

Chrysoberyl from Visakhapatnam and East Godavari Districts, Andhra Pradesh

Chrysoberyl occurs in the acidic pegmatite intrusive into the khondalite of the Eastern Ghats of north coastal Andhra Pradesh. Its characteristics are described and locations of potential areas for it and other gemstones in this part of Andhra Pradesh are listed.

Introduction: The north-coastal Andhra Pradesh is well known for huge bauxite deposits in the recent times (Rao and Ramam, 1979). It forms a part of the Eastern Ghat belt comprising khondalite, charnockite, quartzite, leptynite, calc-granulites with some of the intrusions of granite, pegmatite and ultramafics (Perraju, 1982). Even though, a lot of geological work was carried out by various national organisations and earth science departments; the required specific scientific data on gemstone occurrences and studies for the related industrial development was not recorded from this segment of present study. Nanda and Natarajan (1977), Grew (1982, 83, 84), Naqvi and Rogers (1987), and Bancrji (1990) reported sporadic occurrences of emerald, beryl, zircon, garnet, sapphire, kornerupine and sillimanite in parts of Tamilnadu, Orissa and Andhra Pradesh. They identified that the khondalites and the related rocks as one of the principal suites of Eastern Ghats belt and opined that the presence of these gem-variety stones are indicative of metamorphic conditions.

Visakhapatnam and East Godavari districts have been immensely active for the last four years in surficial mining of gemstones. Thirteen chrysoberyl revenue mandal tracts, viz. Golugonda, Paderu, Araku, Chodavaram, G. Madugula, G.K. Veedhi, Chintapalli, Anakapalli, Sabbavaram, V. Madugula, Salur, Addatecgela and Rampachodavaram comprising 26 villages have been identified as potential pockets covering an areal extent of nearly 5000 sq. kms (Fig.1). This note records a first report of chrysoberyl from parts of north-coastal Andhra Pradesh. The author has earlier focussed attention on the necessity of detailed exploration for gemstones in parts of Eastern Ghats including north-coastal Andhra Pradesh (Kasipathi, 1993). Similarly, Viswanatha and Ranganath (1993) have indicated the possible occurrences of gemstones in granulitic belts (Eastern Ghats) of Andhra Pradesh.

Nature of Chrysoberyl: It is mostly tabular, columnar, crystalline, short prismatic with distinct prismatic striations (Fig.2). It varies from 5 mm to 30 mm in length and 2 mm to 35 mm in width. (110) cleavage planes are distinct and (001), (100) are poor. It is transparent to translucent, yellow green to yellow in colour and vitreous in lustre. It's hardness varies from 8.2 to 8.5 and specific gravity from 3.72 to 3.80. Under thin sections, it is colourless, pale yellow, yellowishgreen in shades with pleochroic effect from greenish yellow or yellowish green. No inclusions are found in the crystal sections.

Mode of occurrence: Chrysoberyl occurs as pockets only in the acidic pegmatites intrusive into the khondalite, especially when the pegmatitic vein transects a mafic/ultramafic intrusion. Such pockets are found mostly in well weathered colluvial bodies near to the pegmatites.

The author feels that the occurrence of chrysoberyl, a precious stone, will focus

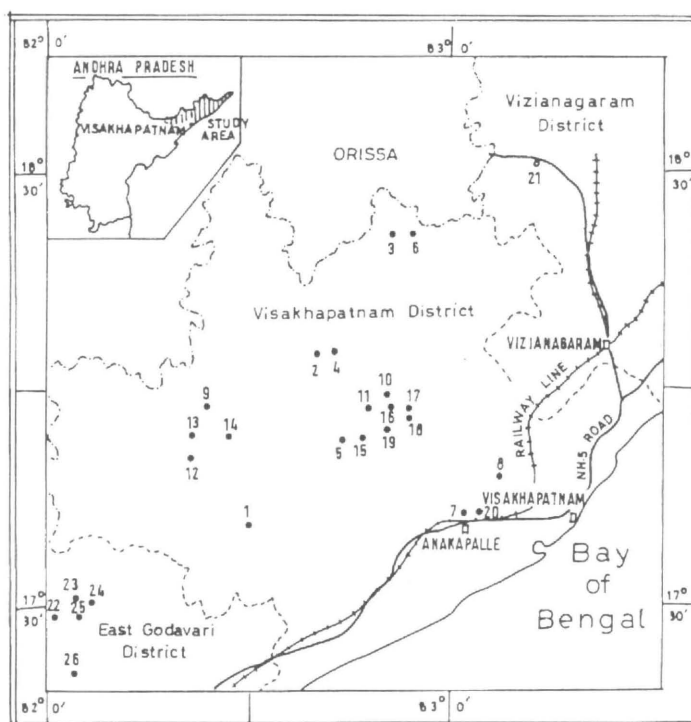


Fig.1. Location of gemstone occurrences in parts of north coastal Andhra Pradesh, India.

Locations : 1. Pappusetti palem; 2. Paderu; 3. Araku; 4. Turaiguda; 5. Pittagedda; 6. Matsyapuram; 7. Venkataramanapeta; 8. Eruwada hill; 9. Lothugedda; 10. Goppulapalem; 11. Khutikonda; 12. Pinapadu; 13. Geelugumetta; 14. Pedakonda; 15. Pedapittagedda; 16. Ravipalem; 17. Korramamidipalem; 18. Goppuru; 19. Siripuram; 20. Yeduvokala; 21. Salur; 22. Addatheegala; 23. Duppalapalem; 24. Tapasikonda; 25. Kinnerametta; 26. Rampachodavaram.

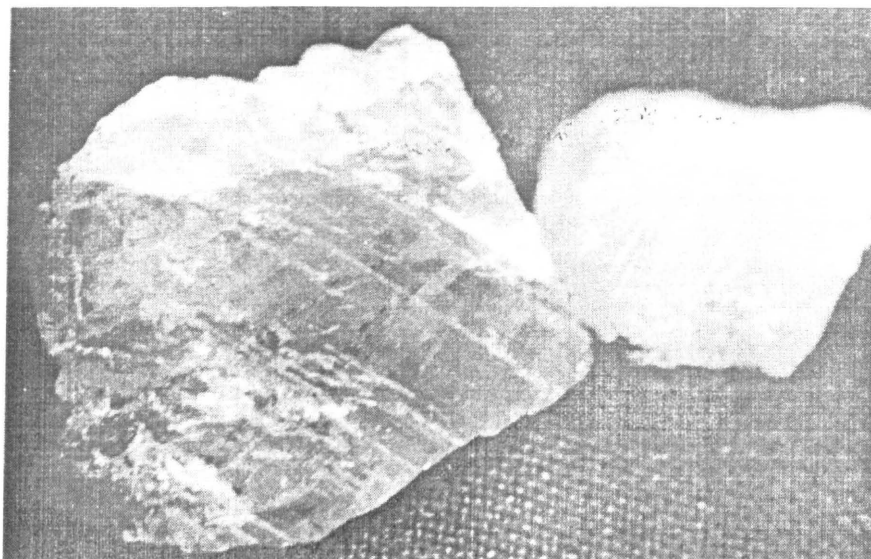


Fig.2. Chrysoberyl from Pappusettipalem, Visakhapatnam Dist., Andhra Pradesh x 7.

a bright light to further the gemstone investigations in parts of Eastern Ghat granulitic terrains.

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Department of Geology
Andhra University, Visakhapatnam - 530 003, Andhra Pradesh

C. KASIPATHI

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