

ring.—DISTRIB. Species about 24, N. temp. regions and Central Asia, a few spread over the world with cultivation.

1. **S. asper**, *Vill.*; *Boiss. Fl. Orient.* iii. 796; annual, glabrous or sparsely glandular above, subumbellately branched, leaves lanceolate  $\frac{1}{2}$ -amplexicaul with rounded auricles entire or pinnatifidly toothed, heads crowded, achenes compressed, faces 3-ribbed obscurely muricate between the ribs. *Reichb. Ic. Fl. Germ.* t. 1410; *Clarke Comp. Ind.* 275. *S. ferox*, *Wall. Cat.* 3248. *S. oleraceus*, *Wall. Cat.* 3252 F.

Throughout INDIA; in fields and cultivated places, ascending to 12,000 ft. in the Himalaya.—DISTRIB. All temperate and many tropical countries, wild or introduced.

By many considered a subspecies of *S. oleraceus*. Clarke remarks that in India this flowers from December to April, and *S. oleraceus* from April to May.

2. **S. oleraceus**, *Linn.*; *Boiss. Fl. Orient.* iii. 795; annual, glabrous or sparsely glandular-hispid, subumbellately branched above, leaves lanceolate  $\frac{1}{2}$ -amplexicaul with acute auricles entire or pinnatifid, heads crowded, achenes compressed, faces 3-ribbed and muricate between the ribs. *Reichb. Ic. Fl. Germ.* t. 1410, f. 1; *Clarke Comp. Ind.* 275. *S. ciliatus*, *Lamk.*; *Wight Ic.* t. 1141. *S. Royleanus*, *Wall. Cat.* 3252; *DC. Prodr.* vii. 184.

Throughout INDIA; in fields and cultivated places, ascending to 8000 ft. in the Himalaya.—DISTRIB. of *S. asper*.

3. **S. arvensis**, *Linn.*; *Boiss. Fl. Orient.* iii. 798; rootstock creeping, stem glabrous tall umbellately branched above, leaves runcinate-pinnatifid spinous-toothed cauline  $\frac{1}{2}$ -amplexicaul with appressed rounded auricles uppermost linear, heads and peduncles glandular-hispid, achenes narrow subcompressed with thick regular ribs on each face. *Reichb. Ic. Fl. Germ.* t. 1412; *Clarke Comp. Ind.* 276. *S. Wightianus*, *DC. Prodr.* vii. 187; *Wight Ic.* t. 1142. *S. orixensis*, *Roxb. Fl. Ind.* iii. 402. *S. Wallichiana*, *DC. l. c.* 185. *S. longifolius*, *Wall. Cat.* 3251.

Throughout INDIA; wild and in cultivated places, scarce in the plains, common in the Khasia and Himalaya, ascending to 8000 ft.—DISTRIB. of *S. asper*.

4. **S. maritimus**, *Linn.*; *Boiss. Fl. Orient.* iii. 797; perennial, glabrous, glaucous, rootstock creeping, stem sparingly branched above, leaves linear-oblong quite entire or sparingly sinuate-toothed, cauline  $\frac{1}{2}$ -amplexicaul with acute auricles, heads few peduncled glabrous, achenes ellipsoid subcompressed margins thickened faces with a thick middle rib and 2 more slender lateral ones. *Reichb. Ic. Fl. Germ.* t. 1413? *S. arvensis*,  $\beta$ , *Clarke Comp. Ind.* 276.

The PUNJAB; Peshawur, *Stewart*.—DISTRIB. Westwards to the Atlantic.

## 118. LAUNÆA, *Cass.*

(MICRORHYNCHUS, *Less.*)

Perennial glabrous herbs, with yellow (always?) juice. *Leaves* chiefly radical, sinuate-lobed or pinnatifid, margins often spinulose-toothed. *Heads* peduncled or lateral and sessile on the branches, racemose or paniculate, or solitary or fasciated, yellow, homogamous; fl. all ligulate. *Involucre* campanulate or cylindrical; bracts  $\infty$ -seriate, herbaceous, margins often membranous, inner subequal, outer various, keel often thickened in fruit; receptacle flat, naked. *Anther-bases* sagittate, auricles setaceous. *Style-arms* slender. *Achenes* narrow, subterete angled or slightly flattened, rarely winged, truncate at both ends or rarely emarginate; ribs 4-5 very stout, close-set, smooth papillose or narrowly winged or 2-grooved, truncate at each end; pappus copious, hairs  $\infty$ -seriate

vii. 181; *Wight. Ill. t.* 133; *Clarke Comp. Ind.* 277. *Prenanthes sarmentosa*, *Willd. Sp. Pl.* iii. 1540; *Wall. Cat.* 3262, A. B. C. *Lactuca sarmentosa*, *DC. in Wight Contrib.* 27.

