

## Heidi Günthart celebrates her 85th birthday

Herbert Nickel<sup>1</sup> and Roland Mühlethaler<sup>2</sup>



Photo: W.E. Holzinger

Heidi Günthart celebrated her 85th birthday on June 8th 2004. She was a pioneer researcher of modern systematics of typhlocybine leafhoppers, and definitely, the most important Auchenorrhyncha specialist in Switzerland.

She was born on June 8th 1919 in Zürich as the youngest child of an architect. From her childhood onwards, she was enthusiastic about nature, inspired by her parents and relatives. In 1938 she spent a year in London at St. Thomas' School to improve her English, and attended talks in the British Museum (Natural History). After the beginning of the war she came back to Switzerland in order to study at the Entomological Institute of the ETH Zürich. Because of the war, however, there was a lack of specialists. So she was immediately deployed as a technical assistant to Prof. F. Schneider. Thus she could attend lectures, some of which she even prepared by herself, carried out technical tasks and assisted postgraduates.

Soon she met her future husband Ernst Günthart, who studied agronomics and entomology. It was he who inspired Heidi's fondness for Auchenorrhyncha. He worked as an applied

---

<sup>1</sup> Dr. Herbert Nickel, Institut für Zoologie, Anthropologie und Entwicklungsbiologie, Abt. Ökologie, Berliner Str. 28, D-37073 Göttingen, Germany, hnickel@gwdg.de

<sup>2</sup> Roland Mühlethaler, Naturhistorisches Museum, Augustinergasse 2, CH-4001 Basel, Switzerland, Roland.Muehlethaler@unibas.ch

entomologist for Maag Pest Management in Dielsdorf near Zürich. Thus Heidi had the opportunity to carry out elaborate experiments by rearing leafhoppers in climatic chambers. Later, she also got the opportunity to use a scanning electron microscope through La Roche, Basel.

Her first papers were published in cooperation with her husband. Later Heidi Günthart's daughter Madeleine also did research on leafhoppers for some time and produced a paper with her mother.

Heidi Günthart's main goal, which received international recognition, was the promotion of biosystematics of typhlocybine leafhoppers. After Hans-Joachim Müller (then Jena) she reared leafhoppers in climatic chambers under different day lengths and temperatures. So she found that some characters, which were used for identification (notably the length of the song apodemes and the colouration), are subject to age-dependant modifications. Thus she could show that individuals of *Flammigeroidia pruni* (Edw.), which were formerly considered to be a distinct species, were freshly-emerged and not yet fully coloured, and in fact belonged to the common species *F. flammigera* (Fourcr.). She also found morphological differences by studying individuals originating from the same clutch, thus presenting convincing evidence of a considerable intraspecific variation in the genera *Empoasca*, *Kybos* and *Edwardsiana*. Along with H.-J. Müller's studies these results broke the paradigm of invariable genital structures in leafhoppers, which had dominated taxonomy since Ribaut's days.

She described two new species: *Flammigeroidia schneideri* Günthart, 1974 and *Adarrus ernesti* Günthart, 1985. The former belongs to a taxonomically difficult group, and its distinction could be done only after a thorough study of its genital morphology, host preferences, nymphal development and phenology.

Another important result of her research was the discovery, description and interpretation of brochosomes in 1977. These had already been found and named independently by the Americans Tulloch, Shapiro & Cochran (1952), but Heidi Günthart was the first to produce SEM photographs and to describe the morphology in detail.

Furthermore she carried out numerous studies of some species of economic importance, for instance *Empoasca vitis* (F.), which causes problems in viticulture, the Nearctic species *Stictocephala bisonia* Kopp & Yonke (the Buffalo treehopper), *Graphocephala fennahi* Young (the Rhododendron leafhopper) and *Scaphoideus titanus* Ball. She also presented a detailed study of *Aguriabana (Wagneripteryx) germari* (Zett.), which is not of economic, but rather of ecological interest, because it is one of the few typhlocybid leafhoppers feeding on conifer mesophyll. Her idea of rearing this monophagous species on bonsai pines demonstrates her pronounced imaginativeness and sensitivity towards these insects.

