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Typhlocybina Leafhoppers of Rwenzori National Park, Uganda Part II. Tribe Empoascini

(Homoptera, Auchenorrhyncha, Cicadellidae)

With 61 Figures

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Abstract. The present description of seven new species under five genera of the tribe Empoascini is a part of our study of typhlocybina leafhoppers of Rwenzori National Park, Uganda. These include *Jacobiasca mwuyaensis*, *J. kabatorensis*, *J. turreae*, *Chlorita callistusi*, *Amrasca singularis*, *Empoasca rwenzoriensis*, and *Epignoma sohii*.

The typhlocybina leafhoppers of Uganda are very poorly known. AHMED (1978) described eighteen species of these leafhoppers under twelve genera, collected casually from Kampala and some other localities of Uganda. The present description of seven new species under five genera of the tribe Empoascini is part of our overall study of the fauna of Typhlocybinae of the wild life reserve area, Rwenzori National park in Uganda, as discussed by EINYU & AHMED (1979).

KEY TO THE UGANDAN GENERA OF TRIBE EMPOASCINI

1	Pygofer process always present.	2
—	Pygofer process always absent.	4
2	At least three apical veins arising from the medial cell of the forewing.	
		<i>Jacobiasca</i> DWORAKOWSKA
—	One or two veins arising from the medial cell.	3
3	Anal tube appendage broad and bifurcated, veins M_{3+4} and Cu_1 fused.	
		<i>Empoasca</i> WALSH
—	Anal tube appendage hook-like; veins M_{3+4} and Cu_1 , separate.	
		<i>Epignoma</i> DWORAKOWSKA
4	One vein arising from medial cell of forewing.	<i>Chlorita</i> FIEBER
—	Two veins arising from medial cell of forewing.	<i>Amrasca</i> GHAURI

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Genus **Jacobiasca** DWORAKOWSKA, 1972

The name *Jacobiasca* was first used by DWORAKOWSKA (1972) as a subgenus of the genus *Austroasca* LOWER, with *Chlorila lybica* as its type species. Later on DWORAKOWSKA (1976) raised it to generic level consisting of the African species formerly included in the genus *Austroasca*. She also published a new combination *J. boninensis* (MATS.) but did neither describe detailed characters of the genus nor designate a type species.

In the present account, three new species of genus *Jacobiasca* have been described by comparing them with those included in the genus by DWORAKOWSKA (1976). These are: *J. mweyaensis*, *J. kabatorensis*, and *J. turreae* all from Rwenzori National Park, Uganda.

***Jacobiasca mweyaensis* n. sp. (Figs. 1-7)**

External features

Length of male and female 3.40 mm, vertex with coronal suture prominent; black marks present on each side of the suture; vertex, a mixture of waxy yellow and dull greenish, face dull, pale green; pronotum similar to vertex in colour; scutellum mostly waxy white; forewings with a greenish tinge up to the region of apical cross-veins; two apical veins arise from the medial cell of the forewing; veins M_{3+4} and Cu_1 in the hindwing fused; abdomen greenish yellow; legs greenish.

Male genitalia

Pygofer disc is rather short and broad; posterior margin of pygofer provided with microsetae; lower pygofer appendage remaining inside the pygofer except at the tip; subgenital plate long with an oblique row of macrosetae spread from near the base to the distal half; distal part and lateral margin of subgenital plate having a few scattered microsetae; connective W-shaped with a short stem; paramere tapered and pointed at the apex, provided with microsetae on lateral surface, extreme apex caudad to a final tapered apex; aedeagus with a long preatrium; dorsal apodeme present.

The new species *J. mweyaensis* appears nearest to *A. rensobi* DWORAKOWSKA in its genitalic characters but can be differentiated easily by the shape of lower pygofer appendage which is only slightly projecting from the pygofer disc as compared with the very elongate and considerably projected one in *A. rensobi*. The two species also differ in the characters of aedeagus.

H o l o t y p e male, Mweya (Rwenzori National Park), Uganda, EINYU, general sweep, 13. XI. 1975; **six p a r a t y p e s**, same data; in Zoological Museum, Makerere University, Kampala, Uganda.

