$AB_2O_6$, in which the A position is occupied mostly by $Fe^{2+}$ and $Mn^{2+}$ and trivalent cations; the B position is occupied mainly by $Nb^{5+}$ and $Ta^{5+}$ and, subordinately by $Ti^{4+}$ and $Sn^{4+}$. These orthorhombic minerals include the end members ferrocolumbite ($FeNb_2O_5$), manganocolumbite ($MnNb_2O_6$), manganotantalite ($MnTa_2O_6$) (Cerny, 1989). Although ferrotantalite [(Fe>Mn) $(Ta>Nb)_2O_6$] is a member of the columbite-tantalite group in the classification of niobium-tantalum oxides, the end member $FeTa_2O_6$ is tetragonal and belongs to the tapiolite series.

To describe the compositional variation of columbite-tantalite within and between bodies of pegmatite, the names are restricted to the compositions (Thomas Muljha, 1998) viz.

Ferrocolumbite – Ta/(Ta+Nb) < 0.5 and Mn/(Mn+Fe) < 0.5;
Manganocolumbite – Ta/(Ta+Nb) < 0.5 and Mn/(Mn+Fe) > 0.5;
Manganotantalite – Ta/(Ta+Nb) and Mn/(Mn+Fe) > 0.5.

Nowadays to know the compositional ranges of columbite-tantalite, the data are plotted in the $FeNb_2O_6$ – $MnNb_2O_6$ – $FeTa_2O_6$ – $MnTa_2O_6$ quadrilateral plot. The manganocolumbite data of Bhurpidungri are plotted in the quadrilateral plot and they are falling in the manganocolumbite field (Fig.1) except sample No.BP/5 which could be ferrocolumbite.

In reply to his observation no.4, the authors have referred papers published in international journals by Peter Cerny who is considered to be the authority on pegmatites and has been doing research in pegmatites for the past 30 years.

The authors did not think in that way as observed by him in observation 5.

The composition of columbite-tantalite may vary within a single pegmatite or between bodies of pegmatites. The compositional variation of columbite-tantalite indicates the evolution of pegmatites. The columbite-tantalite display a progressively increasing trends of Mn/(Mn+Fe) and Ta/(Ta+Nb) values from primitive beryl bearing pegmatites through complex zoned pegmatites (LCT type). However, as suggested by him the samples will be reanalyzed.

## ESTIMATES OF EFFECTIVE ELASTIC THICKNESS ALONG THE SOUTHWEST CONTINENTAL MARGIN OF INDIA USING COHERENCE ANALYSIS OF GRAVITY AND BATHYMETRY DATA – GEODYNAMIC IMLICATION by Sheena V. Dev, M. Radhakrishna and C. Subrahmanyam. Jour. Geol. Soc. India, 2007, v.70(3), pp.475-487.

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I congratulate the authors for a significant paper proposing an alternative model for the Comorin Ridge based on effective elastic thickness data. However, I am constrained to draw their attention to the morphotectonic map presented in Fig.1 since they referred me (Biswas, 1982, 1987) for structural details shown in the map. In the map the ridges and depressions are not correctly shown. This needs to be corrected, as this could be very good reference map for the researchers investigating on the tectonic and geodynamic problems of WCMI.

Kori-Comorin Depression and Kori-Comorin Ridge are shallow water shelf edge structural features (Biswas and Singh, 1988). But in the map these are labeled in the deep water beyond the continental slope. Western offshore shelf from Kutch to Comorin is defined by a conspicuous structural high, a fault bounded basement ridge originally mapped as the shelf Margin High or Ridge. Shoreward the ridge is coupled with a complimentary structural low originally mapped as Shelf Margin Depression. Farther east towards the shore Shelfal Horst-Graben Complex occur. The Western Continental Shelf structure is styled by these three elements. The ridge connects the Kori High in Kutch offshore in the north and the Pratap ridge in Kerala offshore bordering the present continental shelf. We formally named this Ridge collectively as Kori-Comorin Ridge (KCR) as it extends from Kori High in the north to almost Comorin depression in the south. The ridge follows the 200 m bathymetric contour in most part of its length upto the Vengurla Arch. South of the arch in offshore Konkan-Kerala, it crosses the shelf-slope boundary and joins the Pratap Ridge along the slope in deep water (Biswas and Singh, 1988; Singh and Lal, 1993). The Shelf Margin Basin is the corresponding structural low and is formally named as Kori-Comorin Dpression (KCD). Seaward Laxmi Depression (LD) follows these ridge-depression pair between the continental slope and Laxmi Ridge (LR) in the northern part. In Fig. 1 Sheena et al. (2007) have correctly shown the positions of the latter structures but KCR/KCD should be shown along the shelf

edge. The widths of these linear structures are too small for the scale used but could be indicated by dark lines along the shelf-slope boundary. What is shown as 'Shelf Margin Basin' in the map is in fact the Ratnagiri Basin and the faulted zone shown next to it is the Shelfal Horst-Graben Complex, which is the main habitat of petroleum in the western offshore. I suggest that the label of Shelf Margin Basin should be replaced by Ratnagiri Basin.

