

revisualize the relations studied in the field. Details which may have escaped his notice are brought out much more effectively than in the single photograph. The taking of stereoscopic photographs for this purpose does not require special apparatus. To obtain good stereoscopic effects it is advisable to take two photographs, one after another and from different positions, of the geological features to be recorded, the distance between the two camera stations to be from 1 to 5 per cent of the distance of the object itself, the camera in each position to be pointed at the object and the lines joining the camera stations to be approximately normal to the lines of sight to the object. The stereoscopic effect can be enhanced if enlarged prints of the negatives are made and a lens stereoscope of the ordinary type is used in the examination of the prints.

BOTANY.—*Two new species of Jamesonia*.¹ WILLIAM R. MAXON, National Museum.

Recent large collections of ferns from the Andes of South America have contained numerous specimens of *Jamesonia*, necessitating a revision of the genus. Of several species regarded as undoubtedly new two are described herewith.

***Jamesonia brunnea* Maxon, sp. nov.**

Rhizome flexuose, wide-creeping, brown, terete, lignose, 3 to 4.5 mm. in diameter, densely clothed with oblique bright brown setae (2.5 to 3.5 mm. long). Fronds few, long-stalked, 55 to 70 cm. long, distichous, 7 or 8 mm. apart, erect-arcuate; stipes 25 to 30 cm. long, stout (1.5 to 2 mm. in diameter), subflexuose, brown, subangulate above, deciduously appressed-setose; blades linear, 25 to 30 cm. long, slightly attenuate toward the base, the rachis stout, brown, strongly compressed, lightly bisulcate above, everywhere densely and coarsely crispate-hirsute with broad flattish brown-ferruginous septate hairs, these never forming a tomentum; pinnae numerous, borne in two close rows on the upper side of the rachis, alternate, horizontal, usually arranged closely in a *single* scalariform series, stalked (1.5 to 2 mm.), broadly orbicular-ovate, rounded in the apical portion, truncate or very broadly cuneate at base, rigidly spongiose-coriaceous, strongly convex, broadly and deeply revolute, the slightly thinner margin freely ciliate (the cilia close, weak, flexuose, pale ferruginous, 1 mm. long); upper surface of pinnae strongly glandular-viscid, vernicose; lower surface glandular-pubescent and freely crispate-hirsute, chiefly along the veins, the shorter hairs erect and capitate, the long ones flexuose and septate like those of the rachis; larger pinnae 6 to 7 mm. long, 5 to 6 mm. broad; venation pinnate-flabellate, deeply immersed, barely evident above, coarsely corrugate beneath, 20 to 24 branches attaining the margin; sporangia not observed.

¹ Published by permission of the Secretary of the Smithsonian Institution.

Type in the U. S. National Herbarium, no. 1,067,752, collected at the summit of Mount Guamaní, Ecuador, altitude 4,000 meters, by Father L. Mille (no. 42).

In its large long-stipitate fronds and in its generally coarse aspect and habit of growth *Jamesonia brunnea* recalls *J. verticalis*; but the resemblance goes no farther, *J. verticalis* having, for example, adnate pinnae, in which it is unique. *J. brunnea* is more nearly related to *J. tolimensis* (Hieron.) C. Chr., of Colombia, which agrees in having the fronds long-stipitate and the pinnae truncate, ciliate, viscid-glandular above, and with a mixed glandular and septate-hairy covering beneath. *J. tolimensis* is, however, a smaller plant and has the pinnae chartaceous, sessile, roundish-obovate to obovate-elliptical, and the margins lobulate-crenate to crenulate, and short-ciliate (the cilia 0.5 mm. long or less), in all of which characters it differs from *J. brunnea*.

There is no other described species with which *J. brunnea* need be compared. The ladder-like arrangement of the alternate pinnae in a single or nearly single series at the upper side of the arcuate rachis is not due to pressure in drying, being quite as conspicuous in leaves that are restored to normal condition by boiling.