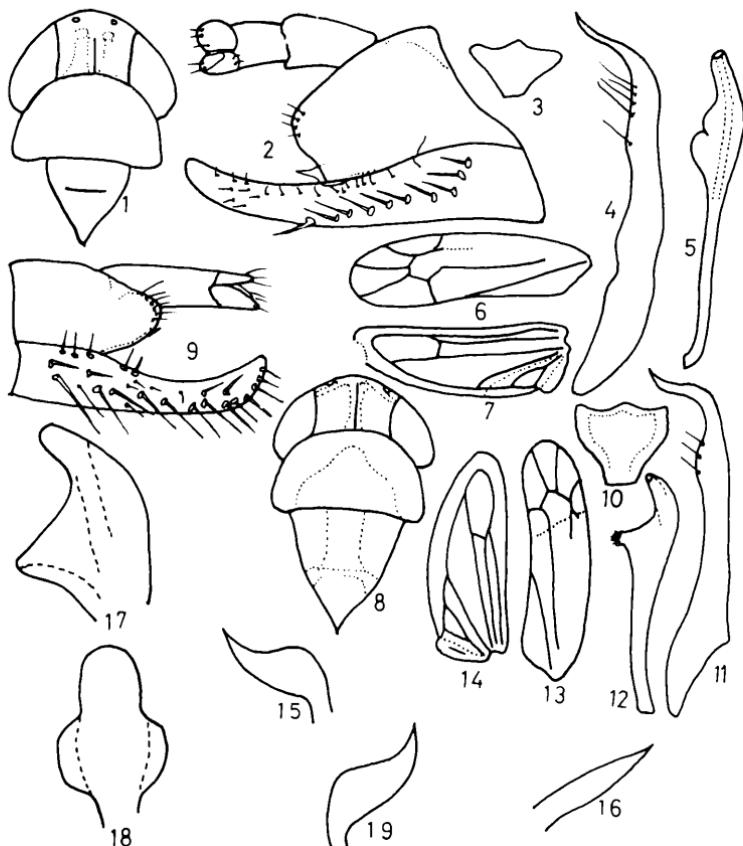
***Jacobiasca kabatorensis* n. sp. (Figs. 8-19)**

External features

Length of male and female 3.50 mm; vertex pale with marking along coronal suture and on anterior margin; face pale with dim orange tinge; pronotum dull greenish; scutellum whitish with greenish tinge; forewings somewhat greenish; venation of forewing somewhat similar to *J. mweyaensis* n. sp. described above.

Male genitalia

Pygofer disc oval and narrow, posterior margin having slender microsetae; lower pygofer appendage long and slender and merging with pygofer ventrally for most of its length;



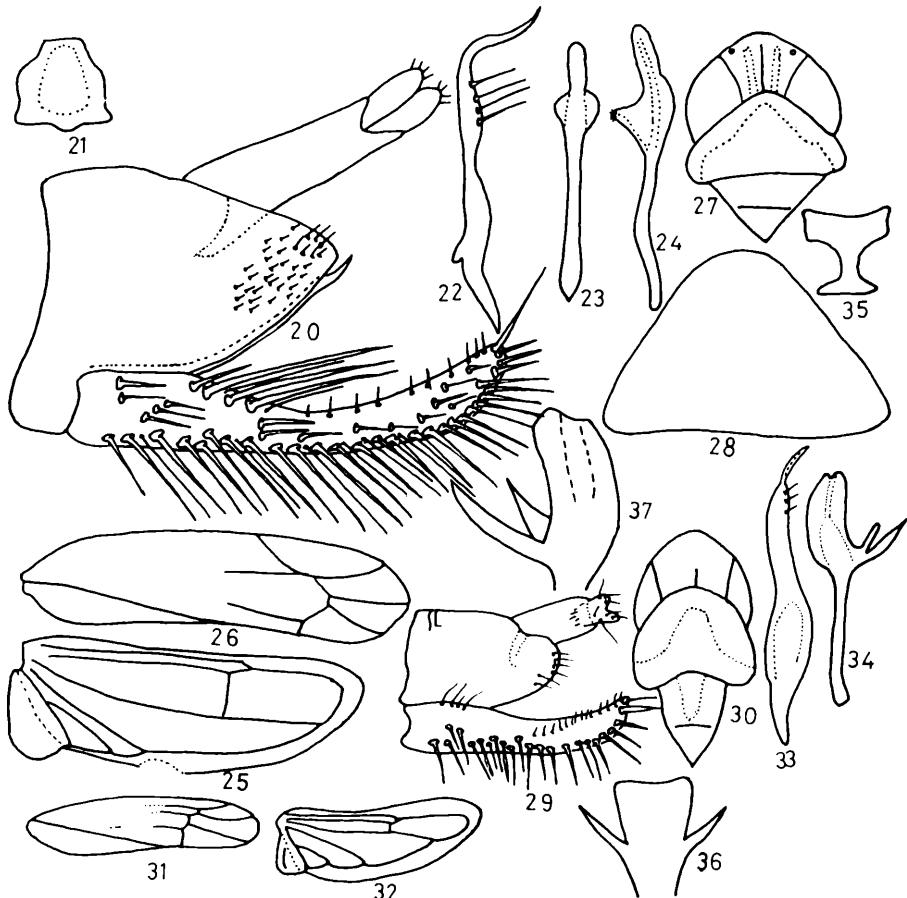
Figs. 1–7. *Jacobiasca mweyaensis* n. sp. 1: head (dorsal side) – 2: pygofer side – 3: connective – 4: paramere – 5: aedeagus – 6: forewing – 7: hindwing.

