

The Cretaceous Tectono-Stratigraphic Complexes of Priamurye (Far East of Russia)

Galina L. Kirillova

Institute of Tectonics and Geophysics of the Eastern Branch, Russian Academy of Sciences, Khabarovsk, Russia

Email: kirillova@itig.as.khb.ru

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Abstract

Complicated structure of Priamurye is described as series of repeated tectonic plates. Fragments of these plates are presented in the Gorin and Lower Amurian zones. It is typical accretionary complexes. Three main tectono-stratigraphic systems can be distinguished: a system of oceanic plate, a system of oceanic plate cover during its approach to the subduction zone (siliceous mudstone), and the overlying terrigenous formations.

Keywords

Tectonic Plates, Cretaceous, Priamurye, Russia

1. Introduction

The structure of Priamurye was described as synclinal and anticlinal structures on previous geological maps, because of lacking the faunal evidence. Since the determination of microfaunas (like radiolarians), the structure of Priamurye became clear. It consists of a series of small plates, and presents a giant accretionary system at the East Asian continental margin.

2. Study Area

Studied area is shown in **Figure 1**.

3. Data and Method

The main Method is geological mapping scale 1:50,000 and 1:200,000.

4. Results

East Asian continental margin (EACM) presents a giant accretionary system stretching for 5000 km and gradually increasing to the east for the last 450

