

Down Bromley Kent

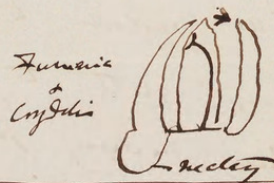
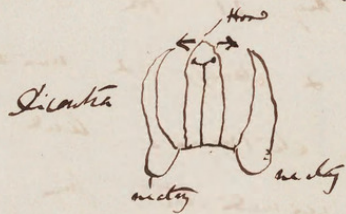
July 4th - 1858

My dear Gray

I have not answered you note of
 Aug 21 for I have had death
 & illness & misery amongst my
 children. And we are all going
 immediately from home for some weeks.
 With respect to Dicentra it is
 really pretty to watch the Hummers -
 bees sucking fruit on one or the
 other side of the several flowers: with
 their hind legs resting on the crests
 of the hood formed by the inner
 united petals they push it to opposite
 side of flower, & the straight pointed
 is rubbed against their abdomens
 & inner side of thighs, which are
white with pollen from the several

flowers. It is impossible but what
the individuals of *Diranthera* must
be largely copied. From *Adonis*
has not flowered with me yet.
In *Fumaria* & *Corydalis* we have another

structure. viz
nectary on one
side & here
the pistil bends
so that the 2
stigmas are
presented in the



gangway to the one nectary; & the
hood slips off easiest in opposite
direction, instead of easily to either side.
Indeed, in *Corydalis* when it
about springs off, & the pistil
decidedly springs towards the nectary =
= being petal. I have to record
only 6 *Fumariaceae*, & I wish the

I knew better the rule was
general; for I must believe
the structure of these flowers
is related directly to the
visit of Bees.

I suspect for a few *Asclepias*
the following rule may be
generalized (& I sh. much like
to know whether it is true)

the flower ~~there is a~~
honey is secreted on one point
of circle of corolla, the pistil
if it bends, always bends so
the stigmas, when mature,
lie in the gangway. Thus
in *Columbine* where there is a
circle of nectaries, the stigmas are

straight : in a gale's grandiose
where ^{there is} one nectary, ^{the} stigmas are
rectangular bent to the edge
Bee (as I this day saw)
inserts one ~~them~~ in extracting
the honey. -

It is very unlikely, but if by any
chance you have a little sketch
of the notions of "natural Selection"
I would see whether it or my
letter bears any date, I R.
be very much obliged. My I
ask this, is as follows. Mr.
Wallace who is now exploring New
Guinea, has sent me an
abstract of the same theory, much
unanimous coincident even in
expressions. And he could never have

May 20

heard a word of my views. He
directed me to forward it to
Lyell. - Lyell who is acquainted
with my notions consulted with
Harker, (who read ^{a dozen years ago} a long sketch
of mine written in 1844) & urged
me with much kindness not to

let myself to be quite forestalled
+ to ^{allow them to} publish with Wallace's paper
an abstract of mine; & as the
only very brief thing which I
had written at ^{was a copy} I sent it and
of my letter to you, ~~which~~, I
believe, ^{it} has just been read,
(though never written, & not fit for
such purpose) before the Linnæan
Society; & that is the reason, why

I sh^d be glad of the date.
But do not hunt for it,
as I am sure it was
written in September, October
or November of last year. -
I have troubled you with a
long story on this head; so pray
pardon me & believe me
Yours very sincerely
C. Darwin. -

P.S.
In regard to bee's feet &
nectaries, I sh^d. say that I largely
judge of position of nectary, by
seeing where Bees suck; according
to this, the rule L^{td} is all
Leguminosae, in 2/6 Fumariaceae, in
Izopale. - vide Trichon, Dictamnus
Oculus. Rhododendron - Aspidelia.



Darwin, Charles. 1858. "Darwin, Charles July 4, 1858." *Charles Darwin letters to Asa Gray*

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