Figs. 8–19. *Jacobiasca kabatorensis* n. sp. 8: head (dorsal side) – 9: pygofer side – 10: connective – 11: paramere – 12: aedeagus (left side) – 13: forewing – 14: hindwing – (15–19 higher magnification) 15: paramere apex – 16: lower pygofer appendage (tip) – 17: aedeagal apex (from side) – 18: aedeagal apex (dorsal side) – 19: paramere apex (ventral side).

subgenital plate long and covered with macrosetae all over along mesal margin, a few macrosetae on the lateral margin; connective Y-shaped; paramere pointed apically, extreme apex curved first laterad, then recurved caudad to a tapered apex, with three long microsetae on lateral surface in distal half; aedeagus with long preatrium, shaft short, gonopore terminal; dorsal apodeme well developed.

The species appears close to hitherto described *J. mweyaensis* n. sp. but differs mainly in the shape of lower pygofer appendage, shape of anal tube appendage and the chaetotaxy of the subgenital plate. The colouration of the head and thorax also varies in the two species.

Holotype male, Kabatoro (Rwenzori National Park), Uganda, EINYU, *Justicia flava*,



Figs. 20–28. *Jacobiasca turreae* n. sp. 20: pygofer side – 21: connective – 22: paramere – 23: aedeagus (dorsal side) – 24: acedeagus (left side) – 25: hindwing – 26: forewing – 27: head (dorsal side) – 28: female, seventh sternite.

Figs. 29–37 *Chlorita callistusi* n. sp. 29: pygofer side – 30: head (dorsal side) – 31: forewing – 32: hindwing – 33: paramere – 34: aedeagus (right side) – 35: connective – 36: aedeagus (dorsal side; higher magnification) – 37: aedeagus (left side; higher magnification).

9.V 1975; and four paratypes, same data; in Zoological Museum, Makerere University, Kampala, Uganda.

Jacobiasca turreae n. sp. (Figs. 20–28)

External features

Length of male 2.50 mm, of female 3.0 mm; vertex with greenish markings; coronal suture prominent, face greenish yellow; pronotum, scutellum all green; forewings greenish white with two apical veins arising from medial cell; legs all green.

Male genitalia

Pygofer side broad and narrowed distally, disc with short microsetae on postero-dorsal margin; pygofer appendage long, arising from ventral margin, its tip projecting out of pygofer wall posterodorsally; anal tube long; subgenital plate long, covered all over with macrosetae, a few very slender microsetae also present on lateral side in apical half; aedeagus with a long preatrium, shaft short, lacking processes; dorsal apodeme well developed; gonopore terminal.

The species appears nearest to *J. kabatorensis* n. sp. hitherto described in the general shape of its genitalia, but differs from it in the shape of pygofer disc, the position of anal tube appendage and the shape of lower pygofer appendage which is more projected out of pygofer wall in *J. turreae* n. sp. than in *J. kabatorensis* n. sp. The chaetotaxy of the male subgenital plate also varies considerably in the two species.

