

IV. *Descriptions of those species of Polygonum and Fagopyrum which are contained in the Indian Herbarium of J. FORBES ROYLE, Esq., F.L.S., &c., late Superintendant of the H.E.I. Botanical Garden at Saharunpore, and now Professor of Materia Medica in King's College, London. By CHARLES C. BABINGTON, Esq., M.A., F.L.S., F.G.S., &c.*

Read December 20th, 1836.

MY friend Professor Royle having done me the honour to submit to my examination and description those species of *Polygonum* and *Fagopyrum* which are contained in his extensive Indian Herbarium, I have now the pleasure of communicating the result to the Linnean Society. After the valuable monograph by Professor Meisner upon the Wallichian Polygoneæ, published in the third volume of the *Plantæ Asiaticæ rariores*, it was not to be expected that many new species would occur in this collection. I was therefore the more pleased by finding not fewer than ten totally distinct forms amongst the natives of the Himalayan mountains and the upper provinces of India. I would particularly direct attention to the tribe *Avicularia*, in which Dr. Wallich's herbarium is peculiarly deficient. Meisner describes four species, all of them very closely allied to *P. aviculare*, Linn., only one of which occurs in this collection, but the other three are replaced by five most interesting plants, only one of which appears to have been previously noticed.

In all cases in which I have been able to identify my plants with those of Professor Meisner, I have adopted his specific characters, but have always drawn my detailed descriptions from the Roylean specimens which I had before me. My friend, Professor Don, has most kindly given me his valuable assistance, and has added much to the value of this paper by identifying several of Meisner's species with those described by him in his *Prod. Fl. Nepalensis*.

As this family has been so recently illustrated in the *Pl. Asiat. Rar.*, I have

not thought it necessary to characterise the genera and sections, and must refer to that work for full descriptions of them. I will not trouble the society with any further observations, but proceed at once to the description of the species.

POLYGONUM. *Linn.*

Sect. 1. Bistorta. *Meisn.*

1. *P. bulbiferum*.

Spicâ compactâ densâ basi interruptâ laxiusculâ, bracteis ovatis acuminatis subincisis, staminibus calyce brevioribus filamentis post anthesin elongatis, stylis 2 rariùs 3 calyce duplò longioribus, achenio calycis longitudine lenticulari faciebus rotundato-acuminatis minutè granulato-striatis subopacis, foliis caulinis subsessilibus lanceolatis radicalibus petiolatis ellipticis vel elliptico-lanceolatis omnibus in margine revolutò costato-crenatis.

P. bulbiferum. Royle MSS.

Stem simple, striated, smooth, from two inches to more than a foot in height, springing from a thick perennial woody rhizoma. *Leaves* elliptical, often so short as to be nearly round, and others on the same plant so much elongated as to appear lanceolate, upon long stalks; their margins revolute and marked with a series of short elevated transverse striæ, so as to appear crenulated, the under side slightly downy, the cauline leaves lanceolate and sessile. *Stipules* long, cylindrical, splitting laterally and dilated at their top, with numerous nerves which are finely scabrous, or rather, towards the top, very minutely spinoso-pubescent. *Flowers* small, white, in dense compact spikes, the lower parts of which are more or less elongated and interrupted, and bear small bulb-like bodies in the place of fruit; the true flowers are 5-fid, the segments obtuse, stamens 8, the filaments of which before the anthers burst are much shorter than the calyx, afterwards they elongate until they nearly equal the styles which are twice the length of the calyx, and usually two, but in some cases three in number; bracteæ longer than the pedicels, acuminate, obliquely truncate and cut; the pedicels jointed just below the flower. *Fruit* rather large, lenticular, compressed, the faces nearly round and pointed,

rather opaque and minutely granulate-striate; the fruit of the trigynous flowers is probably 3-gonal, but none of such occurs on our specimens.

This species may be distinguished from its near ally *P. viviparum*, by its fruit, the length of its filaments, and by the density of the seed-bearing part of its spike. In that plant the fruit is 3-quetrous, and its faces are ovate-lanceolate, smooth and shining, the filaments are twice as long as the calyx, and the whole spike is lax, slender, and elongated.

Lippa in Kunawur.

2. *P. macrophyllum*. Don.

Spicâ compactâ densâ cylindricâ vel ovatâ, bracteis ovatis pedicellis brevioribus: infimis quàm superioribus sæpè longioribus acutè acuminatis pedicellis superantibus, staminibus calycem æquantibus, stylo profundè tripartito, achenio trigono lævi nitido, foliis lanceolatis obtusis in margine revolutis costato-crenatis inferioribus petiolatis.

P. macrophyllum. Don, Prod. Fl. Nep. 70. Meisn. Mon. Gen. Polyg. 51.

P. sphærostachyum. Meisn. in Wall. Pl. Asiat. Rar. iii. 53, non Meisn. Mon. 53.

Stem simple, striated, smooth, a foot or more in height. *Leaves* lanceolate, the apex itself obtuse, the margins reflexed and marked with false crenulations, as in *P. bulbiferum*, the under side often slightly downy, the lower leaves upon long stalks, the upper ones sessile and narrower. *Stipules* long, cylindrical, splitting on one side above, the apex rounded and slightly acute. *Flowers* larger than those of *P. viviparum*, upon rather long stalks jointed just below the flower, red, in a dense compact spike which is not gemmiferous; the flowers 5-fid, their segments obtuse, stamens 8, about as long or rather longer than the calyx; style divided into three parts, but scarcely to its base, and shorter than the calyx, the bractæ ovate, and shorter than the pedicels; some of the lower ones often having a long acute point by which they are made to exceed the pedicels. *Fruit* 3-gonous, smooth, shining; in a very young state in our specimens.

Kedarkanta in September, and the Chandow Pass in July.

3. *P. amplexicaule*. Don.

Spicis terminalibus solitariis vel geminis longissimis linearibus, bracteis latis plùs minùsve acuminatis imbricatis, calycis segmentis ovali-oblongis, foliis ovatis vel ovato-oblongis basi cordatis sensim longè acuminatis læviusculis vel nervis prominentibus puberulis margine costato-crenatis subrevolutis : caulinis sessilibus amplexicaulibus.

P. amplexicaule. Don, Prod. 70. Meisn. Mon. 51.

P. ambiguum et *oxyphyllum*. Meisn. in Wall. iii. 54.

P. petiolatum. Don, Prod. 70.

Stem erect, herbaceous, smooth ; in some specimens slightly downy below the joints, the internodes very long. *Leaves* ovate or ovate-oblong, their bases cordate and amplexicaul, sometimes shortly stalked, narrowing gradually into a long sharp point, often quite smooth on both sides, sometimes with the nerves, particularly upon the under side, minutely pubescent ; the margin costate-crenate and more or less revolute. *Stipules* very long, entire, glabrous, blunt. *Flowers* rather large, in long slender solitary or twin spikes, with very long pedicels jointed just below the flower ; the bractæ broad, imbricated, pointed, the point often very long ; the sepals ovate-oblong. *Fruit* 3-quetrous, the faces ovate and pointed, smooth and shining.

