inoma, 1971 (in Matsumoto, 1971: 139, pl. 23, figs. 1–3; text-figs. 5–7) has much finer, more numerous, delicate and weaker ribs than *R. minimus*. *R. quadratus* Matsumoto & Obata (1982: 82, pl. 6, Fig. 2) is much more evolute, with U = 40 percent of diameter at maturity and a broader whorl. *R. subtuberculatus* (Gerhardt, 1897: 156, pl. 3, fig. 12) has much weaker flank ornament and tubercles.

Occurrence: USNM 414511 is from USGS Mesozoic locality D5349, from a limestone concretion in the Mancos Shale 18 m above the top of the main upper ledge of the Juana Lopez Member about 3.2 km east of Seboyeta, Valencia County, New Mexico. It was associated with *Scaphites ferronensis* Cobban, 1952, which dates it as the later part of the Turonian *Prionocyclus wyomingensis* Zone (Cobban 1984: 76, 87). USNM 414510 is from USGS Mesozoic locality D10127, from a limestone concretion in the D-Cross Tongue of the Mancos Shale in the N1/2 of Section 7, Township 2 North, Range 5 West, Socorro County, New Mexico. It was associated with *Prionocyclus novimexicanus* (Marcou) indicating the upper Turonian *Scaphites whitfieldi* Zone (Cobban & Hook 1984: 269).

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W. A. Cobban, U. S. Geological Survey, Paleontology and Stratigraphy Branch, Mail Stop 919, Box 25046, Federal Center, Denver, Colorado 80225, U. S. A.; W. J. Kennedy, Geological Collections, University Museum, Parks Road, Oxford, OX1 3PW, Großbritannien.