The Pratap Ridge occurs between Vengurla Arch and Alleppy platform, parallel to shelf in 2000 m water depth (Chaubey et al. 2002; Naini and Talwani, 1982) but in the map (Fig. 1) it is shown as a long ridge extending from Comorin Depression to Bombay Offshore cutting across the northern tip of Chagos-Laccadive Ridge. In fact, the Kori High in the north and Pratap Ridge in the south are two extremities of the KCR.

I appeal to the authors to correct the locations of KCR-KCD and Pratap Ridge in Fig.1 and replace the label of "shelf margin basin" with Ratnagiri Basin. The map could be corrected following the enclosed map. A corrected map could be published as a Corrigendum in order to avoid any misconception for the readers.

**M. Radhakrishna,** Department of Earth Sciences, IIT Powai, Mumbai, replies:

We appreciate and sincerely thank Dr. S.K. Biswas for his keen interest in our paper. We would like to state that

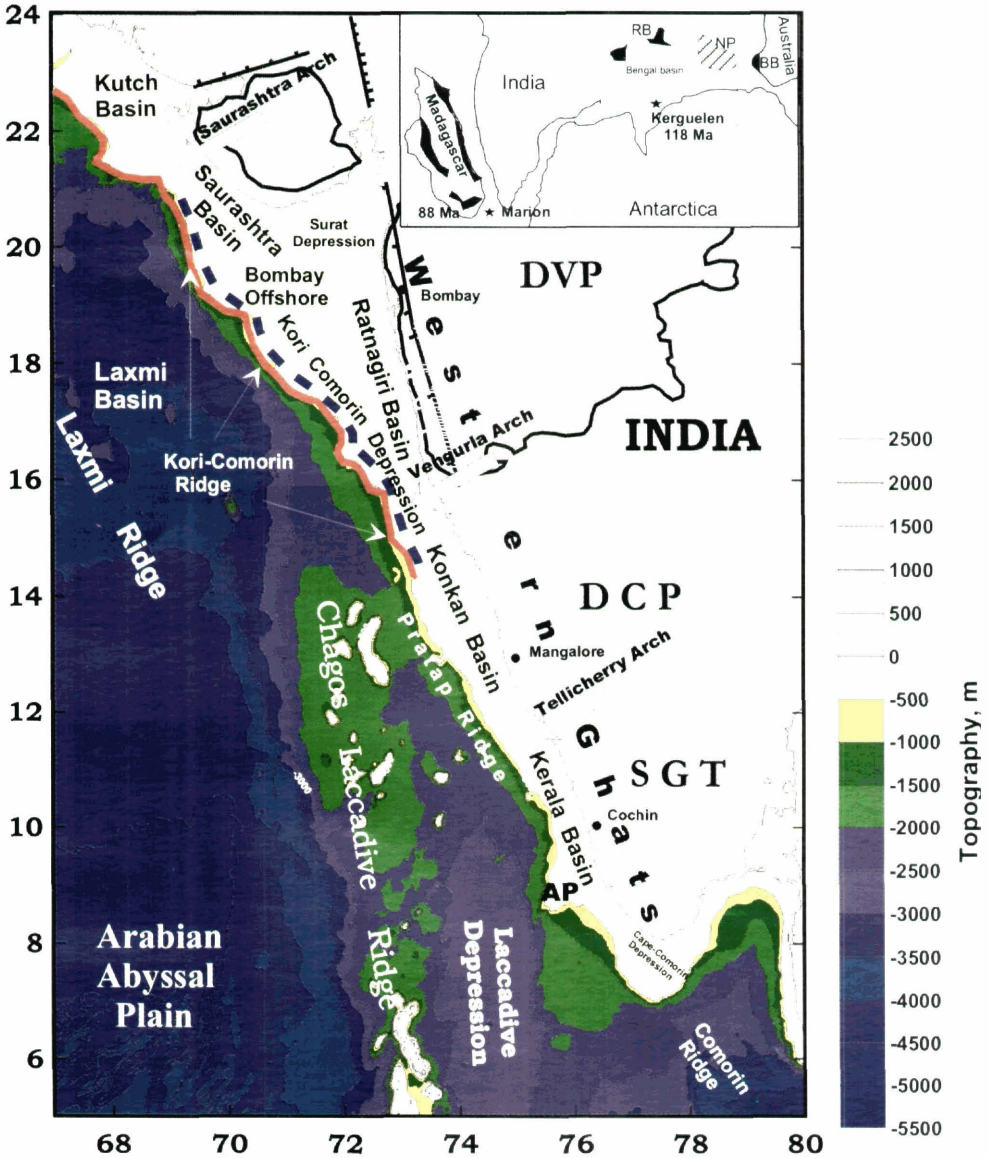


**Fig.1.** Map showing the tectonic and morphological features along the Western Continental Margin of India (WCMI) and the adjoining Arabian Sea.