After the examination of numerous specimens I have come to the conclusion that *P. ambiguum* and *P. oxyphyllum* of Prof. Meisner cannot be considered as even marked varieties, but form only accidental forms of one species, probably caused by a difference of soil and situation. Prof. Don informs me that this species is *P. amplexicaule*, and also *P. petiolatum* of his Prod. Fl. Nepal. I have therefore restored the former name.

Simla, Nagkanda, Mussooree and Choor. July.

4. *P. vaccinifolium*. Meisn.

“Spicis subcylindricis laxifloris, floribus patulis, foliis brevi-petiolatis ovatis vel ellipticis utrinque attenuatis lævigatis, trunco epigeo ramoso.”

“ β . medium. Meisn. Spicis solitariis, foliis acutiusculis aut breviter acuminatis, ramis suberectis.

“ γ . flagelliforme, *Meisn.* Spicis in apicibus ramorum sæpè subpaniculatis, caulibus ramisque longissimis debilibus prostratis.”—*Meisn.*

P. vacciniifolium. *Meisn.* in *Wall.* iii. 54.

Stem shrubby, prostrate, very much branched; in β the branches are short and nearly erect; in γ long and prostrate. *Leaves* ovate, attenuated at both ends, usually having a short acute point, the margin slightly revolute, glabrous, reticulated with numerous slightly prominent nerves, particularly on the upper surface, shortly stalked. *Stipules* long, with numerous strong brown nerves, soon torn so deeply as to present the appearance of a tuft of long stiff hairs. *Flowers* in rather long subcylindrical spikes, which are usually solitary, but sometimes slightly paniced, the segments of the calyx oval, stamens 8, styles 3, rather long, the pedicels jointed just below the flower. *Fruit* trigonous, the faces lanceolate, shining, and minutely granulate-punctate.

The variety “ α *obtusifolium*,” *Meisn.* does not occur amongst Prof. Royle’s specimens.

Kedarkanta and Chandow Pass, September.

5. *P. affine.* *Don.*

Spicis erectis oblongis solitariis cylindricis, floribus magnis apertis, acheniis acutanguli faciebus minutissimè punctato-granulatis, stylis elongatis 2 vel 3 distinctis stamina superantibus, foliis lanceolatis basi attenuatis margine revoluta undulato-crispato, trunco ramisque hypogeis apice tantùm epigeo, caulibus erectis simplicibus.

P. affine. *Don*, *Prod.* 70. *Meisn. Mon.* 52. non *Steph.* in *Spreng. Syst.* II., 256.

P. Brunonis. *Meisn.* in *Wall.* iii. 54.

Stem woody, subterranean, the branches alone appearing just above the surface, and terminating in short upright stems, each bearing one compact cylindrical spike. *Leaves* broadly lanceolate, acute, the nerves numerous and strongly marked, the margins revolute and crisped, the cauline ones subsessile, the others narrowed into a short stalk. *Stipules* long, entire, blunt, with numerous prominent nerves. *Flowers* in cylindrical, rather

compact solitary spikes, large and open, the segments of the calyx broad blunt, the pedicels jointed just below the flower, longer than the broadly triangular obtuse bracteæ; styles much longer than the stamens, usually 3 and quite distinct. *Fruit* young on our specimens, but sufficiently advanced to show that it is acutely triangular, and the faces minutely punctate-granulated.

Kedarkanta; Lippa in Kunawur, Peer Punjal and Kherang Pass, September.

6. *P. emodi*. *Meisn.*

“Spicis geminatis angustatis, floribus inapertis, achenii acutanguli faciebus lævibus nitidissimis, foliis angustè lanceolatis sublinearibusque acutissimis utrinque æqualitè attenuatis margine revolutò integerrimis suprà densè pennatim nervosis, trunco epigeo prostrato ramoso radicante ubique folioso, caulibus annotinis erectis simplicibus.”—*Meisn.*

P. emodi. *Meisn.* in Wall. iii. 51. t. 287.

Stem prostrate, woody, branched and rooting; stalks short, leafy, upright, usually terminating in 2 spikes of flowers, although on our specimens there is only one spike upon each stalk. *Leaves* lanceolate, acute, penninerved, the nerves prominent above, the margins reflexed and entire, very numerous. *Stipules* long, entire, acute, with numerous prominent nerves. *Flowers* in terminal, sublinear spikes, usually 2 together, segments of the calyx 5, ovate, obtuse; stamens 8; style semitrifid, pedicels jointed just below the flower. *Fruit* trigonous, the faces rhombo-elliptical, smooth and shining.

Kedarkanta, August.

Sect. 2. *AMBLYGONON*. *Meisn.*

7. *P. orientale*. *Linn.*

“Spicis paniculatis demùm nutantibus, bracteis acutis, 3—5-floris, floribus patentibus 7-andris, glandulis 7 squamæformibus perigynis inter staminum insertiones, achenii basi obtusi angulis rotundatis lineâ notatis, faciebus suborbicularibus depressis lævibus, ochreis recentioribus hypo-

crateriformibus, foliis ovatis acuminatis in petiolum subdecurrentibus utrinque ochreisque et caule ramoso alto molliter pilosis."

P. orientale. Linn. Sp. Pl. I. 519. Meisn. in Wall. iii. 54.

"*β. pilosum*, Meisn. Spicis nonnunquam erectis strictiusculis, floribus mediocribus, lineâ in achenii angulis subobsoletâ, pube ubique copiosiore longiore sæpiùs ferè aureo-sericeâ sublanugineâ."—Meisn.

P. pilosum. "Roxb. Hort. Bengal. 29." Meisn. Mon. 54.

P. orientale β. pilosum. Meisn. in Wall. iii. 54.

Stem erect, branched, thick and woody, deeply sulcate, densely hairy. *Leaves* ovate, acute, upon long stalks, which, together with both surfaces of the leaves, are covered with a dense silky pubescence. *Stipules* long, spreading at the top, blunt, densely covered with hair. *Flowers* in narrow, linear, dense, long paniced spikes, with hairy peduncles; bractæ ovate, slightly pointed, hairy, finely ciliated and many-flowered, each pedicel jointed just below the flower, and having a rather long paleaceous scale at its base, flowers small, their segments ovate obtuse; style semibifid. *Fruit* lenticular, compressed, its faces round and pointed, smooth, shining, the rounded angles have a minute keel near their base.

α. grandiflorum. Meisn. *P. orientale* of his Mon., p. 53, does not occur amongst Prof. Royle's specimens.

Gathered on the banks of the Ganges, July 1820, and near water during the rains at Saharunpore.

Sect. 3. PERSICARIA. Meisn.

8. *P. lanigerum*. R. Br.