***Jamesonia ceracea* Maxon, sp. nov.**

Rhizome wanting. Fronds (mature) 10 to 20 cm. long, nearly straight above the curved base; stipe 1 to 3 cm. long, 0.3 to 0.5 mm. in diameter, flexuose, strongly curved at summit, dark chestnut-brown, lustrous, minutely striate, deciduously and laxly setose, the hairs few, flattish, pale ferruginous, septate; blades 9 to 17 cm. long, 2 to 3.5 mm. broad, narrowly linear, long-attenuate toward the apex, the tip also attenuate though indeterminate; rachis relatively stout, castaneous, wholly concealed beneath by a dense imbricate covering of spreading or recurved, buff or pale ferruginous, flat, septate hairs, these concealing only the bases of the pinnae, persistent; pinnae 75 to 115 pairs, short-petiolate (about 0.5 mm.), alternate, mostly imbricate and horizontally deflexed in two contiguous rows upon the upper side of the rachis, those of the lower part spreading, more than their width apart, the lowermost ones distant; largest (middle) pinnae about 2.5 mm. long, 1.8 mm. broad, obliquely and broadly oblong from a subcordate inequilateral base, rigidly herbaceo-coriaceous, strongly convex, the deeply recurved margin nearly 0.5 mm. broad, crenately constricted, bordered abruptly by a broad whitish membranous true indusium, the aperture between the indusia 0.5 mm. broad or less; upper surface of pinnae grayish green, nearly glabrous, bearing a few minute short appressed whitish glandlike hairs; lower surface densely and deeply covered by minute white ceriferous hairs, the loose ceraceous mass mostly concealed by the revolute margins and broad indusia, persistent; venation pinnate-flabellate, deeply impressed, the branches 5 or 6 in number; sporangia not detected.

Type in the U. S. National Herbarium, no. 1,042,371, collected on steep páramo slope of Mount Chuscal, west of Zipaquira, Department of Cundi-

namarca, Colombia, altitude 3,100 to 3,200 meters, October 22, 1917, by Francis W. Pennell (no. 2607).

In size and general appearance *Jamesonia ceracea* is not very unlike small forms of *J. imbricata* (Cav.) Hook. & Grev., which it resembles also in having a relatively broad true indusium. It differs widely from that species in nearly all minute characters, however, and is the only member of the genus with ceraceous pinnae. The waxy indument of the under surfaces is not due to a juvenile condition or to extreme age, but is a definite morphological character. The loose waxy mass, which is persistent and is evident at all ages, is not quite amorphous, the presence of short, white, intermingled secreting hairs being readily demonstrable.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

THE BOTANICAL SOCIETY

167TH MEETING

The 167th meeting of the Botanical Society was held at the Cosmos Club April 3, 1923 with President L. C. Corbett in the chair and 32 persons present. N. REX HUNT was elected to membership in the society.

Program: F. V. COVILLE: *Experiments in Rhododendron culture*. (Illustrated). It has been recognized for some time that when rhododendrons have been taken from their natural habitat and planted around houses they frequently stagnate and die. This condition is caused by the change from an acid to an alkaline soil. Nurserymen claimed that rhododendrons could thrive in an ordinary fertile soil through the application of magnesium sulfate. It was decided to try magnesium sulfate and aluminum sulfate, also, in an experiment to bring about an acid reaction in an alkaline soil. A solution of magnesium sulfate stimulated the growth of seedlings of *Rhododendron catawbiense* to a slight degree, while a solution of aluminum sulfate very greatly stimulated the growth of the plants. A full discussion of *The effects of aluminum sulfate on Rhododendron seedlings* is presented in a paper by Dr. Coville, published as Bulletin 1 of the American Horticulture Society.

RUDOLF KURAZ, Secretary of the Czechoslovak Legation: *Seed control in Czechoslovakia*. The growing of cereals and industrial plants for seed is a well established industry in Czechoslovakia. For the protection of the growers as well as the purchasers a seed control law was passed by the National Assembly on March 17, 1921, supplementary regulations going into effect June 15, 1921. The law provides for official inspection, analysis, certification, and registration of original varieties developed by the growers and of seeds grown for them. Only those growers who have complied with the requirements of the law may use the designations "original variety," "certified seed," "certified seedlings," and "registered variety." The Ministry of Agriculture, charged with enforcement of the law, appoints certifying commissions for the various districts, as well as the Central Certifying Commission, an advisory body with offices at Prague. The analysis of seeds and the control of the trade in seeds have been intrusted to four