we have never differed or contended in our paper with regard to the positions of Kori-Comorin Ridge (KCR) and Kori-Comorin Depression (KCD) But we regret that it was an oversight and we did not notice the changes occurred in positions (text overlay) of these two important features in the final stages of the manuscript We regret for this oversight We replace the earlier figure with revised one as shown in Fig 1 With regard to Pratap Ridge (PR), we have adopted this feature from the figure given by V Subrahmanyam et al (1993) (Tectonophysics v 219, pp 327-339) However, as suggested by Dr Biswas, we have shown the PR as a shelf-slope feature in the revised figure (Fig 1) We have replaced shelf margin basin with Ratnagiri Basin

**References**


Biswas, S K (1982) Rift basins in the western margin of India and their hydrocarbon prospects with special refrence to Kutch basin Amer Assoc Petrol Geol Bull , v 64, pp 209-220

Biswas, S K (1987) Regional tectonic framework, structure and evolution of the western marginal basins of India Tectonophysics, v 135 pp 307-327

Biswas, S K and Singh, N K (1988) Western Continental Margin ofIndia and hydrocarbon potential of deep sea basins Proc 7th Offshore South East Asia Conference, Singapore, pp 170-181

Chaubey, A K , Gopala Rao, D , Ramprasad, T , Ramana, M V and Subrahmanyam, V (2002) Analyses of multichannel seismic reflection, gravity and magnetic data along a regional profile across the central-western continental margin of India Marine Geol , v 182, pp 303-323

Naini, B R and Talwani, M (1982) Structural framework and evolutionary history of the continental margin of western India *In* J S Watkins and C L Drake (Eds ) Sstudies in continental margin geology Amer Assoc Petrol Geol Mem , v 34, pp 167-191

Singh, N K and Lal, N K (1993) Geology and petroleum prospects of Konkan-Kerala basin *In* Proc 2nd seminar on petroliferous basins of India KDMIPE ONGC, India, Petroleum Publishers, Dehradun, v 2, pp 461-469


## GEOPHYSICAL STRUCTURE OF WESTERN OFFSHORE BASINS OF INDIA AND ITS IMPLICATIONS TO THE EVOLUTION OF THE WESTERN GHATS by Kharak Singh, M. Radhakrishna and A. P. Pant. Jour. Geol. Soc. India, v 70, pp 445-458.

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The paper presents a concise review of the western offshore basin with more input of the seismic data to support the rift flank uplift Post – rift uplift of the continental margins is, however, a common phenomenon caused by lithospheric rebound after break up of continents In this paper also a tectonic map of WCMI has been presented as Fig 1 as in the paper by Sheena et al (2007) in the same volume, and similar confusion is created by showing Kori-Comorin Ridge (KCR) and Depression (KCD), the shelf edge structures, in the deep water of the continental slope while the position of Pratap Ridge (PR) and other structural features have been correctly shown The KCR and KCD as originally described by us (Biswas and Singh, 1988) and adapted by later workers (Singh and Lal, 1993) are conspicuous shelf edge structures unique to WCMI The ridge is a fault bound basement arch draped over by sediments It extends from the Kori High in the north to Comorin through the PR It marks the shelf edge bordering 200m-bathymetry upto Vengurla arch and crosses over to the slope south of it in offshore Kerala to join PR KCD is the complementary fault bound depression on the shelf side The corrected approximate position shown by indicative arrows is presented in the accompanying map The authors, however, have shown the positions of the KCR and KCD correctly in the sections (Figs 3, 4, and 7) However, in these figures the KCR is written as "Cori-Comorin" and the KCD as "Shelf Margin Depression" Since these figures are important and useful references for researchers on WCMI, a corrected version of the map in Fig 1 and corrected structural nomenclature in Figs 3, 4, and 7 need to be published to avoid any misconception

Most of the data used in the paper were taken from ONGC that should have been acknowledged Singh and Biswas (1988) originally described the structures of WCMI shown in the tectonic map at Fig 1 discussed above This should have been indicated in the caption of the figure