Sandy coasts of INDIA; from Bengal to Ceylon. Penang, Madras and Malabar.—**DISTRIB.** Mauritius, Egypt, E. African coast.

*Leaves* 1-3 in., rarely more, teeth rarely white and cartilaginous (as in *L. nudicaulis*). *Flowering stems* slender, 1-3 ft. long, arching from node to node. *Invol. bracts* almost 3-seriate, as in *L. nudicaulis*. *Achenes*  $\frac{1}{12}$  in., pale, thick with few very thick rounded ribs, usually obtusely 4-gonous; *pappus*  $\frac{1}{4}$  in., deciduous, hairs very slender, white and of nearly equal length.

\*\* Achenes winged; invol. bracts 3-seriate, outer very broad, all with broad membranous margins. (LOMATOLEPIS, Cass.)

7. **L. glomerata**, *Cassini in Dict. Sc. Nat. xlviii.* 422 (Lomatolepis); glabrous, leaves sessile sinuate-lobed pinnatifid or runcinate, lobes usually short rounded toothed, teeth cartilaginous white, flowering-branches spreading sparingly dichotomously branched, heads  $\frac{1}{2}$ - $\frac{3}{8}$  in. campanulate clustered at the ends of the branches, invol. bracts with very broad membranous margins outer large broadly ovate, inner oblong, base hardened in fruit, achenes corky thickly ribbed outer 2-winged inner columnar shorter than the soft straight white pappus. *Lomatolepis glomerata*, *Cass.; DC. Prodr.* vii. 180. *Microhynchus glomeratus*, *Jaub. & Spach Ill. Pl. Orient.* iii. t. 275. *Zollikoferia glomerata*, *Boiss. Fl. Orient.* iii. 826. *Sonchus capitatus*, *Spr. Syst. Voy.* iii. 650.

THE PUNJAB; *Stewart.* SCINDE; *Stocks.*—**DISTRIB.** Persia, Arabia, Egypt, Algiers. Perennial? *Leaves* 3-5 by 1-1 $\frac{1}{2}$  in., lobes or pinnules numerous, close set. *Flowering branches* stout, strict, usually not exceeding the leaves, naked. *Heads* broader than in other Indian species, with broader 3-seriate more obtuse invol. bracts, and more numerous flowers; peduncles short, bracteolate. *Achenes*  $\frac{1}{8}$  in., pale yellow; outer slightly curved, linear-oblong, emarginate at both ends, wings each as broad or broader than the nucleus, which is ventrally and dorsally 5-6-ribbed, wings and ribs minutely crenulate; inner achenes often narrower and imperfect; pappus  $\frac{1}{4}$  in. long, deciduous, hairs subequal with no inner stronger ones.

## 119. TRAGOPOGON, Linn.

Biennial or perennial milky-juiced herbs. *Leaves* alternate, stem-clasping, narrow, quite entire. *Heads* terminal; long-peduncled, large, homogamous, yellow blue or purple; fl. all ligulate. *Involucre* cylindrical or narrowly campanulate; bracts 1-seriate longer or shorter than the flowers, herbaceous, acuminate, bases sometimes connate, outer 0; receptacle flat or convex, pitted, margins of the pits often cartilaginous. *Achenes* slender, terete, 5-angled, 5-10-ribbed, ribs smooth or muricate, basal areole broad concave, inner usually with a slender beak; pappus hairs numerous, 1-seriate, feathery, connate into a basal ring, 5-10 longer than the rest with simple (not feathery) tips, those of the outer achenes often fewer, subpaleaceous, free at the base, simple or feathery below.—**DISTRIB.** Species about 20, Europe, N. Africa, temp. and subtrop. Asia.

1. **T. gracile**, *Don in Mem. Wern. Soc.* iii. 407; *Prodr.* 162; quite glabrous, leaves very narrow linear keeled flexuous, radical often equalling the scape, invol. bracts 5-8 shorter than the yellow ligules, achenes  $\frac{1}{4}$  in. smooth beak not conspicuous. *T. junceum*, *Wall. Cat.* 3257; *DC. Prodr.* vii. 115; *Clarke Comp. Ind.* 278.

CENTRAL and WEST IN HIMALAYA; from Hazara to Nipal, alt. 6-10,000 ft., ascending to 13,000 ft. in Piti and Kunawur.