"Spicis paniculatis cylindricis densifloris, bracteis pubescentibus muticis pedicellos subæquantibus, floribus 8-andris semi-2-vel 3-gynis, calyce eglanduloso 4—5-fido, achenio lenticulari rariùs 3-quetto, ochreis canescentibus ciliatis, foliis lanceolatis subtùs incano-tomentosis suprâ ramisque incanis, caule erecto ramoso basi glabro radicante crasso sulcato."—Meisn.

P. lanigerum. R. Br. Prod. Fl. Nov. Holl. i. 419. Meisn. Mon. 70. Meisn. in Wall. iii. 55.

Stem erect, branched, woody, hollow, striated, covered with woolly pubescence. *Leaves* lanceolate, acute, the margins slightly reflexed, covered with short woolly down on both sides, but much more thickly underneath. *Stipules* not ciliated in our specimens, rather long, blunt, covered with short hoary pubescence. *Flowers* in longish, narrow, cylindrical, dense paniced spikes, with woolly peduncles; bracteæ ovate-acute (as described by Meisner in his Monog.), finely pubescent, about 2-flowered, nearly equal to the pedicels, which are jointed just below the flower; flowers small, 4 or 5-fid; the segments blunt; stamens 8; style divided half-way down into 2 or 3 parts. *Fruit* lenticular, compressed, its faces round and pointed, smooth, shining.

Rana Serai. October.

9. *P. hispidum*. *Don*.

Spicis virgatis geminatis continuis, pedunculis firmis densè pilosis eglandulosis, bracteis imbricatis turbinatis pilosis longè barbatis pedicellos superantibus, floribus 8-andris semi-3-gynis; calyce 5-fido subeglanduloso extùs pubescente, achenii triquetri faciebus lævibus, ochreis longis pilosis longè setoso-ciliatis, foliis elongato-lanceolatis utrinque attenuatis adpressè densèque hispidis, caule erecto adpresso-hispido.

P. hispidum. *Don*, Prod. 71.

Stem erect, thickly covered with rather long adpressed hairs. *Leaves* elongate-lanceolate, narrowed at both ends, the margin slightly revolute, covered on both sides with short closely adpressed hairs. *Stipules* long, obliquely truncate, densely covered with hair, setose-ciliated. *Flowers* in long slender cylindrical spikes, two together; bracteæ strongly ciliated, longer than the pedicels, which are jointed just below the flower; flowers small, their segments blunt, slightly hairy on the outside and somewhat glandular, 8-androus, semi-3-gynous. *Fruit* triquetrous, smooth, shining.

Gathered on the banks of the Ganges, Aug. 1817.

10. *P. barbatum*. *Linn*.

Spicis pedunculatis virgatis geminatis continuis, bracteis turbinatis subremo-

tis fuscis albido-setoso-ciliatis 1—4-floris pedicellos superantibus, floribus “6—8-andris” semitrigynis, calyce 5-fido, achenio triquetro faciebus ovatis lævibus nitidis, ochreis laxiusculis longissimè setoso-ciliatis, foliis lanceolatis margine ciliato-scabris, caule erecto ramoso glabro.

P. barbatum. Linn. Sp. Pl. i. 518. Meisn. Mon. 80. Meisn. in Wall. 56.

Stem erect, hollow, branched, smooth. *Leaves* lanceolate, their margins rough, with rather long scabrous hairs pointing forwards; the nerves beneath, particularly the midrib and a narrow space on the margins of of their upper side, scabrous, subsessile. *Stipules* rather lax above, truncate, their numerous nerves running out into very long and stiff setose points, slightly hairy, the hairs adpressed. *Flowers* in small rather lax stalked twin spikes; bracteæ somewhat distant, turbinate, rather long, fringed with long stiff setose points, 1—4-flowered, flowers 5-fid, “6—8-androus” semitrigynous; pedicels jointed just below the flower. *Fruit* triquetrous, the angles rather blunt, the faces ovate, smooth, and shining.

Saharunpore, near water during the rains, and in the hills in June.

11. *P. scabrinervium*.

Spicis pedunculatis geminatis subcymosis strictis laxis pedunculis longioribus, bracteis acutis eglandulosis glabris 3—4-floris pedicellis subæqualibus, floribus 6-andris semidigynis, calyce 4-fido eglanduloso, staminibus inclusis, achenio lenticulari lævi nitido, pedunculis glandulosis, ochreis glabris non ciliatis, foliis lanceolatis glandulis flavis numerosissimis suprâ et subtùs notatis glabris margine costâque scabroso-pilosis, caule erecto ramoso in parte superiori glanduloso.

P. scabrinervium. Royle MSS.

Stem erect, round, much branched, the branches, upper part of stem, and peduncles covered with minute very short stalked glands. *Leaves* lanceolate, with very numerous minute glandular spots upon both surfaces, glabrous, with the exception of a small space next to the margin above and both sides of the midrib, which are covered with very short stiff hairs. *Stipules* moderate, glabrous. *Flowers* in rather short lax spikes,

placed generally 2 together, and aggregated at the summit of the stem in an imperfectly cymose manner; bracteæ acute, glabrous, not glandular, inclosing several flowers; flowers 4-fid, the segments blunt, 6-androus, semi-2-gynous, the pedicels jointed just below the flower. *Fruit* lenticular, the faces round and acute, smooth, shining.

Mussooree in August; and valleys in the hills during the rains.

12. *P. simlense*.

Spicis paniculatis pedunculatis ovato-oblongis multifloris, pedunculis glandulosis, bracteis turbinato-infundibuliformibus parvis 2—3-floris pedicellis æqualibus, floribus 4-fidis 6-andris semi-2-gynis, achenii lenticulari calyce absconditi faciebus planis nitidis minutissimè granulatis, ochreis cylindricis muticis glabris, foliis lanceolatis costâ setoso-scabrâ exceptâ glabris margine scabro-ciliatis, caule erecto subsimplici fistuloso glabro in parte superiori glanduloso.

P. simlense. Royle MSS.

Stem erect, nearly leafless above, branched only near to the top, hollow, glabrous below, the upper part, the branches, and the peduncles covered with minute stalked glands. *Leaves* lanceolate, acute at both ends, glabrous, with the exception of the midrib, which is covered with minute scabrous hairs, the margin fringed with small scabrous hairs pointing forwards, narrowed below into a very short and slightly winged stalk. *Stipules* rather long, cylindrical, glabrous, bluntly and transversely truncate. *Flowers* in oblong-ovate dense many-flowered stalked and paniced spikes, the bracteæ obliquely funnel-shaped, glabrous, small, 2- or 3-flowered, about equal to the pedicels, which are jointed just below the flower; flowers 4-fid, the segments blunt; stamens 6, about equal to the calyx; style deeply bifid. *Fruit* lenticular, compressed, its faces orbicular, slightly acute, shining, and very minutely granulated.

Simla in August.

13. *P. glabrum*. Willd.

