

the isostatic unit. It is not very small nor is it very large. The writer feels that it is from 25 to 50 miles in radius. It is believed that much may be learned on this matter by the combined efforts of the geologists, geophysicist, geochemist, and the geodesist.

MINERALOGY.—*Chlorophoenicite*, a new mineral from Franklin Furnace, New Jersey¹ (Preliminary description). WILLIAM F. FOSHAG, National Museum and R. B. GAGE, Trenton, New Jersey.

The material herein described was collected by one of us (R. B. G.) at Franklin Furnace, New Jersey during the year 1923. Upon examination, it proved to be a new species, and the name chlorophoenicite² ($\chi\lambda\omega\rho\sigma$ = green, $\varphi\omicron\iota\nu\iota\kappa\omicron\varsigma$ = purple red), in allusion to the property it possesses of changing from green in natural light to a light purplish red in artificial light, is here given it.

Chlorophoenicite is a hydroxyarsenate of manganese and zinc carrying minor percentages of lime and magnesia. Pure, homogeneous material yielded the following analysis:

TABLE 1.—COMPOSITION OF CHLOROPHOENICITE

	ACTUAL ANALYSIS	THEORETICAL
H ₂ O.....	11.60	11.4
CaO.....	3.36	
MgO.....	1.34	
FeO.....	0.48	
MnO.....	34.46	38.5
ZnO.....	29.72	29.3
As ₂ O ₅	19.24	20.8
Total.....	100.24	100.0

This analysis leads to the formula $10\text{RO}\cdot\text{As}_2\text{O}_5\cdot 7\text{H}_2\text{O}$ and a ratio of Mn to Zn of approximately 6:4. This may also be written $\text{R}_3\text{As}_2\text{O}_8\cdot 7\text{R}(\text{OH})_2$, a composition remarkable in its low ratio of arsenate to hydroxide. The theoretical composition of this compound with a ratio of Mn:Zn of 6:4 is given in Table 1.

When heated in the closed tube, these crystals give off water at a fairly low temperature, retain their shape, become black in color with a highly brilliant luster. The surface of the tube is not coated or colored by any arsenic coating.

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² The writers are indebted to Dr. H. S. Washington for suggesting this name.

Under the blow pipe, the crystals darken instantly, but only fuse with difficulty on the edges. They do not decrepitate or exfoliate. The brilliant luster shown in the closed tube is destroyed and the faces of the crystal become rough and porous. These tests easily distinguish these crystals from green willemite crystals of a similar shape and color which do not darken in a closed tube and fuse fairly easily in a blow pipe flame.

The chlorophoenicite forms long prismatic crystals ranging in size up to 8 mm. The crystal system is monoclinic and the crystals, elongated in the direction of the b axis, have a habit similar to epidote. The crystals are deeply striated parallel to the b axis and the small prism faces are rounded and usually etched. The color is a light grayish green in natural light but is pink or light purplish red in artificial light. This difference in color is more pronounced on the prism faces than on the pinacoids. The plane of the optic axes is across the prisms. $2V$ is large with a dispersion of $\rho > \nu$ and strong; the indices of refraction are, $\alpha = 1.682$, $\beta = 1.690$, $\gamma = 1.697$.

Chlorophoenicite occurs in cracks and crevices in the typical franklinite-zincite are of Franklin Furnace, New Jersey. It is associated with small rose red crystals of leucophoenicite, brown tephroite and calcite. The chlorophoenicite itself is very similar in appearance to the light green willemite that is found in some of the crevices and might at first glance be mistaken for it.

BOTANY.—*A new genus of Leguminosae*. CHARLES V. PIPER, Bureau of Plant Industry.

A Costa Rican climbing shrub or liana collected 25 years ago by Tonduz seems clearly to represent an undescribed genus related to *Calopogonium* Desvaux. The large leaflets, closely resembling the leaves of the aspen, and the dense racemes of very small pubescent yellowish flowers are conspicuous characters.

Leycephyllum Piper, gen. nov.

Climbing shrub; leaves trifoliolate, the leaflets entire; stipules striate; flowers small, yellowish, numerous, in racemes from the axils of the upper leaves; calyx campanulate, the upper lip short bidentate, the lower lip 3-toothed, the median one as long as the calyx-tube, the lateral ones short; standard obovate, stipitate, the upper margin incurved or hooded, the base without callosities or auricles, but the basal margins thickened; wing oblong, stipitate, the auricle somewhat hook-like; keel oblong-obovate, stipitate, not auricled; vexillar stamen free, its filament enlarged at base, the other stamens united below, free above the middle; anthers oval; style curved, glabrous; stigma terminal, very oblique, minute; ovary pubescent.