sugar boiled together, to which (after boiling) is added a little spirit, placing rags several folds thick, saturated in the preparation, upon garden-seats, low branches of trees, &c. I have in one evening taken as many as thirty-six moths (including red-, yellow-, crimson-underwing, swordgrass, angleshade, &c., &c.). What has attracted them unless smell? or what generally leads them to their food?

With reference to the sound of the glass, is it not the quick motion of the hand which disturbs the moth? E. H. K.

Carnivorous Plants

PROF. SERRANO FATIGATI, of Ciudad Real (Spain), has made some investigations upon two insect-feeding plants which he found during his last excursion to the province of Cordova, and on the general peculiarities of viscous plants during their flowering. The first of these plants is *Ononis natrix*; it grows at Sierra Palacios. The second appears to be *Silene viscosa*, and was found on the hill which connects the village of Belmery with the station. The experiments made upon these plants prove that when alive they were both covered abundantly with a viscous fluid, which in *Silene* was still visible after the specimens had been dried for four months. Prof. Fatigati has observed in several instances that every insect which touches their surface, and remains adherent to them, dies in a very few minutes. Remains of animals in different stages of decomposition may be seen on the plants he possesses.

The microscopical study of these plants has enabled the structure of their secretory glands to be examined. The glands of the plant *Ononis* are at the extremity of hairs composed of cylindrical cells, and are ovoid and multicellular. The protoplasm of the cylindrical cells always forms a parietal coating to the cell-wall. The glands of the *Silene* are simply conical epidermical protuberances, and are divided into two cells at the close of their development.

Prof. Serrano Fatigati has observed that in these species and in *Cistus ladaniferus* the secretion of the viscous fluid increases during their period of flowering; he is studying this matter, in order to ascertain whether this circumstance bears any connection with the production of heat and carbonic acid possessed by plants during the flowering period. FRANCISCO GINEZ

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OUR ASTRONOMICAL COLUMN

MINOR PLANETS.—Mr. J. N. Stockwell, of Cleveland, Ohio, who has had much experience in calculations relating to the small planets, draws attention to a curious circumstance connected with the observations of Gerda, discovered by Prof. Peters at Clinton, N.Y., on July 31, 1872. It had been supposed that this planet was observed again in 1873, 1876, and 1877, but on forming equations of condition for the correction of the elements, Mr. Stockwell found that the observations of 1873 are quite irreconcilable with those of the other oppositions, or that some incompatible conditions had been introduced into the equations. "The discovery of these incompatible conditions," he writes, "has been the occasion of an unusual amount of trouble and annoyance, and will be the source of future mortification, should the explanation at which I have arrived ultimately prove to be erroneous." Mr. Stockwell's conclusion is this, that notwithstanding the planet observed from September 27 to November 12, 1873, was very near the computed place of Gerda, it was really another body that was observed in that year. To decide this point he calculated an orbit upon the observations of 1873, which it appears are very well adapted to furnish reliable results, and finds the following elements, placing the elements of Gerda, as perturbed to the same date, in juxtaposition for the sake of comparison. The epoch is 1873, November 7^o M.T. at Washington, longitudes from M.Eq. 1873^o :—

	PLANET OF 1873.	GERDA.
Mean long. ...	35 4 57	35 47 14
π ...	213 14 38	208 19 29
ϖ ...	178 53 9	178 56 40
i ...	1 36 3	1 36 19
ϕ ...	1 58 40	2 0 51
μ ...	613 ^o 6390	614 ^o 3842

It will be seen that four of the elements of the planet of 1873 are almost identical with those of Gerda, while the lines of apsides differ about five degrees. The actual distance of the planets from each other on November 7 would be 0^o 0188 of the earth's mean distance from the sun. Mr. Stockwell adds, "if there are really two planets moving in orbits so extremely near together, it must happen in the course of time, unless the mean distances are exactly the same, that they will approach each other so closely that their mutual perturbations will cause them to unite and form a single planet."

A similar case of near coincidence between the orbits of two minor planets is that of Fides and Maia, to which attention was first directed we believe by M. Lespaul, of Bordeaux. In 1876 the elements were as follow :—

		FIDES.	MAIA.
Epoch ...	July 27 ^o Berlin M.T.	Oct. 4 ^o Berlin M.T.	
Mean long. ...	326 33 33	27 37 21	
π ...	66 27 20	48 8 26	
ϖ ...	8 15 15	8 17 1	
i ...	3 6 49	3 5 40	
ϕ ...	10 11 21	10 4 31	
μ ...	826 ^o 4417	824 ^o 6400	

Here, however, the planets are much further from each other than in the case of Gerda and the planet of 1873.

At present Gerda and its companion will not be favourably placed for observation, but in the ensuing year no doubt an effort will be made to decide if there are really two bodies revolving in such near proximity to each other. Questions of much interest may arise if this should prove to be the case.

The discoveries of minor planets during the present year now stand as follow :—

- No. 170, Myrrha, January 10, by Perrotin, at Toulouse.
- " 171, Ophelia, January 13, by Borrelly, at Marseilles.
- " 172, Baucis, February 5, " "
- " 173, ... August 2, " "
- " 174, ... September 2, by Watson, at Ann Arbor, U.S.
- " 175, ... October 14, by Peters, at Clinton, U.S.
- " 176, ... November 5, by Paul Henry, at Paris.
- " 177, ... November 6, by Palisa, at Pola.
- A planet, ... November 12, by Watson, at Ann Arbor.

We adopt Prof. Peters' name for No. 170, instead of the inappropriate one proposed in France.

THE COMET OF 1672.—Mädler has pointed out a distant resemblance between the elements of the comet of 1672 calculated by Halley, and those of the comet of 1812, which has been found to have a period of revolution of about seventy years, and which therefore might have been in perihelion in the former year. The comet of 1672 was observed by Hevelius from March 6 to April 21, and also by Richer off the coast of Africa during his voyage to Cayenne, from March 15 to the end of the month, though he only described its position roughly. The observations of Hevelius are published in the rare volume of his "Machina Cœlestis" (of which, by the way, the British Museum possesses two copies), and we believe in the small special publication issued at Dantzic in the same year, and entitled, "J. Hevelii, Epistola de Cometâ, anni 1672, Gedani observato, ad Henricum Oldenburgium."

Halley's orbit gives for three dates of observation by Hevelius, adopting his corrected times, the following positions :—

	G.M.T.	Right Ascension.	Declination.
	h. m.		
1672, March 6, at	15 39	353 16	34 57 N.
" " 15, at	7 44	18 2	37 25
" " 29, at	8 8	52 21	30 21 N.

Without attempting an accurate reduction of the Dantzic observations, it may be seen that they agree sufficiently well with the positions deduced from Halley's orbit to render it probable that his elements would not be so far changed by a calculation from the improved places as to bring them materially closer to those of the comet of