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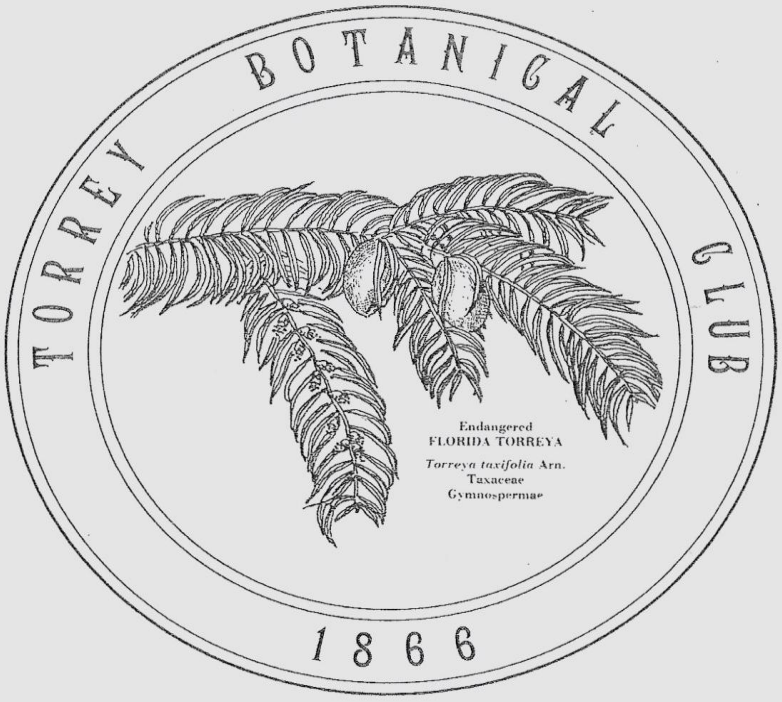

Min hittills enda vetenskapliga publicering. Jag fick uppgiften av min handledare Magnus Lidén vid botaniska institutionen i Gbg. Jag gjorde själva arbetet med fröna och skrev ett första förslag på texten. Detta justerades av min handledare före publiceringen 1995. Hade vid det tillfället inte haft kontakt med honom på ett par år och kanske glömde han att meddela mig. Själv var jag fullt upptagen, hade gift mig några år tidigare och fått mitt första barn. Glömde av det hela.

Hittade denna publicering tolv år senare (2007, på sommaren) då jag för skoj skull sökte på mitt namn på nätet. Då dök denna publicering upp, vilket var kul. När skolan började på hösten det året vad det en elev som också för skoj skull hade sökt på mitt namn på nätet berättade han och han frågade vad det var för konstigt sammanhang som mitt namn fanns med i. Jag förstod då vad det var och berättade om mitt arbete. Det kanske var ett litet ovanligt sätt som man upptäcker på att man är vetenskapligt publicerad med det arbete som man gjort. Men en trevlig överraskning.

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TORREYA

Embryo growth in tuberous *Corydalis* species

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LIDÉN, MAGNUS AND RUTGER STAAF (Department of Systematic Botany Carl Skottsbergs gata 22, S-413 19 Göteborg, Sweden). Embryo growth in tuberous *Corydalis*. Bull. Torrey Bot. Club 122: 312–313.—At the time of dispersal in May, embryos of two species of *Corydalis* consist of a few cells only. After a brief growth period, the embryos remain quite small during summer. When temperatures decrease in autumn, growth again commences, and it continues until late December. No further growth occurs prior to germination in spring. Seeds sown in a pot and put in a refrigerator in early July ceased growing altogether. Thus, it seems that both a warm maturation period and a cold period are necessary for proper embryo growth in tuberous *Corydalis*, i.e., nondeep complex morphophysiological dormancy (Baskin and Baskin 1991).

Key words: seed maturation, embryo growth, *Corydalis*.

At the time of dispersal, an embryo of a tuberous *Corydalis* is just a small clump of cells, not discernible under the dissection microscope. By the following spring, a mature embryo has developed. What happens in between? Retarded embryo growth in *Corydalis* was noted by Ryberg (1960), and is shared by several other early-flowering herbs, perennials as well as winter annuals (e.g., Baskin and Baskin 1991, 1994; Frost-Christensen 1974; Stokes 1965). This type of dormancy is termed MPD (morphophysiological dormancy), and it prevents germination out of season. Nikolaeva (1977) and Baskin and Baskin (1994) have identified eight different types of MPD, varying in their requirements for warm and cold stratification.

Materials and Methods. *Corydalis solida* (L.) Clairville is a plant of mesic forests in Central and East Europe. *Corydalis ledebouriana* Kar. & Kir. is found in mountains of summer dry areas in Central Asia. Seeds from cultivated plants of these two geophytes were collected at the time of dispersal in May and put in fine-mesh nylon bags (empty teabags). Two bags of seeds of each species were placed outdoors in a shaded place in each of two localities in SW Sweden, Göteborg botanical garden (1992) and Vårgårda (1990), and covered with a thin layer of mulch. A fraction of the seeds were taken (Göteborg 1992) and put into a refrigerator on 1 and 13 July. Seed samples (ca. 10 seeds) were removed from each bag every week (Vårgårda) or every second week (Göteborg), and fixed in Randolph's Modified Navashin Fluid (Johansen 1940). Embryos were dissected from the seeds and drawn by means of a lens drawing apparatus.

Results and Discussion. Apparently, growth starts immediately after dispersal, but the embryo is hardly discernable under the dissection microscope until midsummer. Growth soon ceases, and during the summer only a slight increase in length takes place. In autumn growth again commences, and it continues until the end

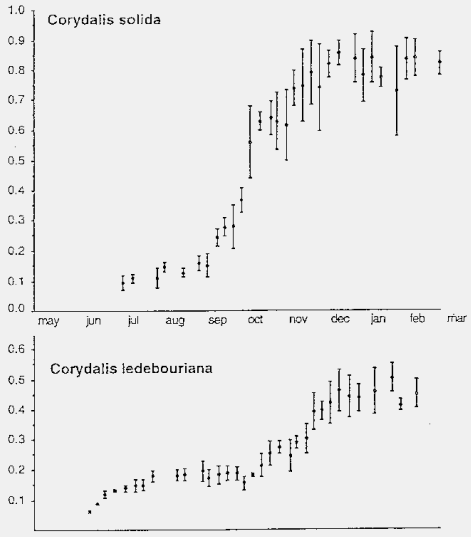

Fig. 1. Mean length ($\bar{x} \pm$ SE) in mm of 5–10 embryos plotted against time. The large standard deviations for some of the later dates are due to some extremely short embryos, that appeared non-viable.

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of December (Fig. 1). The inflection on the growth curve is in mid- to late October. The mature embryo of *C. ledebouriana* is smaller than that of *C. solida*, but otherwise the two species behave similarly. Germination is usually high (70–95%), and takes place in late March for *C. ledebouriana* and in April to early May for *C. solida*. This type of dormancy is similar to that in *Osmorhiza claytoni*, which Baskin and Baskin (1991) described as nondeep complex morphophysiological dormancy.

The sample of seeds (2 × ca. 100 seeds) transferred to a refrigerator ceased growing altogether. This indicates that a warm period is necessary for proper maturation, but with only two data points little can be said about how long this afterripening period needs to be, or indeed if low temperature does trigger embryo growth, although this seems plausible (cf. *Osmorhiza*, Baskin and Baskin 1991).

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