“ *Spicis* paniculatis strictis continuis laxè cylindricis elongatis multifloris,

bracteis subimbricatis muticis, pedicellis exsertis, floribus 6-rariùs 7-andris, semi-2- vel 3-gynis, calyce 5-fido, achenii lenticularis, rariùs triquetri, faciebus convexis tenerrimè punctatis nitidis, ochreis muticis superioribus internodia longè superantibus, foliis lanceolatis glanduloso-punctatis, caule erecto subsimplici, omnibus plantæ partibus glaberrimis et, præter folia, eglandulosis."

" β . glandulosissimum. *Meisn.* Foliis, maximè subtùs, punctis glandulosis fuscis subimmersis densissimè conspersis, pedunculis interdum apice obsolete glanduliferis." *Meisn.*

P. glabrum. Willd. Sp. Pl. ii. 447. *Meisn.* Mon. 78. *Meisn.* in Wall. 57.

Stem erect, branched, glabrous. *Leaves* broadly lanceolate, acute, glabrous, covered with minute immersed glandular spots, particularly on the under side, slightly stalked. *Stipules* long, surpassing the upper internodes truncate, not ciliated, glabrous, *Flowers* in rather long densely-flowered somewhat paniced and shortly-stalked spikes; bractæ turbinate, glabrous, rugose, not ciliated, 2—3-flowered; flowers 5-fid, usually 6- or 7-, but sometimes 8-androus, semi-2- or 3-gynous; pedicels jointed just below the flower. *Fruit* lenticular, the faces convex, orbicular and acute, very minutely punctate, shining.

The variety α . *obscurum*, *Meisn.* does not occur amongst Professor Royle's specimens.

Saharunpore, near water during the rains.

14. *P. Donii*. *Meisn.*

"Spicis subgeminatis paniculatisve longis filiformibus flaccidis interruptis, bracteis arctis longè remotis setoso-ciliatis sub-1-floris, pedicellis exsertis, floribus 8-andris semi-3-gynis, achenio triquetro faciebus" lævibus opacis, "calyce 5-fido subimpunctato, ochreis laxis adpressè pilosis longè ciliatis, foliis lanceolatis oblongis acuminatis subtus hispidulis margine ciliatis, caule basi radicante adscendente ramoso." *Meisn.*

P. Donii. *Meisn.* in Wall. iii. 57.

α *tenerum*. *Meisn.* "Omnibus partibus flaccidis, caule decumbente pauciramoso eglanduloso glabro, foliis utrinque æqualiter attenuatis lætè viri-

dibus glabriusculis subtùs in nervis tantùm parcè hispidulis margine molliter ciliatis, spicis raris." *Meisn.*

P. Posumbu. Don, Prod. 71. *Meisn.* Mon. 73.

Stem smooth, glabrous, slender, hollow, decumbent, rooting, the extremities ascending, branched. *Leaves* broadly lanceolate, equally attenuated at both ends, acute, glabrous, with the exception of the midrib beneath, which is covered with adpressed hairs, the margin ciliated with minute hairs pointing forwards, both surfaces covered with minute prominent points, sometimes very shortly stalked, but more commonly sessile. *Stipules* moderate, with numerous adpressed hairs, fringed with the long stiff setose points of the excurrent nerves. *Flowers* small, in slender few-flowered lax spikes, commonly 2 together; the bracteæ small, slender, and fringed with long stiff setose points, about 2-flowered, the lowest bractea very distant from the next; flowers 5-fid, 8-androus, semi-3-gynous; pedicels jointed just below the flower. *Fruit* 3-quetrous, its faces broadly ovate and acute, smooth but opaque.

Mussooree, in August.

Sect. 4. CEPHALOPHILON. *Meisn.*

Subsect. 1. *Didymocephalon.* *Meisn.*

15. *P. filicaule.* *Wall.*

"Capitulis exiguis foliis 1—3 suffultis subsessilibus solitariis geminisque, bracteis paleaceis inconspicuis, floribus 8-andris semitrigynis, achenio triquetro calycem subsuperante angulis acutiusculis faciebus nitidulis tenerrimè puncticulatis, calyce profundè 5-fido patulo, ochreis brevibus laxis foliisque utrinque depressè pilosis ciliatis, caule debili simplici glabro." *Meisn.*

P. filicaule. *Meisn.* in *Wall.* iii. 59.

β. *extenuatum.* *Meisn.* "Caule pedali simplicissimo filiformi strigis exiguis reflexo-adpressis parcè asperulo apice sæpiùs bifido, foliis parvis ovatis rariùs oblongis basi rotundatis aut abruptè in petiolum brevem attenuatis." *Meisn.*

P. filicaule, β. *extenuatum.* *Meisn.* in *Wall.* iii. 59.

Stem erect, from 2 or 3 inches to a foot in height, slender, nearly simple, but often forked near the summit, bearing scattered hairs pointing downwards, the internodes long. *Leaves* small, ovate or oblong, on short stalks, hairy on both sides, not ciliated. *Stipules* short, lax, hairy. *Flowers* small, in small few-flowered, mostly sessile and solitary heads, which are surrounded by 2 or 3 small leaves; stamens 8; stigmas 3, nearly sessile; bractæ minute, paleaceous; pedicels very short and jointed just below the flower. *Fruit* 3-angular, longer than the perianth, shining, but very minutely punctured, pale brown.

In conformity with the views of Professor Meisner I have referred this plant to the present section, with the characters of which it does not exactly accord. See Meisn. in Wall. iii. 59. The varieties α . *cæspitosum* and γ . *alpestre* of Meisn. do not occur among Professor Royle's specimens.

This plant has exactly the habit of *Kænigia islandica*.
Seran.

16. *P. punctatum*. Don.

Capitulis parvis terminalibus axillaribusque solitariis vel rarius geminatis semitrigynis, achenio triquetro calyci adglutinato faciebus ellipticis acuminatis granulatis opacis, calyce 5-fido, ochreis laxis obtusis hispidis non ciliatis, foliis ovatis acutis in petiolum decurrentibus glabris antrorsum aculeato-serrulatis subtus glanduloso-punctatis: superioribus sessilibus amplexicaulibus, caule glabro.

P. punctatum. Don, Prod. 72.

P. perforatum. Meisn. in Wall. iii. 59.

Stem erect, 5 or 6 inches high, solitary, smooth, glabrous, nearly simple.

Root fibrous. *Leaves* ovate, acute, narrowing into a rather long winged petiole, the upper ones sessile and subamplexicaul, glabrous, the margins fringed with minute spinous hairs pointing forwards, and having numerous minute glands upon the under surface. *Stipules* brown, rather short, blunt, obliquely truncate, hairy below. *Flowers* small, 5-sepalous, 8-androus; style 1, long and trifid above; bractæ large, ovate, pointed, glandular, as long or longer than the flower; the heads small, terminal

and axillary, solitary, or sometimes 2 together, one of which is nearly sessile. *Fruit* triangular, covered by the subagglutinated calyx, its faces elliptical, pointed, granulated and opake.

