tertiaries run slantingly across the secondaries and the finer branches form characteristic polygonal meshes. In general look and texture this fossil shows resemblance with the small-leaved species of *Lagerstrœmia*.

The third is an impression of a narrow, elliptical, winged fruit (Fig. 3), slightly rounded above and elongate-cuneate below. One of the lateral sides is more rounded than the other. There is a suggestion of a thick seedlike body in the middle of the wing. In general it strongly recalls the fruit of *Dalbergia sissoo*.

All the three forms reported here, along with others in the collection, are under study. Their detailed descriptions and affinities will be published after comparing them critically with living plants in some large herbarium.

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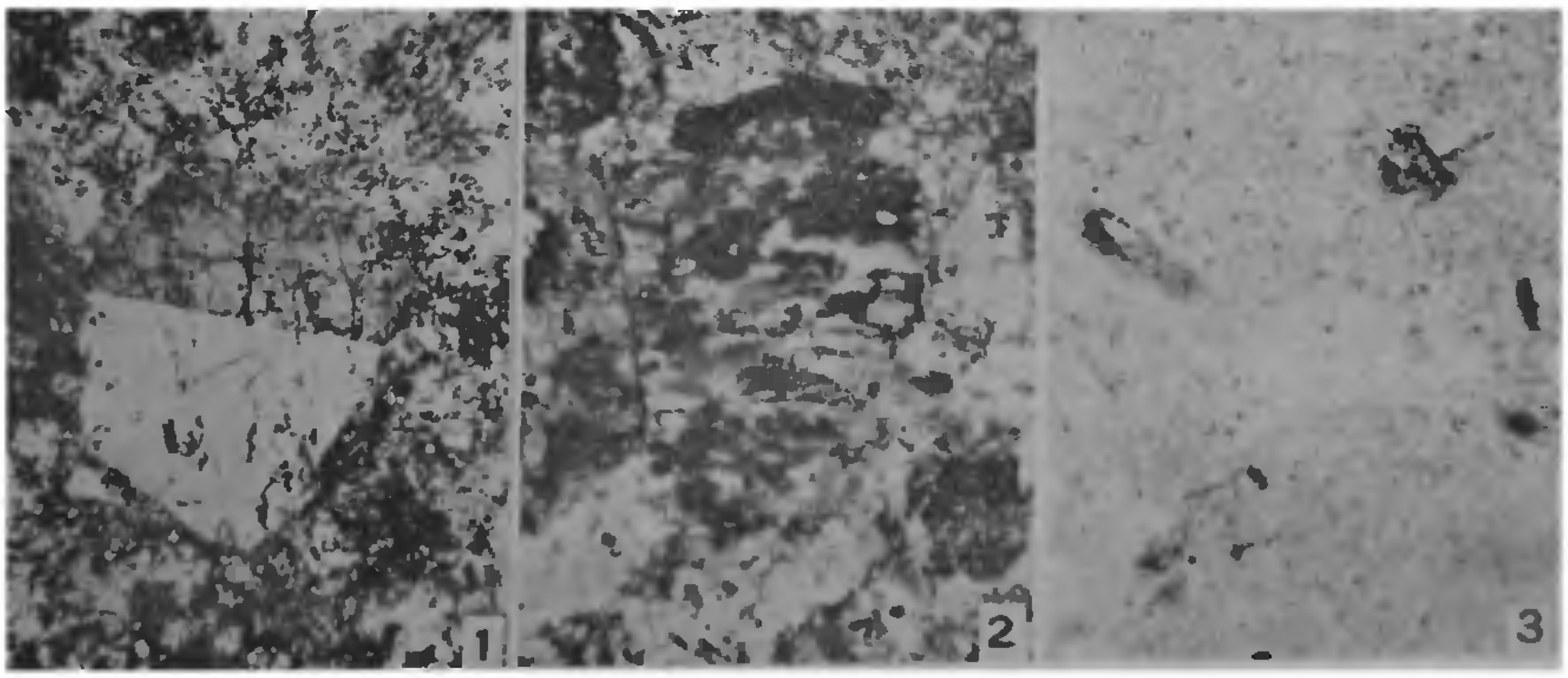
A NOTE ON THE SANIDINE-(TRACHYTE) FROM THE WESTERN SLOPES OF RAJPIPLA HILLS, GUJARAT

BLANFORD (1869) and Bose (1908) reported the occurrence of trachytic rocks among the basalts on the western slopes of the Rajpipla Hills. Of these, a plug of trachytic intrusive into the basalt forms the Karia Hill (21° 14′ : 73° 17′). Many other smaller hillocks of the same rock occur in the east to south-east direction within half a mile. The present paper is an attempt to study the petrographical characters of these rocks.

The rocks constituting these hills have low specific gravity (2·51) and a grey-white to yellow colour with macrophenocrysts of feldspar in an aphanitic groundmass. Flow lines are also visible which appear folded at places.