Finally, she always placed emphasis on faunistic work. This interest was preliminarily completed by the publication of an updated checklist of the Auchenorrhyncha of Switzerland (in cooperation with the junior author), which will be supplemented continuously. Most of her papers treated the Swiss fauna, while others dealt with South Tyrol (Italy), Baden (Germany) and Istria (Croatia). Through her collections and identifications alone, the number of Auchenorrhyncha species known from Switzerland could be raised from about 70 to 430. In this context, her most important studies were from the Swiss National Park and the Lower Engadine, which included numerous data on altitudinal distribution as well as a revision of older material collected by Hofmänner (1924, 1925). Further interesting papers dated from 1971, 1974, 1987 and 2000. Her collection includes about 380 species from Switzerland alone. Particularly noteworthy are her proper micropreparations and meticulous notes.

Her publication list includes altogether about 30 titles. She attended numerous international congresses and symposia and gave talks, including most of the central European and international Auchenorrhyncha meetings. Together with her husband she attended the 1st

International Auchenorrhyncha Congress in Cardiff in 1973 and hosted the 5th congress in Davos in August 1984.

All this is even more remarkable, because her scientific work was only a sparetime work besides her main tasks keeping the household and her large garden, and as a mother of two daughters. Thus all of her entomological work was done without any payment and with an enormous enthusiasm.

For her achievements the Swiss Entomological Society (Schweizerische Entomologische Gesellschaft) and the Zürich Entomological Society (Zürcher Entomologische Gesellschaft) both nominated her as their first female honorary member. In 2001 she was awarded the Medal of Honor of the SIEEC (International Symposia of Entomofaunistics in Central Europa) in Slovenia.

Heidi Günthart has remained in good health and full of energy. The authors and the Auchenorrhyncha Group of the German Society for Basic and Applied Entomology (Arbeitskreis Zikaden der Deutschen Gesellschaft für allgemeine und angewandte Entomologie) congratulate her warmly and wish her the best.

## Publication list

- Günthart, H.; Günthart, E. (1967): Determinazione di alterazioni causate da cicaline su viti nel Ticino. – Estratto dall' Agricoltore Ticinese del 20 giugno 1967.
- Günthart, H.; Günthart, E. (1967): Schäden von Kleinzikaden, besonders von *Empoasca flavescens* F. an Reben in der Schweiz. – Schweiz. Z. Obst- u. Weinbau 103: 602-610.
- Günthart, H.; Günthart, E. (1968): *Empoasca flavescens*, eine schädliche Kleinzikade an Reben. – Mitt. Südtiroler Beratungsrings 5: 78-82.
- Günthart, H. (1971): Kleinzikaden (Typhlocybinæ) an Obstbäumen in der Schweiz. – Schweiz. Z. Obst- u. Weinbau 107: 285-306.
- Günthart, H. (1971): Beitrag zur Kenntnis der Kleinzikaden der Schweiz. – Mitt. Schweiz. ent. Ges. 43: 218-224.
- Günthart, H. (1971): La cicadelle du rhododendron (*Graphocephala coccinea*) pour la première fois en Suisse. – Rev. horticole suisse 44(12): 358-359.
- Günthart, H. (1974): Beitrag zur Kenntnis der Kleinzikaden (Typhlocybinæ, Homoptera, Auchenorrhyncha) der Schweiz, 1. Ergänzung. – Mitt. Schweiz. ent. Ges. 47: 15-27.
- Günthart, H. (1977): Einfluß des Insektenalters auf Bestimmungsmerkmale. Biotaxonomische und rasterelektronenmikroskopische Untersuchungen bei Kleinzikaden (Hom. Auchenorrhyncha, Cicadellidae). – Mitt. Schweiz. ent. Ges. 50: 189-201.
- Günthart, H. (1979): Biotaxonomic experiments proving *Zygina pruni* Edwards 1924 is a synonym of *Zygina (Flammigeroidia) flammigera* (Fourcroy 1785) (Hom. Auch. Cicadellidae, Typhlocybinæ). – Mitt. Schweiz. ent. Ges. 52: 13-17.
- Günthart, H. (1980): Neuer Fundort und neuer Name für die altbekannte Büffelzikade "*Ceresa bubalus*" (Hom. Auch. Membracidae). – Mitt. ent. Ges. Basel, N.F. 30: 105-109.
- Günthart, H.; Günthart, M.S. (1981): Biology and specific feeding behaviour of *Aguriabana germari* (Zett.) (Homoptera, Auchenorrhyncha, Typhlocybinæ). – Acta Entomol. Fennica 38: 24. [summary of a talk]
- Günthart, H. & K. Thaler (1981): Fallenfänge von Zikaden (Hom., Auchenorrhyncha) in zwei Grünlandparzellen des Innsbrucker Mittelgebirges (Nordtirol, Österreich). – Mitt. Schweiz. Ent. Ges. 54: 15-31.
- Günthart, H.; Günthart, M.S. (1983): *Aguriabana germari* (Zett.) (Hom. Auch. Cicadellidae, Typhlocybinæ): breeding and specific feeding behaviour on pine needles. – Mitt. Schweiz. ent. Ges. 56: 33-44.
- Günthart, H. (1984): Zikaden aus der alpinen Höhenstufe der Schweizer Zentralalpen. – Mitt. Schweiz. ent. Ges. 57: 129-130.