Nearly related to *P. humile*, Meisn. (*microcephalum*, Don), but differs from it by having only one nearly simple stem from a fibrous root; the flowers 8-androus, the fruit 3-angular, the leaves glabrous, and the bracteæ glandular. It agrees with *P. perforatum*, Don, in all respects, except by not having glands at the base of its stipules.

Mussooree.

17. *P. nepalense*. Meisn.

“Capitulis folio sessili cordato suffultis, pedunculis geminis, bracteis subsca-riosis ochreisque muticis glabris, floribus 6-andris semidigynis, calycis limbo 4-fido, achenio compresso faciebus convexis eleganter reticulato-scrobiculatis, foliis summis sessilibus oblongis cordato-amplexicaulibus, inferiorum limbo ovato acuminato e basi subcordata in petiolum quasi alatum decurrente auriculato-semiamplexicauli, subtùs glandulis immersis subpellucidis parcè punctato.” Meisn.

P. nepalense. Meisn. in Wall. iii. 59.

α. glabrum, Meisn. “Foliis utrinque glabris, capitulis plerumque distinctè pedunculatis.” Meisn.

P. nepalense. Meisn. Mon. 84. t. vii. f. 2.

β. scabridum, Meisn. “Foliis in nervis subtùs hirtellis margine subciliatis, capitulis sessilibus aut brevissimè pedunculatis.” Meisn.

Stem erect, glabrous, more or less branched. *Leaves* on the upper part of the stem, cordate-acuminate, sessile, the lower ones subcordate-acute, narrowed suddenly into a broadly-winged petiole, which is auricled and amplexicaul, the under surface of all the leaves marked with numerous pellucid immersed glandular dots; in var. α. they are glabrous; in var. β. the upper surface is covered with scattered hairs, the nerves beneath are hairy, and the margins are fringed with minute spinous hairs. *Stipules* rather long, blunt, glabrous, with a few hairs at their base. *Flowers*

small, 4-sepalous, 6-androus, semi-trigynous, in rather large heads which are two together and usually slightly stalked; the peduncles bearing stalked glands; bracteæ lanceolate, acute, with a pale white margin, and slightly rough and glandular. *Fruit* compressed, the faces convex, orbicular and acute, beautifully covered with minute reticulations, leaving deep pits between; the calyx is not agglutinated to the fruit, as is usual in this section.

The two varieties are very closely connected, some specimens being almost exactly intermediate.

Mussooree, during the rains.

18. *P. sphærocephalum*. *Wall.*

“Capitulis solitariis longè pedunculatis rariùs geminis altero subsessili, bracteis paleaceis acutis muticis, floribus 6-andris semitrigynis, calyce magno 5-fido, ochreis muticis, foliis ovatis acuminatis è basi subcordata in petiolum obsoletè alatum basi nudum decurrentibus, impunctatis margine ciliatis subtùs in nervis parcè hispidulis, caule repente ramis ascendentibus glabris.”—*Meisn.*

P. sphærocephalum. *Meisn.* in *Wall.* iii. 60.

Stem procumbent, rooting, woody, the branches upright, glabrous. *Leaves* all stalked, cordate, acute, glabrous, fringed with minute spinous teeth, pointing forwards, the petioles longish, slightly winged, without auricles. *Stipules* blunt, entire, slightly hairy. *Flowers* 5-sepalous, 6-androus, semitrigynous, with paleaceous acute bracteæ, in rather large and solitary heads upon very long peduncles which are glabrous below and glandular-hispid in their upper part. *Fruit* too young for description.

Meeroo.

19. *P. capitatum*. *Don.*

“Capitulis compactis, pedunculis geminatis inæqualibus sæpe solitariis, bracteis paleaceis acutis muticis, floribus 8-andris semitrigynis, achenii triquetri faciebus obsoletè granulatis, ochreis brevi-ciliatis, foliis ovatis vel ellipticis subacutis, petiolo brevissimo biauriculato, caule repente sub-

lignoso ramoso cum ochreis foliisque pube purpurascente hispidulo."—
Meisn.

P. capitatum. Don, Prod. 73. Meisn. Mon. 82.

P. repens. Meisn. in Wall. 60.

Stem procumbent, rooting, woody, hispid, reddish. *Leaves* ovate or elliptical, acute, more or less downy on both sides, ciliated, the petioles very short, with 2 auricles which are very often fugacious. *Stipules* blunt, more or less hairy, ciliated. *Flowers* small, 5-sepalous, 8-androus, semitrigynous, with paleaceous acute bractæ, in small compact heads, mostly two together, one of them often nearly sessile. *Fruit* trigonous, the faces ovate-acute, opaque, and very minutely granulated, the calyx slightly agglutinated to the fruit.

Mutrogh and Hills in May.

20. *P. sinuatum.*

Capitulis solitariis, pedunculis glabris, bracteis ovatis obtusis, floribus 5-andris semitrigynis laciniis obtusis, achenio triquetro, ochreis glabris vel parçè pilosis, foliis lyratis lobo terminali rhomboideo, petiolo basi biauriculato, caule ramoso.

P. sinuatum. Royle MSS.

Stem procumbent, branched, striated, glabrous, reddish, the internodes very long. *Leaves* glabrous, runcinate, the terminal lobe, the largest rhomboid, or approaching to triangular acute, and about one inch both in length and width, the lateral lobes about three upon each side blunt, the auricles small and blunt. *Stipules* obtuse, glabrous, or very slightly hairy. *Flowers* in dense globose heads upon longish stalks, segments of the calyx 5, obtuse and rounded. rather longer than the 5 stamens, subtrigynous, the bractæ ovate obtuse. *Fruit* 3-gonous, the angles rounded, the faces very convex and shining.

This is a most interesting species, *P. runcinatum*, Ham., having been the only plant belonging to this genus known to have runcinate leaves. Our plant may be distinguished from *P. runcinatum*, which is fully described by Meisner in Wall. Plant. Asiat. Rar. iii. 60, by its much smaller size; the terminal lobe

of the leaves in that species is $4\frac{1}{2}$ inches long and 3 inches broad. That plant has the heads two together, the peduncles hairy, the flowers 6—8-androus, the bracteæ and segments of the calyx acute, and the stipules hairy.

Rogee in Kunawur.

Subsect. *Corymbocephalon*. Meisn.

21. *P. chinense*. Linn.

“Octandrum semitrigynum, corymbis simplicibus paniculatisve, pedunculis scabriusculis, bracteolis foliaceis cordatis suffultis, foliis subcoriaceis ovatis vel oblongis acuminatis basi attenuatis cordatisve, plùs minùs pellucido-punctatis, petiolis brevibus basi appendice foliaceo reniformi subdeciduo utrinque auriculatis, caule suffruticoso erecto ramoso glabro.”

—Meisn.

P. chinense. Linn. Sp. Pl. I. 520. Meisn. in Wall. iii. 60.

α. *Thunbergianum*. Meisn.