H o l o t y p e male, Kabatoro (Rwenzori National Park), Uganda, EINYU, *Turrea robusta*, 20. II. 1976; and several **p a r a t y p e s**, same data; in Zoological Museum, Makerere University, Kampala, Uganda.

Genus ***Chlorita*** FIEBER, 1872

T y p e s p e c i e s *Cicada viridula* FALL.

FIEBER (1872) characterised the genus *Chlorita*.

Although a number of species of the genus are known from Africa, none is so far known from Uganda. A more detailed description based mostly on genitalic characters of the genus is also needed. A single species, *Chlorita callistusi* n. sp. from Rwenzori National Park, is included in the present work and has been compared with the known species of the genus.

***Chlorita callistusi* n. sp. (Figs. 29-37)**

External features

Length of male 3.10 mm, of female 3.40 mm; vertex yellowish in colour; coronal suture faintly developed; face greenish to greenish yellow; pronotum and anterior part of scutellum dull green, posterior part of scutellum waxy to greenish white; forewings slightly greenish up to the region of apical cross-veins; venation of fore and hind wings as described in the generic characters; abdomen mildly whitish green; legs light green.

Male genitalia

Pygofer disc with posterior margin possessing microsetae; anal tube appendage present; anal tube itself long with a few microsetae present at the tip; subgenital plate much longer than pygofer, with a row of macrosetae all along ventral surface on mesal margin, a few short microsetae on lateral margin; connective T-shaped; paramere curved mildly laterad at apex, with a short serrated apical part, possessing three microsetae preapically; aedeagus with long preatrium, with two strong outgrowths in the dorsal apodeme; shaft short and much expanded in the lateral view, extreme apex notched; gonopore terminal; abdominal apodeme confluent at base, diverging distally.

The species typically represents the genus *Chlorita* in absence of appendages on pygofer. No species of the genus has so far been known from Uganda or East Africa.

H o l o t y p e male, Maramagambo (Rwenzori National Park), Uganda, EINYU, *Urochloa*

penicoides, 10. V. 1975; and three paratypes, same data; in Zoological Museum, Makerere University, Kampala, Uganda.

The species has been named in honour of Mr. CALLISTUS BALIDDAWA, entomologist of Makerere University, Kampala, Uganda.

Genus *Amrasca* GHAURI, 1967

Type species *Amrasca splendens* GHAURI

GHAURI (1967) characterised the genus.

The genus was so far not recorded in East Africa. *Amrasca singularis* n. sp. is described here from Rwenzori National Park, Uganda.

***Amrasca singularis* n. sp. (Figs. 38–45)**

External features

Length of male and female 3.30 mm; vertex yellowish green; coronal suture fairly well developed; pronotum, scutellum, forewings and abdomen all dim greenish.

Male genitalia

Pygofer disc and male subgenital plate all as in generic account; paramere long with apex curved laterad, then caudad, slender with about four microsetae preapically on lateral surface; connective Y-shaped with arms of Y short and expanded; aedeagus with preatrium long, dorsal apodeme reduced; shaft in lateral view expanded basally, tapered apically; gonopore terminal.

Amrasca singularis n. sp. can easily be differentiated from the known species of the genus on the basis of apex of paramere which is curved first laterad and then caudad.

Holotype male, Kabatoro (Rwenzori National Park), Uganda, EINYU, Heteropogon contortus, 8. II. 1975; and three paratypes, same data; in Zoological Museum, Makerere University, Kampala, Uganda.

Genus *Empoasca* WALSH, 1862

Type species *Empoasca viridescens* WALSH, 1862 which is synonym of *Tettigonia fabae* HARRIS, 1841.