- Günthart, H. (1984): Zoogeographical and ecological investigations of Auchenorrhyncha in the Lower Engadine Valley. – Mitt. Schweiz. ent. Ges. 57: 420-421.
- Günthart, H. (1985): *Adarrus ernesti* n.sp., a new leafhopper species from the Lower Engadine, Switzerland (Hom. Auchenorrhyncha, Cicadellidae). – Mitt. Schweiz. ent. Ges. 58: 401-404.
- Günthart, H. (1987): Ökologische Untersuchungen im Unterengadin. Zikaden (Auchenorrhyncha). – Ergeb. wiss. Unters. Schweiz. Nationalpark 12(12): 203-299.
- Günthart, H. (1987): Für die Schweiz neue und wenig gesammelte Zikaden-Arten (Hom. Auchenorrhyncha), 2. Ergänzung. – Mitt. Schweiz. ent. Ges. 60: 83-105.
- Günthart, H. (1988): Comparison of the vertical distribution of leafhoppers - trapped between 5 and 155 m above the ground - with the ground population. – Proc. 6th Auchenorrhyncha Meeting, Turin, Italy, 7-11 Sept. 1987: 1-8.
- Günthart, H. (1989): Zikaden im Südtiroler Obstbau. – Obstbau Weinbau 3/89: 67-71.
- Günthart, H. (1990): Hom. Auchenorrhyncha, collected in Istria - Yugoslavia in spring 1974. – Scopolia, Suppl. 1: 97-99.
- Günthart, H. (1992): Einige Zikaden-Nachweise aus Südtirol (Homoptera, Auchenorrhyncha, Cicadina). – Ber. nat.-med. Verein Innsbruck 79: 183-185.
- Günthart, H. (1994): Bemerkenswerte Zikaden aus der Nordostschweiz, die mittels Lichtfang gesammelt wurden (Homoptera, Auchenorrhyncha, Cicadina). – Mitt. Ent. Ges. Basel 44(1): 36-39.
- Günthart, H. (1997): Die Zikaden des Schweizerischen Nationalparks und seiner Umgebung (Insecta: Auchenorrhyncha). – Nationalpark-Forschung in der Schweiz 88: 1-33.
- Clerc, L.; Linder, C.; Günthart, H. (1997): Première observation en Suisse romande de la cicadelle *Scaphoideus titanus* Ball (Homoptera, Jassidae), vecteur de la flavescence dorée de la vigne. – Rev. suisse Vitic. Arboric. Hortic. 29(4): 245-247.
- Holzinger, W.; Günthart, H.; Lauterer, P.; Nickel, H.; Remane, R. (1997): Zum Herbstaspekt der Zikadenfauna der Rabenhofteiche und Weinburger Teiche (Steiermark, Österreich; Insecta: Auchenorrhyncha). – Beitr. Zikadenkunde 1: 37-42.
- Holzinger, W.; Fröhlich, W.; Günthart, H.; Lauterer, P.; Nickel, H.; Orosz, O.; Schedl, W.; Remane, R. (1997): Vorläufiges Verzeichnis der Zikaden Mitteleuropas (Insecta: Auchenorrhyncha). – Beitr. Zikadenkunde 1: 43-62.
- Günthart, H. (2000): Für die Schweiz neue und wenig gesammelte Zikaden-Arten (Hemiptera, Auchenorrhyncha), 3. Ergänzung. – Mitt. Schweiz. ent. Ges. 73: 109-114.
- Günthart, H.; Mühlethaler, R. (2002): Provisorische Checklist der Zikaden der Schweiz (Insecta: Hemiptera, Auchenorrhyncha) – Denisia 4, Kataloge des Oberösterreich. Landesmus. (N.F.) 176: 329-338.
- Günthart, H.; Mühlethaler, R., Lauterer, P. (2004, in press): Für die Schweiz neue Zikaden-Arten und Ergänzungen zu bereits bekannten Arten (Hemiptera, Auchenorrhyncha). – Mitt. Entomol. Ges. Basel 54(3-4).