

On adding a 3-cubic-centimeter bulb to a normal run the readings were:

	0.0179	divisions per second		
	.0176	"	"	"
	.0197	"	"	"
	.0197	"	"	"
	.0179	"	"	"
	<hr/>			
Average	.01856	"	"	"
Less the effect of the flux and rock	.01089	"	"	"
	<hr/>			
3 cc. Ra solution	.00767	"	"	"

One-third of which is 0.00256 divisions per second.

The average effect of 1 cubic centimeter of standard radium solution as obtained from the two series of experiments is therefore 0.00259.

Since 1 cubic centimeter of radium solution is equivalent to 32.2×10^{-12} grams radium element, 0.00259 divisions per second fall of the electroscope leaf is equivalent to 32.2×10^{-12} grams, or

$$1 \text{ div. per second} = \frac{32.2 \times 10^{-12}}{0.00259} = 12702 \times 10^{-12} \text{ grams Ra.}$$

So that:

$$\frac{\text{Electroscope reading} \times 12702}{25} = \text{grams} \times 10^{-12} \text{ of Ra per gram rock.}$$

CONCLUSION

According to the experiments described above the sixteen measurements of the radium content of Stone Mountain granite vary from a low of 4.013×10^{-12} to a high of 6.757×10^{-12} ; with an average for the series of 4.826×10^{-12} grams of radium per gram of granite.

BOTANY.—*A new tree fern from Haiti.*¹ WILLIAM R. MAXON,
U. S. National Museum.

Among a number of critical pteridophyta from Haiti recently submitted to the writer by Dr. Carl Christensen for identification is the following undescribed tree fern:

Hemitelia minuscula Maxon, sp. nov.

Fronds small, about 1 meter long, spreading, the stipe (incomplete) about 30 cm. long, slender, arcuate, pale buff from a darker, finely brownish-fur-

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furaceous base, freely aculeate, the spines narrowly conical, blunt, nearly straight, 1.5–2 mm. long; scales not collected. Blade of an oblong-ovate type, about 70 cm. long, 35 cm. broad, bipinnate-pinnatifid, the rachis pale buff, 3–5 mm. thick, minutely subfurfuraceous above, glabrate beneath, unarmed; pinnae alternate, spreading or slightly decurved, oblong, abruptly short-acuminate, about 18 cm. long, 8–10 cm. broad, short-stalked, the distal basal pinnule distant 5–8 mm. from primary rachis, the proximal one as much as 1.5 cm.; secondary rachis densely substrigose above with curved yellowish-gray hairs, subpersistently paleaceous beneath, the scales pale rufous-brown, thin, lustrous, minute, deeply bullate, mostly with an attenuate flexuous tip (hairs wanting); pinnules 13–15 pairs, spreading (the basal ones often decurved or reflexed), nearly sessile (stalked about 1 mm.), narrowly oblong, 4–5 cm. long, 9–12 mm. broad, attenuate in the outer third, pinnatisect at base, pinnatifid beyond to 0.5–1 mm. from the costa, obliquely crenate at the subcaudate apex, the costa clothed like the secondary rachis; segments 10–12 pairs, oblong, 3 mm. broad at base, slightly curved, rounded-obtuse, rather close, the strongly revolute margins lightly crenate, the costule sometimes with 1 or 2 short weak hairs above, beneath conspicuously bullate-paleaceous throughout; veins 5 or 6 pairs, impressed above, forked just below the middle; sori 5 or 6 pairs, the receptacle strongly elevated, subcapitate, freely septate-paraphysate; indusium a minute, delicately membranous, rufous proximal scale, incised, the divisions lacerate. Leaf tissue thick-herbaceous, dull yellowish-green, discoloring, glabrous.

Type in the Copenhagen Botanical Museum, from Massif du Nord, Anse-à-Toleur, Morne Colombeau, Haiti, alt. 900 meters, June 20, 1925, *E. L. Ekman* H 4365; co-type in the U. S. National Herbarium.

The present species is referable technically to the genus *Hemitelia* because of the presence of a proximal indusial scale, which, though small, is only partially concealed and on account of its divided or deeply cleft form approaches the usual condition found in *Eu-hemitelia*. Of the West Indian tree ferns *H. minuscula* resembles in a general way *Alsophila aquilina* Christ, but that species differs rather widely in its strongly coriaceous leaf tissue, its conspicuously stalked pinnae and pinnules, its non-furfuraceous vascular parts, and its very few, larger, and widely scattered bullate scales of the under surfaces, these usually solitary on the costules. A very minute vestigial indusium scale is usually present in *A. aquilina*, as in a few other species of *Alsophila*, but it is dark colored, distinctly chitinous, closely appressed, and subentire, wholly lacking the filamentous processes seen in *H. minuscula* and several other *Eu-hemitelia* species of tropical America.



Maxon, W R. 1928. "A new tree fern from Haiti." *Journal of the Washington Academy of Sciences* 18, 316–317.

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