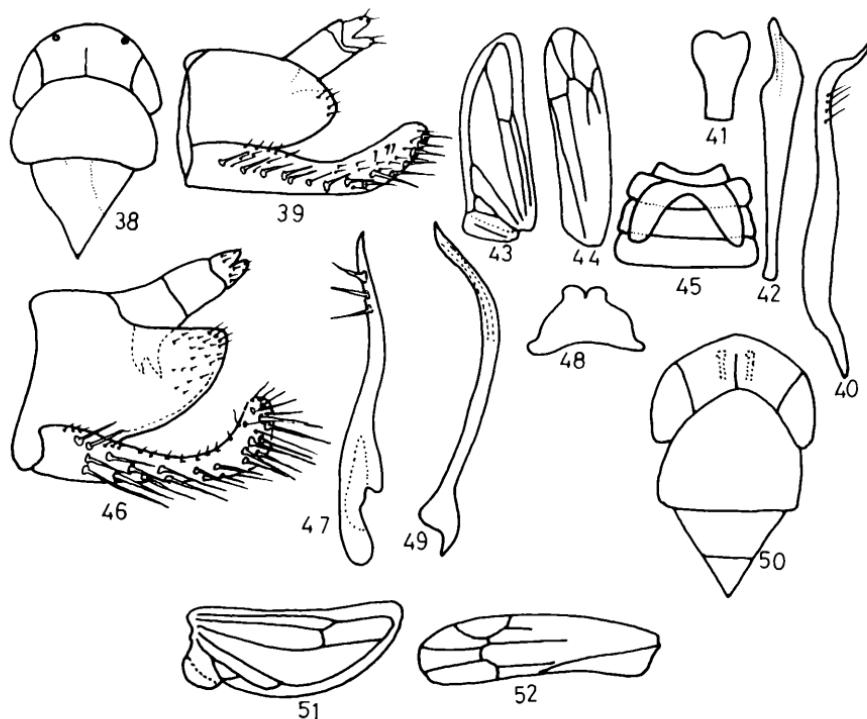
The genus has been described by YOUNG (1952).

In East Africa, two species of the genus have been described by DWORAKOWSKA (1972, 1973) from Tanzania and Kenya, but none has so far been reported from Uganda. The present work contains the description of *Empoasca rwenzoriensis* n. sp. from Rwenzori National Park, Uganda.

***Empoasca rwenzoriensis* n. sp. (Figs. 46–52)**

External features

Length of male and female 3.90 mm; vertex yellowish green with dark green marks on each side of coronal suture; coronal suture prominent; face and pronotum greenish yellow; scutellum yellowish; forewings greenish, two veins in forewing arising from medial cell, third apical cell the smallest; abdomen green; legs greenish.



Figs. 38–45. *Amrasca singularis* n. sp. 38: head (dorsal side) – 39: pygofer side – 40: paramere – 41: connective – 42: aedeagus – 43: hindwing – 44: forewing – 45: abdominal apodemes.

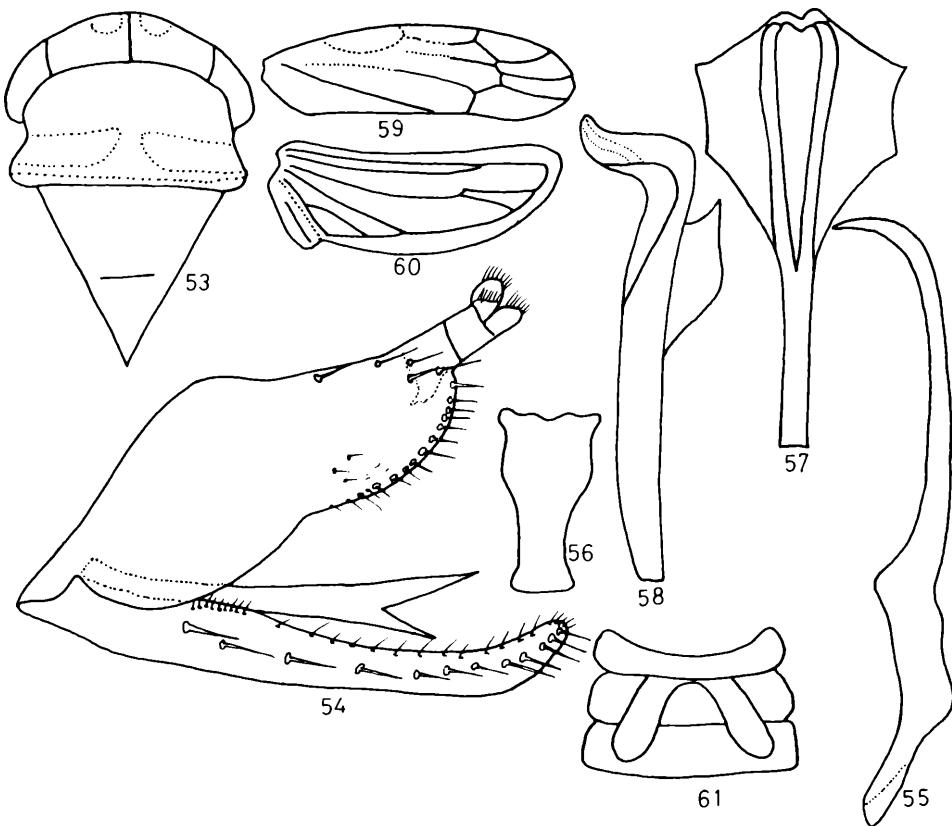
Figs. 46–52. *Empoasca rwenzoriensis* n. sp. 46: pygofer side – 47: paramere – 48: connective – 49: aedeagus – 50: head (dorsal side) – 51: hindwing – 52: forewing.