The majority of the phenocrysts, under the microscope, appear to be sanidine and sanidine-microperthite with a small amount of plagioclase. Rosenblum's (1956) sodium-cobaltinitrate staining technique shows that the major elements, including the phenocrysts, consist of K-feldspars and the rest plagioclase (phenocrysts) and quartz (groundmass). Sanidine phenocrysts (average size 6 mm.) are mostly idiomorphic (Fig. 1) but may show corroded outlines. Incipient sericitization and alteration into calcite are their common features, otherwise the unaltered portions are water-clear. Inclusions of skeletal crystals have also been noted. Generally their 2 V is very small, almost 0°, and thus they appear uniaxial. But higher values, $2V\alpha = 42°$ II (010) plane, have also been recorded, suggesting solid-solution between the K- and Na-feldspars. The extinction angle, generally, is 0° but varies with the soda content. The maximum value noted (in sodic variety) is $x \wedge a' = 10°$. The refractive index : $\beta = 1{\cdot}525$. On Tuttle's graph (1952) the composition Or_{70} $(Ab + An)_{30}$ is obtained. Microperthitic intergrowth is not uncommon (Fig. 2). When twinning is present it is on Carlsbad law (Fig. 1). Sanidine also forms rims around some plagioclase feldspars.

The plagioclase phenocrysts are less abundant and of smaller size (average 1·3 mm.). The most common twinning is on albite law but albite-Carlsbad combination is also fairly represented. Their $2V\alpha = 83°$; the maximum extinction angle in the "symmetrical zone" is 10°, thus showing a composition Ab_{72} An_{28}.



FIGS. 1–3. Fig. 1, × 23. Fig. 2, × 75. Fig. 3, × 30

Zoning is present, plagioclase-iron-ore intergrowth is also seen.

The general groundmass is very fine-grained, granular, consisting almost entirely of K-feldspar (sanidine ?) and quartz forming 'mosaic' structure which becomes more or less micrographic at places. Some dirty brownish patches probably represent the alteration product of original mafic constituents. Small faintly pleochroic laths of biotite appear resorbed to the extent of total destruction and alteration into finely granular iron-ore and chlorite (Fig. 3). Their arrangement is somewhat fluxional. Iron-ores are present as grains of various sizes and shapes.

The greater value of 2V and the orientation of optic axial plane II (010) in sanidine suggest a higher temperature condition at the time of crystallization. Cooling brings in exsolution and change of optical properties which, also, depend on the internal structures of K-feldspars. Because of rapid cooling the higher temperature and transitional optics remain almost unaffected, hence, the latter possibility is eliminated. Zoning is very rare in alkali feldspars. Hsu (1954) noticed zoning in sanidine and Chaisson (1950) in adularia. These are due to compositional variation in former and structural variation in the latter. It appears logical that zoning in sanidine from Karia is due to Or/Ab variation from the core to the margin but the author feels that a detailed investigation will be necessary to establish this.

On account of the abundance of sanidine and absence of quartz phenocrysts the rock is classed as 'sanidine trachyte' and is being described for the first time in India. It, however, appears to be slightly more acidic. It is clearly younger than the tholeiitic basalts which it intrudes.

Other occurrences of trachytic rocks in India have been recorded from Salsette Island (Krishnan, 1929; Kalapesi and Contractor, 1935), Kawant (Bose, 1908; Chatterjee, 1963) and Phenaimata (Bose, 1908). The former are more acidic and granophyric whereas the last two are probably more basic.

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OCCURRENCE OF AN ABERRANT KINORHYNCH *CATERIA STYX* GERLACH, IN WALTAIR BEACH SANDS

DURING the past few years, an investigation of the beach sands of Waltair coast has revealed the existence of a variety of interstitial fauna belonging to the various invertebrate animal groups. A comprehensive report of the investigation is being published elsewhere. One of the interesting species encountered in the survey is the aberrant mesopsammic kinorhynch, *Cateria styx* Gerlach. The form is so far known to inhabit only the southern Atlantic coasts. The species has been described from Rio de Janeiro on the east coast of South America (Gerlach[1]) and later it has been reported from Angola on the south-west coast of Africa (Delamare Deboutteville[2]). In the absence of adequate investigations of the interstitial fauna in other parts of the world, it is perhaps presumptuous to make any conclusions about the geographical distribution of the species. However, from the available knowledge it would appear that the form is temperature limited, restricted to the tropical belt.

The local specimens of *Cateria styx* (Figs. 1-3) conform to the original description of the type species except for minor variations in the number of scalids, length of the body spines, etc. The relative measurements of the body zonites and their spines are given in Table I.

The length of the adult specimens when extended varies from 480 to 530 μ excluding the tail spines while the body diameter varies from 66–72 μ. The dorsal sensory organ occurring between zonites 7 and 8 in the type specimen is not observed in the local forms.