

GEOLOGICAL AND CHRONOLOGICAL SETTING OF THE GREENSTONE BELTS OF THE NORTHERN CONGO CRATON.

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The greenstone belts of the northern Congo craton cover a wide area (200,000 km²). Although explored for gold for a century, they remain poorly known, a situation due to poor exposure conditions as well as to the lack of adequate geological insight during most of that period. The granite-greenstone (GG) associations (15-20% greenstones) can be classified according to their nature and to that of their basement. Type A GG association consists of greenstones with abundant mafic-ultramafic volcanics and scarce sediments. No basement has been recognised. Associated granitoids correspond to a typical TTG suite. The tonalites of this GG association intruded 2.8-2.9 Ga ago. Type B GG association comprises mafic-intermediate volcanics besides sediments (mainly BIFs). Their basement consists either of type A GG association or of medium to high grade metamorphic rocks. Associated granodiorites and granites (2.4-2.5 Ga) representing most of the volume of the entire greenstone belts, intrude this type B association and its basement. The greenstone belts are limited to the W, N and E by high grade metamorphic complexes. Major tectono-metamorphic and magmatic events have been recorded at 2.9-3.0 and 2.4-2.6 Ga in these complexes. The greenstone belts have thus evolved in parallel with the gneissic complexes, hence creating constraints for the genesis of the crustal segment now represented by the GG associations. Type A seems to belong to an oceanic tectonic setting, maybe akin to that of modern island arcs, while type B appears to have evolved either at the margin of continental plates or within them.