Male genitalia

Pygofer side rather broad, tapered distally into a pointed tip; several microsetae present in posterodorsal part of pygofer disc; lower pygofer appendage long, slender and merging with the lower pygofer margin for almost all its length; anal tube appendage broad in lateral view; subgenital plate long and covered with several macrosetae on ventral aspect and a row of short microsetae along the lateral margin of the plate; connective V-shaped; paramere posteriorly thick and tapering sharply at apex; three microsetae present on lateral surface preapically; aedeagus with long preatrium; shaft short; gonopore terminal.

The species does not appear close to any of the known African species of the genus. It however differs from *E. fabae* HARRIS in the shape of aedeagus, anal tube appendage and pygofer appendage.

Holotype male, Nyamugasani (Rwenzori National Park), Uganda, EINYU, Indigofera sp., 5.VII.1976; and five paratypes, same data; in Zoological Museum, Makerere University, Kampala, Uganda.



Figs. 53–61. *Epignoma sohii* n. sp. 53: head (dorsal side) – 54: pygofer side – 55: paramere – 56: connective – 57: aedeagus (dorsal side) – 58: aedeagus (lateral side) – 59: forewing – 60: hindwing – 61: abdominal apodemes.

Genus **Epignoma** DWORAKOWSKA, 1972

Type species *Zygina nuchalis* JACOBI, 1910.

The genus has been characterised by DWORAKOWSKA (1972).

DWORAKOWSKA (1972, 1974) described four species of the genus *Epignoma* mainly from Congo (Brazzaville). The genus belongs to the *Empoanara* complex of wing venation of the tribe *Empoascini* as described by YOUNG (1952). In the present work, *Epignoma sohii* n. sp. is reported for the first time in East Africa from Rwenzori National Park, Uganda.

***Epignoma sohii* n. sp. (Figs. 53–61)**

External features

Length of male and female 4.60 mm; vertex brownish yellow; coronal suture well developed up to the anterior margin; two dark rounded marks, dark brown in colour, situated

near anterior margin on each side of coronal suture; face mostly brownish yellow with two longitudinal brownish stripes starting from the margin of the head, running lateral to frontoclypeus, becoming confluent at the clypeolabral suture; pronotum with whitish patch along posterior margin anterior of which is a dark brown patch, spread horizontally, rest of the pronotum mostly brownish yellow; scutellum mostly pale; forewing with brown margins and tiny spots along longitudinal veins; venation of both fore and hind wings as described in the generic account. Abdomen blackish dorsally, pale yellow ventrally; legs greenish with black spines.

Male genitalia

Pygofer disc, paramere and aedeagus as described for the genus; connective Y-shaped with the arms of Y very short.

The species appears nearest to *E. nuchalis* (JAC.) in the general pattern of its genitalia, but differs in the details of pygofer disc, the form of lower pygofer appendage which is apically bifurcated in *E. solii* n. sp. but not so in *E. nuchalis*. The structure of the aedeagal shaft also varies in the two species.

Holotype male, Maramagambo (Rwenzori National Park), Uganda, EINYU, *Justicia* sp., 9.V.1975; and six **paratypes** same data; in Zoological Museum, Makerere University, Kampala, Uganda.

The species has been named in honour of Dr A. S. SOHIL, Department of Zoology-Entomology, Punjab Agricultural University, Ludhiana, India.

Acknowledgments

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