claims

1. An insect trap (10), especially for attracting and/or capturing flying insects and/or pest insects (12),

- with a suction opening (14) that continues into a suction duct (16), in which the suction duct (16) an air flow (18) prevails, which the air flow (18) is acting on the suction opening (14) leading to an interior space (20) of the insect trap (10) with negative pressure or with a suction current,
- with a surface which is at least partially permeable to outflowing air (24), the surface forming at least part of an outer wall (22) of the insect trap (10), the surface surrounding the suction duct (16) in the vicinity of the suction opening (14) and enveloping the suction duct (16) in the further region at a changing radial distance and widening in a direction parallel to the direction of the air flow (18) which is passing through the suction duct (16),
- with a front side or bottom side (28), which adjoins the outer wall (22) and which is largely impermeable to incoming or outflowing air and which is located opposite the suction opening (14), which front side or bottom side (28) is at least slightly spaced apart from an open front side (30) of the suction duct (16), which the open front side (30) is extending into the interior space (20) of the trap (10),
- wherein the outer wall (22) opens or widens starting from a region enclosing the suction duct (16) in the vicinity of the suction opening (14) and extending in the direction of the front side or bottom side (28), thereby enclosing an acute opening angle to the central axis of the suction duct (16), and
- wherein the outer wall (22) of which has a cone shaped contour between a region enclosing the suction duct (16) in the vicinity of the suction opening (14) and a transition region to the front side or bottom side (28).

2. The insect trap according to claim 1, wherein the surface, which is at least partially permeable to the outflowing air (24) and which forms a part of the outer wall (22) of the insect trap (10), has a net-like structure (26).

3. The insect trap according to claim 1 or 2, the front side or bottom side (28) of which is formed by a structure that is approximately impermeable to air, or by a material that is approximately impermeable to air.

4. The insect trap according to claim 1, in which the acute opening angle between the outer wall (22) of the insect trap (10) and the central axis of the suction duct (16) is between ten angular degrees and sixty angular degrees.

5. The insect trap according to claim 1 or 4, in which the acute opening angle between the outer wall (22) of the insect trap (10) and the central axis of the suction duct (16) is between twenty angular degrees and forty-five angular degrees.

6. The insect trap according to one of the claims 1, 4 and 5, the outer wall (22) of which has a pyramidal contour with at least three pyramidal flat sides between a region enclosing the suction duct (16) in the vicinity of the suction opening (14) and a transition region to the front side or bottom side (28).

7. The insect trap according to one of the claims 1, 4 and 5, the outer wall (22) of which has a curved contour between a region enclosing the suction duct (16) in the vicinity of the suction opening (14) and a transition region to the front side or bottom side (28).

8. The insect trap according to one of the claims 1 to 7, in which the front side or bottom side (28) has a collar (32), which the collar (32) approximately follows the contour of the outer wall (22).

9. The insect trap according to claim 8, in which the collar (32) of the front side or bottom side (28) has a height which corresponds to between five percent and ten percent of the total height of the outer wall (22).

10. The insect trap according to claim 9, in which the collar (32) has a height between approximately two centimeters and twenty centimeters.

11. The insect trap according to one of the claims 1 to 10, which may have a total height of ten centimeters to one hundred centimeters, wherein the suction duct (16) may have a diameter of three centimeters to fifteen centimeters, and wherein the front side or bottom side (28) may have a diameter of ten centimeters to one hundred centimeters.

12. The insect trap according to one of the claims 1 to 11, in which the air flow (18) passing through the suction opening (14) and being generated by a suction flow has an air velocity in the range of one meter per second to ten meters per second.

13. The insect trap according to one of the claims 1 to 12, in which the air flow (18) passing through the suction opening (14) and being generated by a suction flow has an air velocity in the range of two meters per second to six meters per second, in particular of four meters per second.

14. The insect trap according to one of the claims 1 to 13, in which the outflowing air (24) passing through the air-permeable structure (26) of the outer wall (22) and penetrating the insect trap (10) to the outside has an air velocity of the order of 0.02 meters per second to 1.0 meters per second.

15. The insect trap according to one of the claims 1 to 14, in which the outflowing air (24) passing through the air-permeable structure (26) of the outer wall (22) and penetrating the insect trap (10) to the outside has an air velocity of the order of 0.05 meters per second to 0.6 meters per second.

16. The insect trap according to one of the claims 1 to 15, in which at least one fan generating the air flow (18) is arranged within the suction duct (16).

17. The insect trap according to one of the claims 1 to 16, in which the front side (30) of the suction duct (16) within the interior space (20) of the insect trap (10) has a distance to the front surface or bottom surface (28) which corresponds approximately to the height of the collar (32) of the front side or bottom side (28).

18. The insect trap according to one of the claims 1 to 17, which can be mounted in a hanging position or in a standing position, wherein the suction opening (14) is directed upwards, wherein the suction duct (16) is extending in an approximately vertical direction, and wherein the front side or bottom side (28) forms a lower horizontal closure.

19. The insect trap according to one of the claims 1 to 18, which comprises within the interior space (20) at least one device for retaining, fixing and/or killing the insects (12), which the insects (12) have passed through the suction duct (16) and are situated within the interior space (20) of the trap (10).

20. The insect trap according to claim 19, which is equipped with a device and/or an electronic sensor system for recording the trapped insects (12).

21. A method for attracting and/or trapping flying insects and/or the pest insects (12), which the insects (12) are attracted by means of a weak outflowing air (24) that is

emitted from a surface of the insect trap (10), which surface is permeable to air but not permeable to the insects (12), wherein the insects (12), on their way into the interior space (20) of the insect trap (10), pass a suction opening (14), which the suction opening (14) continues into the suction duct (16), in which the suction duct (16) the air flow (18) prevails, which the air flow (18) impinges the suction opening (14) leading to the interior space (20) of the insect trap (10) with negative pressure or with a suction current, and which leads to the interior space (20) of the insect trap (10), and wherein the insect trap (10) is designed in particular according to one of the claims 1 to 20.

22. The method according to claim 21, in which the flying insects and/or pest insects (12) are attracted and/or trapped with the trap (10) according to any of claims 1 to 20.