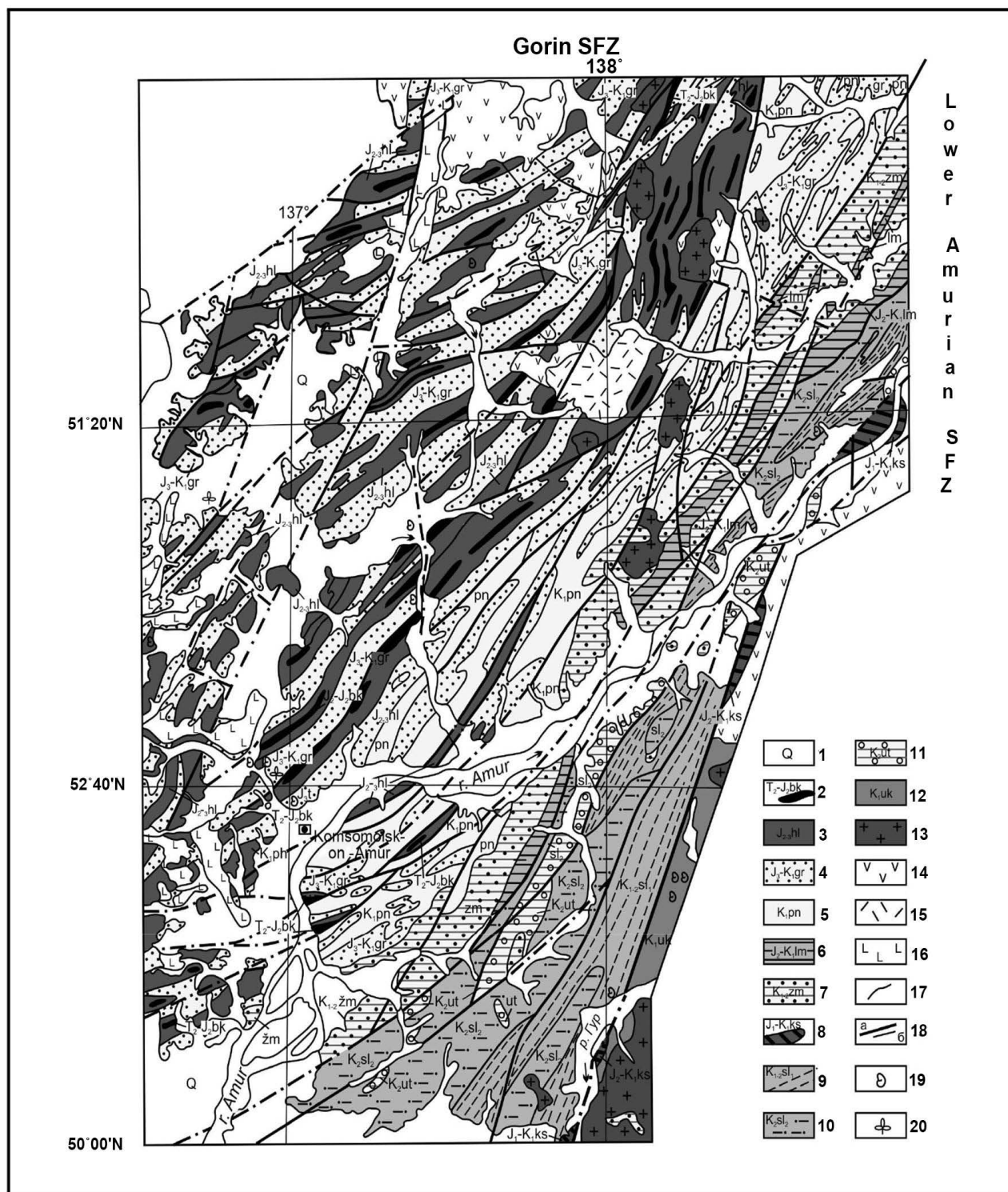


Figure 1. Geologic map of the Amur-Gorin fragment of Late Mesozoic East Asian margin [1] [2]: Gorin SFZ and Lower Amurian SFZ (Limuri and Chayatyn SFSZ). 1, Quaternary deposits. 2, Boktor unit. 3, Kholvasi unit. 4, Gorin Formation. 5, Pioneer Formation. 6, Limuri unit. 7, Zhormin unit. 8, Kiselevka Formation. 9, Lower Silasinsky subformation. 10, Upper Silasinsky subformation. 11, Utitsky Formation. 12, Uktur Formation. 13 - 15, Upper Cretaceous: 13, Granitoids; 14, Medium volcanites; 15, Acid volcanites. 16, Neogene-Quaternary basalts. 17, Stratone boundary. 18, Faults: a) Major, b) Subordinate. 19, Faunal findings. 20, Floral findings.

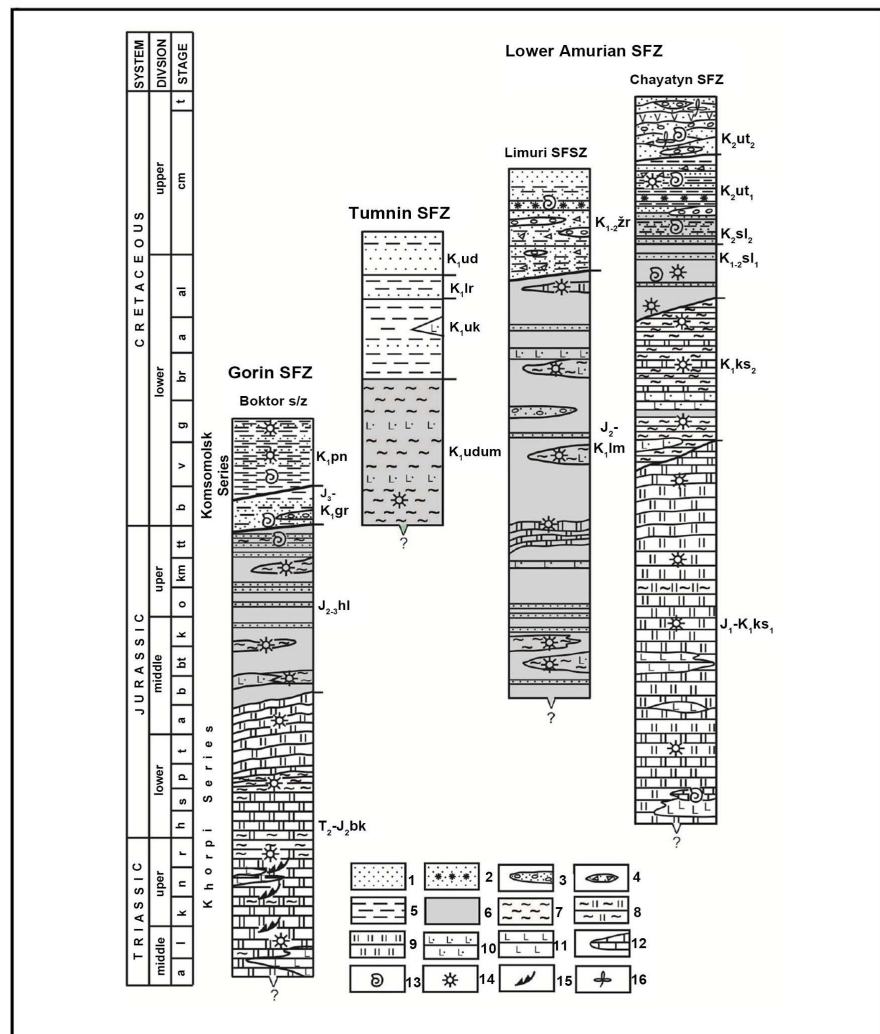


Figure 2. Zonal correlation scheme of lithostratigraphic units. 1, Sandstones. 2, Tuffaceous sandstones. 3, Conglomerates. 4, Sedimentation breccia. 5, Siltstones. 6, Clayey shales and aleuropelites. 7, Siliceous-clayey shales. 8, Clayey cherts. 9, Jasper and cherts. 10, Tuff and basic hyaloclastites. 11, Basic lavas. 12, Limestones. 13, Bivalves. 14, Radiolarian. 15, Conodonts. 16, Flora.

million years by accretionary complexes. In Mesozoic, within the boundaries of EACM 6 main periods of accretion are established: T_2 ; J_1 ; J_2 ; J_3 ; J_3 - K_1 and K_1^2 , that were previously discussed in general terms. Accretionary complexes are divided into belts or zones (SFZ) as shown in **Figure 1**.

In Priamurye, three main tectono-stratigraphic systems can be distinguished: a system of oceanic plate, composed of laminar chert, rare volcanites, a system of oceanic plate cover during its approach to the subduction zone (siliceous mudstone), and the overlying terrigenous formations. Fragments of these systems are presented as shown in **Figure 2**.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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