P. chinense. Meisn. Mon. 60.

Stem erect, smooth, striated, branched. *Leaves* ovate and acuminate, rounded and slightly cordate at their base, the margin obsoletely crenulated and crisped, glabrous, the nerves beneath being sometimes downy, the petioles short, with 2 often very fugacious reniform auricles at their base. *Stipules* semicylindrical, very long, lax, white, often torn, glabrous, with numerous parallel nerves, their base glandular. *Flowers* white, in small heads aggregated in a corymbose manner, 5-sepalous, the segments acute; 8-androus, semitrigynous; the bracteæ paleaceous, about equal to the flowers; the peduncles covered with minute glandular pubescence, and a large white reniform appendage at each subdivision. *Fruit* about $\frac{1}{2}$ the length of the calyx, triquetrous, the faces ovate-lanceolate and granulated.

Bhudraj.

γ. *brachiatum*. Meisn.?

P. patens Don, Prod. 73. Meisn. Mon. 60.

Stem procumbent. *Leaves* ovate-cordate, the nerves hairy beneath, the mar-

gins slightly recurved, crenulated and crisped, no auricles upon our specimens. *Stipules* with fewer nerves than in the preceding variety. *Heads* fewer in number, but forming small corymbs, the bracteæ shorter; the peduncles hispid. *Fruit* the same as in var. α . but the faces nearly triangular.

This is *P. patens*, Don, which Meisner refers to his var. γ . but with which our plant does not exactly agree.

Sect. 5. ACONOGONON. *Meisn.*

22. *P. tortuosum*. *Don.*

Paniculis condensatis, bracteis unifloris, pedicellis erectis longioribus, calycis laciniis obtusis inæqualibus glabris 3 interioribus orbiculatis 2 exterioribus ovalibus angustioribus, ochreis internodio dimidio brevioribus, foliis sessilibus orbiculari-ovalibus sericeis, caule ramoso fruticoso cum ramis pedunculis bracteis ochreisque piloso-sericeis.

P. tortuosum. *Don*, Prod. 71.

Stem round, ribbed, woody, much branched, solid, covered with woolly hair, the internodes long. *Leaves* round or ovate, 1—1½ inches long, silky, particularly underneath, ciliated, sessile. *Stipules* lax, torn, hairy, not half so long as the internodes. *Flowers* in small dense panicles, the bracteæ longer than the pedicels, hairy and 1-flowered, flowers 8-androus, 3-gynous; the 3 interior segments orbicular, 2 exterior oval and blunt; pedicels without the usual joint. *Fruit* in too young a state for description.

Lippa in Kunawur, Kherang Pass, 22 July. R. Inglis, Esq.

23. *P. Hagei*.

Paniculi ramis subsimplicibus aphyllis, bracteis 3—6-floris pedicellos erectos subæquantibus, calycis laciniis rotundato-ovalibus obtusis glabris 2 exterioribus angustioribus, ochreis petiolo longioribus internodio brevioribus, foliis lanceolatis apice lineari-attenuatis subtùs lanato-velutinis suprà pubescentibus, caule erecto ramoso striato cum ramis pedunculis ochreisque pilosis.

P. Hagei. Royle MSS.

Stem ribbed, erect, suffruticose, alternately branched, hollow, scabrose-pilose, the internodes long. *Leaves* lanceolate, prolonged into a linear point, silky beneath, and downy above, ciliated, on very short petioles. *Stipules* long, lax, torn, hairy, shorter than the internodes, but much longer than the petioles. *Flowers* in large leafless panicles, the branches of which are nearly simple; the bractæ about equal to the erect pedicels, 3—6-flowered, the flowers 8-androus trigynous, their segments roundish, ovate, blunt, the 2 exterior ones smaller; the pedicels jointed at a short distance below the flower. *Fruit* castaneous, triangular, about $\frac{1}{3}$ longer than the calyx, very minutely punctured.

Nagkanda.

24. *P. polystachyum*. Wall.

“Paniculis subsimplicibus, racemis folio suffultis pedunculatis discretis gracilibus, bracteis 1—2-floris, pedicellis patulis vel nutantibus bractea triplo longioribus, calycis magni laciniis obtusis inæqualibus, interioribus 3-orbicularibus exterioribus 2 ovalibus dimidio minoribus, ochreis petiolo internodioque longioribus, foliis oblongis longè acuminatis, caule fruticoso.”—*Meisn.*

P. polystachyum. *Meisn.* in Wall. iii. 61.

α. glabrum. *Meisn.* “Omnibus partibus glaberrimis.”

β. pubescens. *Meisn.* “Caule pedunculis ochreis bracteis petiolisque puberulis vel pilosis, foliis suprà glabris subtùs velutinis.”—*Meisn.*

Stem woody, branched, solid, glabrous, the internodes short. *Leaves* oblong, pointed, glabrous, with the nerves minutely downy beneath, ciliated, the petioles very short, and slightly winged. *Stipules* very long, nearly entire, much longer than the internodes, nearly glabrous, with numerous strong prominent slightly hairy ribs. *Flowers* in large slightly-leafy panicles, the branches of which are nearly simple and slightly hairy, the bractæ $\frac{1}{2}$ or $\frac{2}{3}$ shorter than the patent or even recurved pedicels, which are apparently jointed very near to the flower, about 2-flowered, flowers 8-androus, trigynous, large, the 3 interior segments roundish, the exterior much narrower and ovate. *Fruit* too young for description.

Var. β . *Stem* downy. *Leaves* covered both above and below with minute hairs, which are far more numerous upon the under sides. *Stipules* rather downy, particularly on the nerves; branches of the panicle and the bracteæ downy.

Nagkanda and Cashmere during the rains.

25. *P. rumicifolium*.

Paniculis subsimplicibus, bracteis basi pilosis unifloris pedicellis brevioribus, calycis laciniis obovatis obtusis æqualibus, ochreis internodio dimidio brevioribus petiolo longioribus pilosis, foliis cordatis ovatisve pilosis margine undulato, caule erecto striato.

P. rumicifolium. Royle MSS.

α . ovatum. Foliis ovatis subtùs pilosis, caule glabro.

β . cordatum. Foliis cordatis suprà et subtùs hirsutis, caule hirsuto.

Stem erect, striated, herbaceous, slightly branched, hollow, glabrous, the internodes very long. *Leaves* ovate, very large, their margins undulated and ciliated, hairy beneath, nearly glabrous above, petioles short. *Stipules* long, lax, torn, their nerves hairy, and furnished with a thick fringe of hairs at their base, not more than half the length of the internodes, but longer than the petioles. *Flowers* in large panicles, the branches of which are nearly simple; bracteæ shorter than the pedicels, one-flowered, their base hairy; flowers 8-androus, 3-gynous, their segments equal, obovate and blunt. *Fruit* trigonous, very young on our specimens.

Var. β . *Stem* covered with hairs pointing downwards. *Leaves* cordate, much smaller than in var. α . and not so wavy, equally covered on both sides with short hairs. *Stipules* much more hairy.

Kunawur.

Sect. 6. TINIARIA. *Meisn.*

26. *P. Convolvulus*. *Linn.*

Floribus racemosis vel axillaribus parvis, pedicellis sub flore articulatis fructiferis calyce non alato brevioribus, achenii faciebus ovato-acutis granulato-striatis opacis, caule volubili ramoso.

P. Convolvulus. Auctorum.

Differs from the European plant only by having the faces of the fruit usually concave.

In this plant the usual joint in the pedicels is placed quite close to the flower; in *P. dumetorum* the joint is very near the base of the pedicel, i. e. the base of the flower is prolonged so as apparently to form the greater part of the footstalk; in *P. pterocarpum* the joint is placed at about the middle.

Leo in Kunawur.

27. *P. pterocarpum*. *Wall*.

“Floribus 3—5 fasciculato-axillaribus, nonnunquam in racemos axillares subsimplices breves paucifloros congestis, pedicellis filiformibus fructiferis deflexis calycem magnum alatum æquantibus, achenii faciebus ellipticis granulato-striatis, caule scandente ramoso.”—*Meisn*.

P. pterocarpum. *Meisn*. in *Wall*. iii. 62.

Stem twining, branched, with scabrous ribs. *Leaves* stalked, cordate, with a lengthened acute point. *Stipules* short, blunt. *Flowers* in rather small axillary racemes, or 2 or 3 together in the axils of the upper leaves, the segments of the calyx blunt and winged, pedicels elongated; when in fruit recurved and jointed about the middle. *Fruit* triangular, its faces elliptical, acute at both ends, its angles blunt, opaque, minutely granulated throughout, quite covered by the enlarged calyx, each segment of which is very broadly winged at its back.

Mussooree, &c. in the Hills.

Sect. 7. AVICULARIA. *Meisn*.

28. *P. herniarioides*. *Delile*.

“Floribus ternis parvis 8-andris, pedicellis calycis longitudine, calycis patuli laciniis planis obtusis, achenii acutanguli faciebus nitidis apice obsolete punctato-striatis, ochreis brevissimis, foliis sessilibus linearibus obtusis 1-nerviis, caulibus herbaceis procumbentibus basi ramosis.”—*Meisn*.

P. herniarioides. *Meisn*. in *Wall*. iii. 62.

β. prostratum. *Meisn*. “Caulibus duris crassiusculis divaricato-ramosissimis adpressè procumbentibus, internodiis contractis, foliis ovali-linearibus

acutiusculis, margine revoluta nervoque subtus prominente, rameis internodia superantibus, ochreis flavicantibus densè lacero-ciliatis."—*Meisn.*

P. prostratum. Roxb. (fide *Meisn.*).

P. Dryandri. *Meisn. Mon.* 88.

Stem prostrate, branched, striated, smooth, the internodes as long or longer than the leaves, except in the younger branches. *Leaves* narrowly ovate, often linear, acuminate, sessile, their margins reflexed, and the nerve very prominent upon the under side. *Stipules* yellowish white, short, torn, with a few faintly-marked nerves. *Flowers* axillary, 2 or 3 together, minute; pedicels as long or longer than the flowers, and jointed at about its middle. *Fruit* included in the calyx, trigonous; the faces ovate, smooth and shining, obsoletely punctate-striate near to the apex, and with a short striated stalk.

Saharunpore, in April.

29. *P. aviculare.* *Linn.?*

Floribus axillaribus parvis, pedicellis brevibus, achenio triquetro granulato-striato perigonio subæquali, ochreis lanceolatis integris, foliis elliptico-lanceolatis minutissimè serratis, caule striato lævi.

Stem prostrate, branched, much striated, smooth, the internodes long, often exceeding the leaves. *Leaves* elliptic-lanceolate, very minutely serrate, shortly stalked or sessile. *Stipules* white, lanceolate, long, but shorter than the internodes, entire, at length torn, with few unbranched brown nerves. *Flowers* axillary, small, upon short pedicels, which are jointed just below the flower. *Fruit* small, triquetrous, equal to, or but little longer, than the calyx, the faces triangularly ovate, acute, granulate-striate.

This plant is so nearly related to *P. aviculare*, that I have not ventured to give it as a distinct species, although it was so considered by Professor Royle. It differs in having nearly all its leaves shortly stalked, and its fruit generally rather longer than the calyx.

In the same paper with this plant there is a single specimen, without flowers, resembling this plant in all points except the stipules, which are long,

torn, and having very numerous parallel brown, mostly unbranched nerves. It is supposed by Professor Royle to be part of the same plant as those which I have considered *P. aviculare*. Should that prove to be the fact, it will go far to destroy several species in this genus, by showing the uncertainty of characters drawn from the stipules.

Saharunpore.

30. *P. Roylii*.

Floribus axillaribus parvis pedicello brevissimo, achenio trigono granulato-striato calyci æquali, ochreis acutis lobatis haud laceris: venis 2 obsoletis, foliis lineari-lanceolatis acutis integris punctis glandulosis numerosissimis, caule 3—4-angulato: angulis scabris.

Stem prostrate, perennial, branched, with 3 or 4 scabrous angles. *Leaves* linear-lanceolate, acute, entire, covered both above and below with pellucid glandular dots. *Stipules* rather short, acute, lobed, but scarcely torn, with two short nerves. *Flowers* axillary, small, almost sessile, the pedicels jointed just below the flower; the internodes so much shortened at the extremities of the branches as to give the appearance of a spiked inflorescence. *Fruit* small, 3-gonous, equal to the calyx; the faces triangular-ovate, acute, granulate-striate.

Theog and Phagoo, in June.

31. *P. mucronatum*.

Floribus axillaribus parvis sessilibus, achenio trigono lævi, ochreis ovatis acutis laceris internodiis longioribus nervis nullis, foliis lanceolato-linearibus longè mucronatis marginibus recurvis, caule pubescenti lignoso.

P. mucronatum. Royle MSS.

Stem prostrate, woody, branched, pubescent, the internodes very short. *Leaves* sessile, linear-lanceolate, their margins reflexed, the midrib running out into a long pellucid subulate point. *Stipules* white, longer than the internodes, (very rarely shorter,) acute, torn, without any nerves. *Flowers* axillary, small and sessile. *Fruit* trigonous, smooth, very young on my specimens.

Chango in Kunawur, in August.

32. *P. recumbens*.

Floribus axillaribus parvis, pedicello brevi, achenio trigono lævi nitido angulis rotundatis segmentis carinatis calycis clausi tecto, ochreis lanceolatis acutis demùm laceris: nervis 2 excurrentibus, foliis ovatis brevi-petiolatis margine nervisque subtùs scabris.

P. recumbens. Royle MSS.

Stem woody, prostrate, branched, ribbed, scabrous, the internodes short, but longer than in *P. confertum*. *Leaves* shortly stalked, ovate, mostly acute, their margins and the under side of the branched midrib scabrous. *Stipules* white, shorter than the internodes, except upon the youngest shoots, lanceolate, acute, at length torn, with two long stout excurrent nerves. *Flowers* axillary, small, oblong, on short stalks, jointed just below the flower. *Fruit* small, 3-gonous, smooth and shining, the faces ovate, the angles blunt, covered by the scarcely enlarged closed calyx, which it equals in length.

Mussooree, August.

33. *P. confertum*.

Floribus axillaribus parvis globosis, pedicello brevi, achenio compresso trigonove lævi nitido segmentis non carinatis calycis campanulati tecto, ochreis lanceolatis acutis demùm laceris nervis abbreviatis, foliis oblongis 1-nerviis brevi-petiolatis margine nervoque subtùs scabris.

P. confertum. Royle MSS.

Stem prostrate, branched, scabrous, the internodes short. *Leaves* oblong, bluntish, scabrous on the margin and under side of their single nerve, narrowed into a short stalk. *Stipules* white, longer than the internodes, except upon the oldest stems, lanceolate, acute, at length torn, with few nerves, which scarcely reach more than half their length. *Flowers* axillary, small, nearly globose, on short stalks, jointed just below the flower. *Fruit* small, either compressed or trigonous, smooth and shining; the faces ovate, the angles blunt, shorter than the enlarged campanulate calyx, the segments of which are not keeled at the back; the pedicels about as long as the enlarged and winged calyx.

Nearly related to the preceding species, but clearly distinguished by the structure of the stipules, and the calyx spreading when in fruit, not closed, nor keeled as in that species.

Lippa in Kunawur.

FAGOPYRUM. *Gærtn.*

1. *F. rotundatum.*

Floribus parvis paniculato-racemosis, achenio trigono angulis rotundatis in parte superiori carinatis calyce 4—5-plò longiore faciebus oblongo-ovatis rugosis, foliis triangulari-hastatis paulò longioribus quàm latis petiolatis, caule erecto.

Annual. *Stem* upright, hollow, slightly angular, downy on the side next to the leaves. *Leaves* stalked, triangular, hastate, rather longer than broad, their angles acute, and their nerves downy on both sides, the lower ones upon long stalks, downy above, the upper ones nearly sessile. *Stipules* short, with numerous simple nerves, and having two points on the side next to the leaf, between which they are divided nearly to their base. *Flowers* in alternate axillary paniced racemes, small, their pedicels not jointed. *Fruit* oblong-ovate, trigonous, the angles obtusely rounded and slightly keeled in their upper half, rugose, with a few longitudinal striæ on the mesial line of each face, 4 or 5 times as long as the calyx.

This plant is distinguished at once from all its congeners by attending to the form of its fruit.

Cultivated in the hills for food. Cheenee in Kunawur, September 8, during the rains.

2. *F. esculentum. Mæench.*

Floribus paniculatis longè pedicellatis, achenio trigono angulis carinatis integris calyce obtuso duplò longiore faciebus ovato-triangularibus vel -lanceolatis, foliis hastato- vel cordato-triangularibus petiolatis superioribus sessilibus, caule erecto.

F. esculentum. Moench. Meth. 290. Meisn. in Wall. iii. 63.

Polygonum Fagopyrum. Linn. Sp. Pl. i. 522. Meisn. Mon. 61.

Stem upright, hollow, angular, downy, particularly on the side next to the leaves. *Leaves* stalked, the upper ones sessile, hastate- or cordate-triangular, the lower angles bluntish, the nerves slightly downy. *Stipules* short, with few simple nerves, bluntly pointed externally. *Flowers* in terminal and axillary long-stalked panicles, sometimes lax and very few flowered, in others condensed and many-flowered, the pedicels not jointed. *Fruit* with ovate-triangular or lanceolate faces, often slightly concave, longer than broad, and transversely marked with very minute striæ, trigonous, the angles more or less acutely keeled, twice as long as the obtuse calyx.

I have not been able to detect the usual joint in the pedicels of either this species, *F. emarginatum*, or *F. rotundatum*, and am inclined to think that the flowers in all three are really sessile, the apparent pedicel being only the prolonged base of the calyx. The proportion between the length and breadth of the fruit appears to be very variable in this species; in some instances the faces are nearly as broad as long, and in others they are so much lengthened as to become truly lanceolate.

Cultivated in the hills for food.

3. *F. emarginatum*.

Floribus paniculatis parvis, pedicello elongato, achenio trigono angulis alatis integris calyce obtuso duplò longiore faciebus ovatis longioribus quàm latis, foliis petiolatis triangularibus acutis angulis inferioribus rotundatis.

P. emarginatum. Roth.? Cat. Bot. i. 48. Don?, Prod. 73. Meisn.? Mon. 62.

Stem upright, hollow, striated, downy. *Leaves* stalked, triangular, the two lower angles rounded, the terminal angle elongated and acute, nerves slightly downy. *Stipules* short, without nerves, blunt. *Panicles* alternate, terminal and axillary, upon long stalks, which are downy above; the flowers small, with long pedicels, which are not jointed; the segments of the calyx blunt. *Fruit* trigonous, the angles winged, with ovate faces, which are longer than broad, smooth and opaque.

This differs from *P. emarginatum*, Don, by not having the fruit “apice truncato et emarginato.” It differs from Roth’s plant by the faces not being “latioribus quàm longis.”

Cultivated in the hills for food. Cheenee in Kunawur, September 8.

4. *F. cymosum*. *Meisn.*

“Paniculis longè pedunculatis subaphyllis dichotomis trifidisve, racemis conjugatis subconfluentibus divaricatis subrecurvis, achenio maturo calyce plus dimidio longiore, angulis acutis integris, faciebus ovato-rhombeis apicem versus attenuatis, foliis inferioribus cordato-triangularibus hastatisve lobis obtusiusculis, supremis oblongo- v. lanceolato-sagittatis, caule orgyali annuo radicibus perennibus stoloniferis.” *Meisn.*

F. cymosum: *Meisn.* in Wall. iii. 63.

P. cymosum. Trevir. in Nov. Act. Nat. Curios. xiii. 177. *Meisn.* Mon. 94. Reich. Icon. Exot. t. 176.

Stem upright, hollow, striated, downy. *Leaves* stalked, the lower ones cordate-triangular, the lobes slightly pointed, the points themselves rounded, the upper ones nearly sessile, much more triangular, and the angles acute, the highest sessile, lanceolate, sagittate and amplexicaul, all of them slightly downy on both sides, particularly upon the nerves. *Stipules* rather long, blunt, downy. *Panicles* terminal and axillary, on long stalks, forked or trichotomous, consisting of spiked, patent, or slightly recurved racemes, the peduncles downy, the flowers small, the segments of the calyx blunt, the pedicels jointed in the middle. *Fruit* wanting upon our specimens.

Mussooree, and on the road to Cashmere.